

## **IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY**

### **Waste Management and Remediation Division**

#### **58.01.13 – Rules for Ore Processing by Cyanidation**

##### **To whom does this rule apply?**

*This rule applies to any person or entity that processes ore using cyanide as a primary leaching agent.*

##### **What is the purpose of this rule?**

*This rule establishes the procedures and requirements for the issuance and maintenance of a permit to construct, operate, and close facilities that process ore using cyanide as a primary leaching agent. This rule is intended to ensure that process water and process-contaminated water generated in ore processing operations that utilize cyanide, and pollutants associated with the cyanidation process, are safely contained, controlled, and treated so that they do not interfere with the beneficial uses of the waters of the state and do not endanger public safety or the environment.*

##### **What is the legal authority for the agency to promulgate this rule?**

*This rule implements the following statute passed by the Idaho Legislature:*

- [Chapter 1, Title 39, Idaho Code](#) – Health and Safety, Environmental Quality

##### **Who do I contact for more information on this rule?**

Paula Wilson  
Department of Environmental Quality  
1410 N. Hilton  
Boise, ID 83706  
Phone: (208) 373-0418  
Fax: (208) 373-0481  
Email: [paula.wilson@deq.idaho.gov](mailto:paula.wilson@deq.idaho.gov)  
[www.deq.idaho.gov](http://www.deq.idaho.gov)

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## 58.01.13 – RULES FOR ORE PROCESSING BY CYANIDATION

### 000. LEGAL AUTHORITY.

Title 39, Chapter 1, Idaho Code, grants the authority to the Board of Environmental Quality to adopt rules, regulations and standards to protect the environment and the health of the State; grants authority to the Director to issue permits as prescribed by law and by the rules of the Board; and requires Department of Environmental Quality review and approval of plans and specifications for all new facilities, or for modifications or expansions to existing facilities, that process ore by cyanidation; and authorizes the Director to require reasonable fees for processing permit applications and for services rendered by the Department. (11-6-20)T

### 001. TITLE, SCOPE AND INTENT.

**01. Title.** These rules are titled IDAPA 58.01.13, “Rules for Ore Processing by Cyanidation.” (11-6-20)T

**02. Scope and Intent.** (11-6-20)T

**a.** These rules establish the procedures and requirements for the issuance and maintenance of a permit to construct, operate and close that portion of a cyanidation facility that is intended to contain, treat or dispose of process water or process-contaminated water containing cyanide. The provisions of these rules also establish requirements for water quality that address performance, construction, operation and closure of that portion of any cyanidation facility that is intended to contain, treat, or dispose of process water. These rules are intended to ensure that process water and process-contaminated water generated in ore processing operations that utilize cyanide as a primary leaching agent and pollutants associated with the cyanidation process are safely contained, controlled, and treated so that they do not interfere with the beneficial uses of waters and do not endanger public safety or the environment. (11-6-20)T

**b.** Compliance with a permit issued under these rules does not release the permittee from liability for any unauthorized discharge to or any unauthorized degradation of waters caused by the facility. (11-6-20)T

### 002. (RESERVED)

### 003. ADMINISTRATIVE PROVISIONS.

Persons may be entitled to appeal agency actions authorized under these rules pursuant to IDAPA 58.01.23, “Rules of Administrative Procedure Before the Board of Environmental Quality.” (11-6-20)T

### 004. – 005. (RESERVED)

### 006. CONFIDENTIALITY OF RECORDS.

Information obtained by the Department under these rules is subject to public disclosure pursuant to the provisions of Title 74, Chapter 1, Idaho Code, and IDAPA 58.01.21, “Rules Governing the Protection and Disclosure of Records in the Possession of the Idaho Department of Environmental Quality.” (11-6-20)T

### 007. DEFINITIONS.

The terms “cyanidation,” “cyanidation facility,” “Department,” “Director,” “State,” and “Waters” have the meaning provided for that term in [Section 39-103, Idaho Code](#). The term “ground water” has the meaning provided in [Section 39-121, Idaho Code](#). (11-6-20)T

**01. Beneficial Use.** As defined in IDAPA 58.01.02, “Water Quality Standards,” Section 010, as amended. (11-6-20)T

**02. Best Management Practices (BMPs).** As defined in IDAPA 58.01.02, “Water Quality Standards,” Section 010, as amended. (11-6-20)T

**03. Degradation.** When referring to surface water, “degradation” has the meaning provided in IDAPA 58.01.02, “Water Quality Standards,” Section 010. When referring to ground water, “degradation” has the meaning provided in IDAPA 58.01.11, “Ground Water Quality Rule,” Section 007. (11-6-20)T

**04. Discharge.** When used without qualification, any spilling, leaking, emitting, escaping, leaching, or disposing of a pollutant into waters. (11-6-20)T

**05. Idaho Pollutant Discharge Elimination System (IPDES) Permit.** A permit issued by the Department for the purpose of regulating discharges into surface waters. (11-6-20)T

- 06. Land Application.** A process or activity involving application of liquids or slurries potentially containing cyanide from the cyanidation facility to the land surface for the purpose of treatment, neutralization, disposal, or ground water recharge. (11-6-20)T
- 07. Liner.** A continuous layer of natural or man-made materials beneath and, if applicable, on the sides of ponds, tailings impoundments, or leach pads that restricts the downward and lateral movement of liquids. (11-6-20)T
- 08. Material Modification or Material Expansion.** (11-6-20)T
- a.** Any change to a permitted cyanidation facility, except as provided in Subsection 007.08.b., that the Department determines will: (11-6-20)T
- i.** Cause or increase the potential to cause degradation of waters, such as a new cyanidation process or cyanidation facility component; (11-6-20)T
- ii.** Significantly change the capacity, location, or process of an existing cyanidation facility component; or (11-6-20)T
- iii.** Change the site condition in a manner that is not adequately described in the original permit application. (11-6-20)T
- b.** Reclamation and closure related activities at a cyanidation facility with an existing permit that did not actively add cyanide after January 1, 2005 is not material modification or material expansion of the cyanidation facility. (11-6-20)T
- 09. Material Stabilization.** Managing or treating spent ore, tailings or other solids and/or sludges resulting from the cyanidation process to minimize water or all other applied solutions from migrating through the material and transporting pollutants associated with the cyanidation facility to ensure that all discharges comply with all applicable standards and criteria. (11-6-20)T
- 10. Neutralization or Neutralized.** Treatment of process water such that discharge or final disposal of the process water does not, or will not, violate any applicable standards and criteria. (11-6-20)T
- 11. Outstanding Resource Water (ORW).** A high quality water, such as water of national and state parks and wildlife refuges and water of exceptional recreational or ecological significance, which has been designated by the legislature and subsequently listed in IDAPA 58.01.02, "Water Quality Standards." ORW constitutes an outstanding national or state resource that requires protection from point and nonpoint source activities that may lower water quality. (11-6-20)T
- 12. Permanent Closure.** Those activities that result in neutralization, material stabilization and decontamination of cyanidation facilities and the facilities' final reclamation. (11-6-20)T
- 13. Permanent Closure Plan.** A description of the procedures, methods, and schedule that will be implemented to treat and dispose of cyanide-containing materials including spent ore, tailings, and process water and in controlling and monitoring discharges and potential discharges for a reasonable period of time based on site-specific conditions in manner that meets the intent and purpose of Section 39-118A, Idaho Code; Chapter 15, Title 47, Idaho Code; and all applicable rules. (11-6-20)T
- 14. Permit.** When used without qualification, any written authorization by the Director, issued pursuant to the application, public participation and appeal procedures in these rules, governing location, operation and maintenance, monitoring, seasonal and permanent closure, discharge response, and design and construction of a new cyanidation facility or a material expansion or material modification to a cyanidation facility. (11-6-20)T
- 15. Permittee.** The person in whose name a permit is issued and who is to be the principal party responsible for compliance with these rules and the conditions of a permit. (11-6-20)T

- 16. Person.** An individual, corporation, partnership, association, state, municipality, commission, federal agency, special district or interstate body. (11-6-20)T
- 17. Pollutant.** Chemicals, chemical waste, process water, biological materials, radioactive materials, or other materials that, when discharged, cause or contribute adverse effects to any beneficial use, or for any other reason, may impact waters. (11-6-20)T
- 18. Pond.** A process component that stores, confines, or otherwise significantly impedes the horizontal and downward movement of process water. This term does not include tailings impoundments or non-earthen containers such as vats and tanks. (11-6-20)T
- 19. Post-Closure.** The period of time after completion of permanent closure when the permittee is monitoring the effectiveness of the closure activities. Post-closure lasts a minimum of twelve (12) months but may extend until the cyanidation facility is shown to be in compliance with the stated permanent closure objectives and requirements of Chapter 15, Title 47, Idaho Code, and all applicable rules. (11-6-20)T
- 20. Process Water.** Any liquid intentionally or unintentionally introduced into any portion of the cyanidation process. Such liquid may contain cyanide or other minerals, meteoric water, ground or surface water, elements and compounds added to the process solutions for leaching or the general beneficiation of ore, or hazardous materials that result from the combination of these materials. (11-6-20)T
- 21. Seasonal Closure.** Annual cessation of operations that is due to weather. (11-6-20)T
- 22. Sensitive Resource Aquifer.** Any aquifer or portion of an aquifer listed in IDAPA 58.01.11, Ground Water Quality Rule, Subsection 300.01. (11-6-20)T
- 23. Tailings Impoundment.** A process component that is the final depository for processed ore from the mining, milling, or chemical extraction process. (11-6-20)T
- 24. Temporary Closure.** Any cessation of operations exceeding thirty (30) days, other than seasonal or permanent. (11-6-20)T
- 25. Treatment or Treated.** Any method, technique or process, including neutralization, that changes the physical, chemical, or biological character or composition of a waste for the purpose of disposal, or the end result of such action. (11-6-20)T
- 26. Water Balance.** An inventory and accounting process, capable of being reconciled, that integrates all potential sources of water that are entrained in the cyanidation facility or may enter into or exit from the cyanidation facility. The inventory must include the water holding capacity of specific structures within the facility that contain process water. The water balance is used to ensure that all process water and other pollutants can be contained as engineered and designed within a factor of safety as determined in the permanent closure plan. (11-6-20)T
- 27. Water Management Plan.** A document that describes the results of the water balance and the methods that will be used to ensure that pollutants are not discharged from a cyanidation facility into waters unless permitted or otherwise approved by the Department. (11-6-20)T
- 28. Weak Acid Dissociable (WAD) Cyanide.** The cyanide concentration as determined by Method C, Weak Acid Dissociable Cyanide, D2036 of American Society of Testing Materials Book of Standards, "Standard Methods for the Examination of Water and Wastewater," Method 4500-CN- I, or other methods accepted by the scientific community and deemed appropriate by the Department. (11-6-20)T

**008. -- 009. (RESERVED)**

**010. APPLICABILITY TO FACILITIES WITH EXISTING PERMITS.**

A cyanidation facility with an existing permit approved by the Department prior to July 1, 2005, is subject to the

applicable laws and rules for ore processing by cyanidation in effect on June 30, 2005. Material modifications or material expansions of such facilities are subject to Section 39-118A, Idaho Code. (11-6-20)T

**011. -- 049. (RESERVED)**

**050. PRE-APPLICATION PROCESS AND PRELIMINARY DESIGN.**

**01. Pre-application Conference.** Any person who intends to apply for a permit or proposes to construct or operate a facility that is intended to contain, treat, or dispose of process water and process-contaminated water generated in ore processing operations that utilize cyanide as a primary leaching agent should contact the Department during the initial stages of site characterization to schedule a pre-application conference. Prospective applicants are encouraged to begin meeting with agents of the Department at least one (1) year in advance of preliminary design submittal to discuss, at a minimum, the following. (11-6-20)T

**a.** Environmental baseline data requirements; waste characterization requirements; siting requirements; operation and maintenance plans; emergency and spill response plans; quality assurance/quality control plans; required contents for permit applications; agency cyanidation facility visits. (11-6-20)T

**b.** The proposed water quality monitoring and reporting required in Subsection 200.11 and the monitoring well siting and construction plans required in Subsection 200.12. The applicant is encouraged to submit a report describing the purpose, objectives, location, and proposed construction of monitoring wells to the Department for review and comment during the initial stages of site characterization. (11-6-20)T

**c.** The preliminary design report and alternative design proposals required prior to application submittal under Subsection 050.02. (11-6-20)T

**d.** The permitting process, application procedures, public review and comment periods, and permit schedule. (11-6-20)T

**e.** The timing of additional pre-application meetings. The pre-application conference may trigger a period of collaborative effort between the applicant, the Department, and the Idaho Department of Lands to develop an application that complies with rule requirements and ensures the facility will not interfere with the beneficial uses of waters and will not endanger public safety or the environment. (11-6-20)T

**f.** The cost recovery agreement required under Subsection 100.04. (11-6-20)T

**02. Information Required for Preliminary Design Report.** Submittal of a preliminary design report is mandatory. Upon submittal, the preliminary design report must include sufficient detail to determine the following: (11-6-20)T

**a.** The general framework and design criteria for the project; (11-6-20)T

**b.** How the project will address each applicable requirement in Subsection 100.03 and Sections 200 through 205, or why a specific requirement in Subsection 100.03 and Sections 200 through 205 is not applicable; (11-6-20)T

**c.** How the design criteria were identified, or the approach the applicant will use to determine design criteria for which insufficient data is available at the time of the preliminary design; (11-6-20)T

**d.** How the requirements of these rules will be met in the final permit application; and (11-6-20)T

**e.** How design, construction, operation, and closure will ensure the facility will not interfere with the beneficial uses of waters and will not endanger public safety or the environment. (11-6-20)T

**03. Notice of Preliminary Design Approval or Disapproval.** Unless otherwise provided in this Subsection 050.03, the Director will notify the applicant in writing of the decision to approve or disapprove a preliminary design report within thirty (30) days after the Department receives all information required by Subsection

050.02. For alternative design proposals submitted under Section 205, the Director will notify the applicant in writing of the decision for alternative design approval or disapproval within ninety (90) days after the Department receives all information required by Section 205. The time required to review and, if appropriate, approve the preliminary design report is separate from and not included as part of the one hundred eighty (180) day period for issuing notice of rejection or notice of approval of the permit under Section 39-118A(2)(b), Idaho Code. Approval of the preliminary design report does not authorize the construction, modification, or operation of the cyanidation facility. (11-6-20)T

**051. -- 099. (RESERVED)**

**100. PERMIT AND PERMIT APPLICATION.**

**01. Permit Required.** No person may construct a new cyanidation facility prior to obtaining a permit from the Director. No person may materially expand or materially modify a cyanidation facility prior to obtaining a modified permit for such expansion or modification pursuant to Section 750. (11-6-20)T

**02. Permit Application.** The owner or proposed operator of a cyanidation facility or the owner's or operator's authorized representative must: (11-6-20)T

**a.** Make application to the Director in writing and in a manner or form prescribed herein; and (11-6-20)T

**b.** Provide five (5) paper copies of the application to the Director, unless otherwise agreed to by the Department and the applicant. (11-6-20)T

**03. Contents of Application.** A permit application and its contents will be used to determine if an applicant can locate, construct, operate, maintain, close, and monitor the proposed cyanidation facility in conformance with these and other applicable rules including, but not limited to, IDAPA 58.01.02, "Water Quality Standards"; IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems"; IDAPA 58.01.05, "Rules and Standards for Hazardous Waste"; IDAPA 58.01.06, "Solid Waste Management Rules"; IDAPA 58.01.11, "Ground Water Quality Rule"; and IDAPA 58.01.25, "Rules Regulating the Idaho Pollutant Discharge Elimination System Program." The application must include all of the following information in sufficient detail to allow the Director to make necessary application review decisions concerning compliance with Sections 200 through 205 as applicable and protection of human health and the environment: (11-6-20)T

**a.** Name, location, and mailing address of the cyanidation facility. (11-6-20)T

**b.** Name, mailing address, and phone number of the applicant, and a registered agent. (11-6-20)T

**c.** Land ownership status of the cyanidation facility (federal, state, private, or public). (11-6-20)T

**d.** Name, mailing address, and phone number of the applicant's construction and operations manager. (11-6-20)T

**e.** The legal structure (corporation, partnership, etc.) and residence of the applicant. (11-6-20)T

**f.** The legal description, to the quarter-quarter section, of the location of the proposed cyanidation facility. (11-6-20)T

**g.** Evidence the applicant is authorized by the Secretary of State to conduct business in the State of Idaho. (11-6-20)T

**h.** A general description of the operational plans for the cyanidation facility from construction through permanent closure. This description must include any proposed phases for construction, operations, and permanent closure. (11-6-20)T

**i.** The design maximum daily throughput of ore through the cyanidation facility and the total projected volume of material to be processed during the life of the operation. (11-6-20)T



- j.** Cyanidation facility layouts including water management systems designed to segregate storm water from process water. (11-6-20)T
- k.** A geotechnical evaluation of all process water and process chemical containment systems within the proposed cyanidation facility. (11-6-20)T
- l.** A preconstruction topographic site map or aerial photos extending at least one (1) mile beyond the outer limits of the cyanidation facility, identifying and showing the location and extent of the following features: (11-6-20)T
- i.** All wells, perennial and intermittent springs, adit discharges, wetlands, surface waters, and irrigation ditches that may be affected by the cyanidation facility; (11-6-20)T
- ii.** All process water supply source(s); (11-6-20)T
- iii.** All public and private drinking water supply source(s) within at least one (1) mile of the cyanidation facility; (11-6-20)T
- iv.** Identified floodplain areas (shown on USGS sectional Quadrangle maps); (11-6-20)T
- v.** All service roads and public roads; (11-6-20)T
- vi.** All buildings and structures within half (1/2) a mile of the cyanidation facility; (11-6-20)T
- vii.** All outstanding resource waters and sensitive resource aquifers within one (1) mile of the cyanidation facility; and (11-6-20)T
- viii.** All Clean Water Act Section 303(d) listed streams, and their listed impairments, within ten (10) miles of the site boundary that may be affected by the cyanidation facility. (11-6-20)T
- m.** To the extent such information is available, a description and location of underground mine workings and adits and a description of the structural geology that may influence ground water flow and direction. (11-6-20)T
- n.** A description of the proposed land application site. The description must include a potentiometric map, surface and subsurface soil characteristics, geology, hydrogeology and ground water quality. The description of these characteristics must be sufficient to determine anticipated impacts to the affected soils, associated vadose zone as well as anticipated changes in geochemistry that may affect surface and ground water quality. (11-6-20)T
- o.** Siting diagram for land application sites, monitoring wells, lysimeters, surface or ground water discharge sites, or surface water monitoring locations. (11-6-20)T
- p.** A description of measures to protect wildlife that may be affected by the facility. (11-6-20)T
- q.** Proposed post-construction topographic maps. (11-6-20)T
- r.** Engineering plans and specifications for all portions of the cyanidation facility must be submitted to the Department for review and approval. Preliminary designs for future phases of the cyanidation facility may be submitted as part of the permit application, provided that, pursuant to Subsection 500.02, the Department review and approval of final plans and specifications is required before construction of those phases may begin. All cyanidation facility engineering plans and specifications must bear the imprint of an Idaho licensed professional engineer that is both signed and dated by the engineer. These plans and specifications must, at a minimum, include all of the following information applicable to the proposed facility. (11-6-20)T
- i.** Designs meeting applicable criteria in Sections 200 through 204. (11-6-20)T

- ii. Any alternative design approved by the Department under Section 205. (11-6-20)T
- iii. The water balance, ore flow, and processing calculations demonstrating the logic behind sizing of facilities. (11-6-20)T
- iv. The general ore processing overview and analyses of chemical compatibility of containment materials with process chemicals and wastes, including a chemical mass balance at inputs and outputs from the cyanidation facility. (11-6-20)T
- v. Geotechnical data and analyses demonstrating the logic for plans and specifications of foundation materials and placement. (11-6-20)T
- vi. Requirements for site preparation. (11-6-20)T
- vii. Pumping and dewatering requirements. (11-6-20)T
- viii. Procedures for materials selection and placement for backfilling foundation areas. (11-6-20)T
- ix. Criteria for caps and covers used as source control measures. (11-6-20)T
- x. Criteria for ensuring stability of embankments for pads, ponds and tailings impoundments. (11-6-20)T
- xi. Procedures to classify and modify, if necessary, excavated fill, bedding and cover materials for buildings, pads, ponds, and tailings impoundments. (11-6-20)T
- xii. Plumbing and conveyance schematics and component specifications. (11-6-20)T
- xiii. Plan views and cross-section drawings of leach pad, permanent heaps, vats, process water storage ponds, tailings impoundments, and spent ore disposal areas. (11-6-20)T
- xiv. Leak detection and collection system plans and specifications including, but not limited to, schematics and narratives describing liner and geotextile material specifications, sumping capacity and layout, location of monitoring port(s), monitoring port components, construction operation and maintenance procedures for monitoring ports and pumping systems, including backup system, triggers for containment repairs, replacement or other contingency mitigation, frequency of monitoring, and monitoring parameters. (11-6-20)T
- xv. Provisions to protect containment systems from heavy equipment, fires, earthquakes, and other natural phenomena. (11-6-20)T
- xvi. Quality assurance/quality control procedures. (11-6-20)T
- xvii. The identity and qualifications of the person(s) directly responsible for supervising construction and quality assurance/quality control. (11-6-20)T
- s. Operation and maintenance plans that include all of the following. (11-6-20)T
  - i. Maintenance plans, including routine service procedures for containment systems, process chemical storage, and disposal of contaminated water or soils, including petroleum-contaminated soils. (11-6-20)T
  - ii. A water management plan that provides for handling and containment of process water including the methods to manage and/or treat all process water and pollutants, run-off or run-on water, emergency releases, and excess water due to flood, rain, snowmelt, or other similar events. The plan must include the basis for the designed containment volumes and estimations of the need for and operation of a land application site, injection wells, infiltration galleries or leach fields, or the need for an IPDES permit. The permittee will update the plan on a regular basis to reflect the reconciliation of the water balance changes in the project through construction, operation, maintenance, and permanent closure, including modifications to the cyanidation facility. (11-6-20)T

- iii. A proposed water quality monitoring plan. (11-6-20)T
- iv. An emergency and spill response plan that describes procedures and methods to be implemented for the abatement and clean up of any pollutant that may be discharged from the cyanidation facility during use, handling or disposal of processing chemicals, petrochemicals and/or fuels, and any other deleterious materials. (11-6-20)T
- v. A seasonal/temporary closure plan, if applicable, that describes the procedures, methods, and schedule to be implemented for the treatment and disposal of process water and pollutants, the control of drainage from the cyanidation facility during the period of closure, the control of drainage from the surrounding area, and the secure storage of process chemicals. (11-6-20)T
- t. The permanent closure plan must be the same as the plan submitted to the Idaho Department of Lands pursuant to the Idaho Mine Land Reclamation Act, Chapter 15, Title 47, Idaho Code, and the rules promulgated thereunder. (11-6-20)T
- u. Characterization of pollutants contained in or released from the cyanidation facility, including the potential for the pollutants to cause degradation of waters. (11-6-20)T

**04. Cost Recovery Agreement.** Prior to submittal of the preliminary design report, an applicant must enter into an agreement with the Department for actual costs incurred to review the preliminary design report, process the permit application or any permit modification requests, issue a final permit or permit modification, and review final facility designs prior to construction if such designs were not included in the permit application. The cost recovery agreement may provide for actual costs incurred by the Department for any other service rendered pursuant to these rules or a permit so long as agreed to in advance by the applicant. (11-6-20)T

**101. -- 199. (RESERVED)**

**200. REQUIREMENTS FOR WATER QUALITY PROTECTION.**

The following design and performance standards are intended as the minimum criteria for protection of public health and waters. These standards apply to all facilities unless the Department determines that other site-specific criteria, including an alternative design approved under Section 205, are appropriate to protect water quality and the public health. (11-6-20)T

**01. Professional Engineer.** Plans and specifications for construction, alteration or expansion of any cyanidation facility must be prepared by or under the supervision of an Idaho licensed professional engineer and bear the imprint of the engineer's seal. Construction must be observed by an Idaho licensed professional engineer or a person under the supervision of an Idaho licensed professional engineer. (11-6-20)T

**02. Plans and Specifications.** Final plans and specifications for the construction of a cyanidation facility must be submitted to and approved by the Department before construction may begin. All construction must be in compliance with the plans and specifications approved by the Department. Within thirty (30) days of the completion of such construction, modification or expansion, complete and accurate plans and specifications depicting that actual construction, modification or expansion does not deviate from the original approved plans and specifications must be submitted to the Department. (11-6-20)T

**03. Manufacturer's Specifications.** Manufacturer's specifications for materials and equipment necessary to meet the requirements of Subsection 100.03.r. and Sections 200 through 205 for containment of process water must be submitted to the Department with the plans and specifications required in Subsection 200.02 before construction may begin. (11-6-20)T

**04. Siting and Preparation.** All cyanidation facilities including, but not limited to, the process building, laboratories, process chemical storage and containment facilities, plumbing fixtures that support process water, untreated or treated process water ponds, tailings impoundments, ore stock piles, and spent ore disposal areas must be appropriately sited and prepared for construction. Siting criteria must ensure that, at a minimum, the facilities are structurally sound and that containment systems can be adequately protected against factors such as wild fires,

floods, land slides, storm water run-on, erosion, migrating stream channels, high ground water table, equipment operation, subsidence of underground workings, public access and public activities. All sites must be properly prepared prior to construction of foundations and facilities. Vegetation, roots, brush, large woody debris and other deleterious materials, top soil, historic foundations and plumbing, or other materials that may adversely affect appropriate construction and long term stability, must be removed from the footprint of the cyanidation facility unless approved by the Department. (11-6-20)T

**05. Process Water Storage Sizing Criteria.** All aspects of the cyanidation facility that entrain, utilize, treat, discharge, pump, convey, or otherwise contain process water, treated process water, or run-off water from any portion of the cyanidation facility must be included in the water balance. Each pond, tailings impoundment, and ditch containing process water must be designed to maintain a minimum two (2) foot freeboard during storage or conveyance of the design climatic events plus maximum expected normal operating levels. Leach pad design must provide containment of the maximum expected operating flows plus storm flows from the design climatic event. At a minimum, a cyanidation facility must be designed to contain the maximum expected normal operating water balance and the volume of run-on and run-off water associated with a climatic event that has a one percent (1%) annual exceedance probability. Snowmelt events will be considered in determining the maximum flow volume during the design climatic event. Contingency plans for managing excesses of all water included as a part of the water balance must be described in the water management strategy. Each structure that impounds process water or process-contaminated water must include a means of passing excess water unless otherwise approved by the Department. (11-6-20)T

**06. Minimum Plans and Specifications.** Unless the Department approves an alternative design under Section 205, the plans and specifications for any portion of a cyanidation facility that will contain process water must satisfy the applicable general design criteria in Subsection 200.06 and the design criteria in Sections 201 through 204 for the type of facility receiving process water. These provisions establish minimum pollutant control technologies and define the site and operating conditions that must be evaluated. (11-6-20)T

- a. Cyanidation facility design must: (11-6-20)T
  - i. Minimize releases of pollutants into ground water or subsurface migration pathways so that any release will not cause unauthorized degradation of waters. (11-6-20)T
  - ii. Preclude any differential movement or shifting of the subgrade, soil layer, liner or contained material that endangers containment integrity as a result of the proposed range of operating conditions for each component and anticipated seismic activity at the site. (11-6-20)T
  - iii. Include additional containment of process water, as requested by the Department, in areas where ground water is considered to be near the surface. Ground water is considered to be near the surface if: (11-6-20)T
    - (1) The depth from the surface to ground water is less than one hundred (100) feet and the top one hundred (100) feet of the existing formation has a hydraulic conductivity greater than  $10^{-5}$  cm/sec; (11-6-20)T
    - (2) Open fractured or faulted geologic conditions exist in the bedrock from the surface to the ground water; or (11-6-20)T
    - (3) There is an inability to document that all borings beneath the cyanidation facility have been adequately abandoned. (11-6-20)T
  - iv. Not locate new process component containing process water within one thousand (1,000) feet of any dwelling that is occupied at least part of the year and not owned by the permittee. This does not apply to modifications at a facility that predates such a dwelling. (11-6-20)T
  - v. Include measures for preventing wildlife contact with process water having a WAD cyanide concentration in liquid fraction exceeding fifty (50) mg/L. The Department may require additional measures if wildlife mortality is observed. (11-6-20)T
  - vi. Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide

- process water and other pollutants. (11-6-20)T
- vii. Include a quality assurance/quality control plan for the construction of containment systems that provides a process for documenting owner acceptance of all underlying components of the containment system prior to construction of the overlying components. (11-6-20)T
- b.** Liner systems must: (11-6-20)T
- i. Have a structurally stable subgrade for the overlying components and contained material. The subgrade should be constructed to resist consolidation, excessive differential settlement that compromises liner performance, and uplift resulting from pressures inside or outside the containment unit to prevent distortion of overlying components. (11-6-20)T
- ii. Have a smooth rolled and compacted soil layer, or equivalent layer approved by the Department, in intimate contact with the overlying geomembrane liner with the following characteristics: (11-6-20)T
- (1) A minimum thickness of twenty-four (24) inches compacted to ninety-five percent (95%) of maximum dry density according to Standard Proctor Test ASTM D698 or Modified Proctor Test ASTM D1557; (11-6-20)T
- (2) Soil placed in a minimum of four (4) lifts that each have a compacted thickness of six (6) inches and a hydraulic conductivity less than or equal to  $10^{-6}$  cm/sec; (11-6-20)T
- (3) An uppermost lift of soil that does not contain particles in excess of point seven five (0.75) inches (nineteen (19) mm) in largest dimension unless larger particles are consistent with the manufacturer's specifications for the overlying liner and approved by the Department; (11-6-20)T
- (4) No putrescible, frozen, or other deleterious materials. (11-6-20)T
- (5) No angular, sharp material regardless of diameter; and (11-6-20)T
- (6) Soil placed within two percent (2%) of optimum moisture content to achieve the specified compaction and hydraulic conductivity. (11-6-20)T
- iii. Include the following if an equivalent layer replacing the soil layer described in Subsection 200.06.b.ii. is proposed: (11-6-20)T
- (1) A layer that is not a geomembrane and has a liquid flow rate no greater than that of twenty-four (24) inches of compact soil with a hydraulic conductivity less than or equal to  $10^{-6}$  cm/sec; (11-6-20)T
- (2) Materials with appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste, process water, or process-contaminated water to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation; (11-6-20)T
- (3) Materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component including on slopes; (11-6-20)T
- (4) Certification from an Idaho licensed professional engineer that the liquid flow rate per unit area through the equivalent layer is no greater than the liquid flow rate through two (2) feet of compacted soil with a hydraulic conductivity less than or equal to  $10^{-6}$  cm/sec, considering the maximum hydraulic head anticipated on the liner system and the thickness of the equivalent layer replacing the two (2) feet of compacted soil; and (11-6-20)T
- (5) Plans and specifications for an equivalent layer that substantially reflect the manufacturer's specifications and standards for construction, operation and maintenance unless otherwise approved by the Department. (11-6-20)T

- iv. Include geomembrane liners consisting of high density polyethylene, linear low-density polyethylene, or equivalent, rated as having a resistance to the passage of process water equal to or less than a hydraulic conductivity of  $10^{-11}$  cm/sec. Each geomembrane liner will be constructed of materials with appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation and permanent closure. (11-6-20)T
- v. Be constructed according to manufacturer's standards, or Department-approved design standards, and protect against damage from cracking, sun exposure, ice, frost penetration or heaving, wildlife, wildfires, and damage that may be caused by personnel or equipment operating in or around these facilities. (11-6-20)T
- vi. Have an appropriate coefficient of friction against sliding plus a factor of safety for each interface constructed on a slope. (11-6-20)T
- vii. Have minimum factors of safety, and the logic behind their selection, for the stability of the earthworks and the lining systems. (11-6-20)T
- viii. Include redundant systems for failures in primary power or pumping systems. (11-6-20)T
- ix. Have liner material that meets the manufacturer's quality assurance/quality control performance specifications. (11-6-20)T

**07. Process Buildings, Process Chemical Storage Containment Areas and General Facility Criteria.** Storage, handling and use of all process chemicals, process wastes, process water and pollutants associated with the cyanidation facility must be conducted within a clean, safe and secure work space to prevent unauthorized discharges to soils, ground water or surface water. The plans and specifications must contain sufficient detail, including pump capacity and plumbing for evacuation of collection sumps, triggering systems for sump evacuation, and monitoring and reporting requirements and, where appropriate, provide for: (11-6-20)T

- a. Structural integrity of the foundation, walls and roof for process and process chemical storage buildings; (11-6-20)T
- b. Restriction of public access; (11-6-20)T
- c. Protection of wildlife; (11-6-20)T
- d. Internal sumps and spill cleanup plans; (11-6-20)T
- e. Grouted and sealed concrete stemmed walls and floors in the process buildings and process chemical storage and containment facilities; (11-6-20)T
- f. Vapor barriers and frost protection; (11-6-20)T
- g. Segregation of process chemicals according to compatibility; (11-6-20)T
- h. Communication systems; (11-6-20)T
- i. Fire suppression systems, internal and external; and (11-6-20)T
- j. Quality assurance/quality control for construction activities and construction materials. (11-6-20)T

**08. Cap and Cover Criteria.** Caps and covers used as source control measures for facilities must be designed and constructed to minimize the interaction of meteoric waters, surface waters, and ground waters with wastes containing pollutants that are likely to be mobilized and discharged to waters. Caps and covers designed for permanent closure must demonstrate permanence applicable to the permittee's designed and approved permanent closure plan. (11-6-20)T

- 09. Plumbing and Conveyance Criteria.** Plumbing and conveyance systems must: (11-6-20)T
- a.** Be structurally sound and chemically compatible with the materials being conveyed; (11-6-20)T
  - b.** Provide adequate primary and secondary containment; and (11-6-20)T
  - c.** Be protected against heat, cold, mechanical failures, impacts, fires, and other factors that may cause breakage and result in unauthorized discharges. (11-6-20)T
- 10. Operation and Maintenance Plans.** Operation and maintenance plans must be submitted to the Department for review and approval. Operation and maintenance plans must include, but are not limited to: (11-6-20)T
- a.** An overall plan that includes techniques for evaluating the integrity and performance of all containment systems; (11-6-20)T
  - b.** Schedule for inspections of all containment systems; (11-6-20)T
  - c.** Schedule for inspections on piping and conveyance systems that carry process water; (11-6-20)T
  - d.** Response plans that detail specific actions that will result in mitigation of compromised or damaged containment systems; and (11-6-20)T
  - e.** Response plans that detail specific thresholds identified under Subsection 200.11, the locations and frequency at which the thresholds will be monitored, and actions that will result in mitigation of an exceedance of any threshold. (11-6-20)T
- 11. Water Quality Monitoring and Reporting.** The water quality monitoring plan submitted with the application must be reviewed and, if appropriate, approved by the Department. The approved water quality monitoring plan must: (11-6-20)T
- a.** Provide for physical, chemical and biological monitoring, including measurements of surface water flow, wildlife and bird mortality, and aquatic indicator species in potentially affected surface and ground water, as appropriate; (11-6-20)T
  - b.** Provide for sampling locations and frequency; (11-6-20)T
  - c.** Provide an assessment of the existing surface and ground water conditions prior to construction of the proposed cyanidation facility; (11-6-20)T
  - d.** Be site specific and dependent on location, design and operation of the cyanidation facilities included in the overall operating plan; (11-6-20)T
  - e.** Specify compliance points and associated water quality compliance criteria; (11-6-20)T
  - f.** Specify monitoring points and threshold concentrations that provide for early detection of discharges of pollutants; (11-6-20)T
  - g.** Provide analytical methods and method detection limits for chemical analysis used in the determination of water quality; (11-6-20)T
  - h.** Provide a quality assurance quality control plan for data collection and analysis; (11-6-20)T
  - i.** Provide for appropriate and timely analytical data analyses including evaluations of water quality and quantity trends; (11-6-20)T
  - j.** Provide an annual environmental monitoring and data analysis report of water quality and quantity

- trends; (11-6-20)T
- k.** Provide for the reporting and re-sampling of monitoring locations where detectable and statistically significant changes in water quality are found. The permittee must propose a statistical method to determine the significance of the changes in water quality; and (11-6-20)T
  - l.** Provide for anticipated changes or modifications to monitoring plans, which may be the result of a phased approach to cyanidation facility construction, operations and permanent closure. (11-6-20)T
- 12. Monitoring Wells Siting and Construction Plans.** The applicant is encouraged to submit a report describing the purpose, objectives, location and proposed construction of monitoring wells to the Department for review and comment during the initial stages of site characterization. A monitoring well siting and construction plan must be provided upon submittal of the preliminary design report under Subsection 050.02. (11-6-20)T
- a.** Monitoring well siting and construction plans must provide for the following. (11-6-20)T

    - i.** A quality assurance/quality control plan for well construction. (11-6-20)T
    - ii.** A minimum of three (3) monitoring wells with one (1) located up gradient and two (2) located down gradient of primary components of the cyanidation facility to determine ground water flow direction. (11-6-20)T
  - b.** Siting and planning for additional wells or replacement wells may be required in the permit application and final permit. Specifically, additional wells may be required for: (11-6-20)T

    - i.** Large areas with multiple potential sources for pollutants; (11-6-20)T
    - ii.** Areas with complex geology, fractured bedrock; and (11-6-20)T
    - iii.** Areas with insufficient background hydrogeology. (11-6-20)T
  - c.** All monitoring well construction must also conform to the well construction rules listed in IDAPA 37.03.09, "Well Construction Standards Rules." (11-6-20)T
  - d.** Record diagrams including well construction details, well elevation and a detailed geologic log must be provided to the Department for each monitoring well. (11-6-20)T
- 13. Land Application.** Plans and specifications must include: (11-6-20)T
- a.** An operation and maintenance plan including: (11-6-20)T

    - i.** Water balance for the land application site; (11-6-20)T
    - ii.** Pretreatment requirements and procedures; (11-6-20)T
    - iii.** Operating season for land application; (11-6-20)T
    - iv.** Seasonal closeout procedures; (11-6-20)T
    - v.** Special soils or vegetative amendments; (11-6-20)T
    - vi.** Storm water run-on/run-off controls; (11-6-20)T
    - vii.** Best management practices for all areas impacted by the land application system; and (11-6-20)T
    - viii.** A topographic map of the land application site and adjacent affected areas, of sufficient scale to facilitate site-specific analysis of soils, vegetation, surface water, and ground water; (11-6-20)T



- b. Chemical, physical, and volumetric characteristics of the material to be land applied; (11-6-20)T
- c. A complete description of the chemical and physical characteristics of the soils and applicable geology of the land application site; (11-6-20)T
- d. Methods of process water treatment, distribution and disposal; (11-6-20)T
- e. Hydraulic loading capacity of the soils; (11-6-20)T
- f. Constituent loading capacity of the site; (11-6-20)T
- g. Attenuation capacity of the vegetative covers and soils; (11-6-20)T
- h. Evapotranspiration capacity of the site; (11-6-20)T
- i. Testing and analytical procedures for water quality and soils samples prior to, during, and following the land application process; (11-6-20)T
- j. Trend analysis of the constituent loading in the affected soils, vegetation, and water quality of the affected surface or ground water systems; (11-6-20)T
- k. Reporting requirements including both frequency and form; and (11-6-20)T
- l. Standby power and pumps sufficient to maintain all treatment and distribution works. (11-6-20)T

**14. Temporary or Seasonal Closure.** Temporary and seasonal closure plans for the entire cyanidation facility must be submitted by an applicant to the Department for review and approval prior to issuance of a final permit. Temporary and seasonal closure plans may, subject to Department approval pursuant to Section 750, be modified to provide for changes in operating conditions of the facilities and must incorporate a water management plan for the period of inactivity as well as during shut down and reactivation. (11-6-20)T

a. Prior to seasonal closure, process buildings, process chemical storage, process water ponds, tailings impoundments, spent ore disposal areas and other ancillary facilities must be stabilized and/or conditioned to prevent any emergency or unauthorized discharges to surface or ground water. (11-6-20)T

b. Subsequent to seasonal closure, process buildings, process chemical storage, process water ponds, tailings impoundments, spent ore disposal areas and other ancillary facilities must be maintained to prevent any emergency or unauthorized discharges to surface or ground water. Cyanidation facilities must be conditioned and maintained to provide: (11-6-20)T

- i. Material stabilization for all solids affected by process waters; (11-6-20)T
- ii. Optimum freeboard in all ponds, as dictated by the water management plan; (11-6-20)T
- iii. Fully functional power and pumping systems that are ready for use; both power and pumps are to incorporate redundant systems to allow for failure of either power or a pumping system. A failed power supply or pump is not an acceptable reason for an unauthorized discharge; (11-6-20)T
- iv. Protection of all containment; and (11-6-20)T
- v. Sufficient availability of qualified staff to restrict public access, fully implement the water quality monitoring plan, and initiate the emergency and spill response plan. (11-6-20)T

**15. Employee Education Program.** Operators and staff of facilities must be properly oriented and trained to operate, maintain, and protect containment systems; waste disposal and discharge systems; and to implement monitoring and emergency and spill response plans. An applicant must submit an employee orientation

and continuing training plan to the Department for review prior to issuance of a final permit. The plan must provide the format and contents for training, the general qualifications of the person(s) responsible for training and testing, and the person(s) or positions who must receive such training. (11-6-20)T

**201. DESIGN CRITERIA FOR LEACH PADS AND OTHER NONIMPOUNDING SURFACES THAT CONTAIN AND PROMOTE HORIZONTAL FLOW OF PROCESS WATER.**

Plans and specification for leach pads and other nonimpounding surfaces that temporarily contain, not impound, process water and promote the horizontal flow of process water must provide for all of the following. (11-6-20)T

**01. Minimal Hydraulic Head.** Process water is limited to twelve (12) inches or less hydraulic head pressure on the liner systems. (11-6-20)T

**02. Engineered Liner System.** In addition to meeting the general liner requirements in Subsection 200.06.b., the engineered liner system plans and specifications are to provide for geomembrane liners with a minimum thickness of eighty (80) milli-inches (two point zero (2.0) mm) or equivalent liners approved by the Department. (11-6-20)T

**a.** If leach pads or other non-impounding surfaces are located above areas where ground water is considered near the surface pursuant to Subsection 200.06.a.iii., the Department may require a liner system with a higher level of engineered containment. (11-6-20)T

**b.** When a material or system that provides hydraulic relief is installed, beneath a single liner, including, but not limited to, sand, French drains and geotextiles, regardless of the intent of its design, it is to function as a leak detection system and include a means for recovering process water. (11-6-20)T

**c.** Depending on the methods and materials used for their construction, the Department may require all open channels that routinely transport process water to be traced by a leak detection system. (11-6-20)T

**03. Ore Loading Procedures.** Procedures for loading ore onto the leach pads that minimize tensile stresses in the containment liners that may result in failure of the liners. (11-6-20)T

**04. Monitoring.** Monitoring points that will provide for early detection of any discharge. (11-6-20)T

**05. Process Water Containment.** Where appropriate, process water containment calculations at the leach pad perimeter should include the potential for drainage constrictions, including constrictions due to talus or washouts at the ore pile toe. Ore pile setbacks from the leach pad perimeter should be calculated based on local climatic conditions, ore properties, and site specific operating conditions. Solution collection ditches in which the liner is contiguous with the leach pad may be used to satisfy perimeter containment requirements. (11-6-20)T

**202. DESIGN CRITERIA FOR PROCESS PONDS.**

**01. Engineered Liner System.** In addition to meeting the general liner requirements in Subsection 200.06.b., the engineered liner system plans and specifications must provide for all of the following. (11-6-20)T

**a.** Lower geomembrane liners with a minimum thickness of eighty (80) milli-inches (two point zero (2.0) mm) or equivalent liners approved by the Department. (11-6-20)T

**b.** Leak detection and collection system that provides material between the lower geomembrane liner and the upper liner system to collect, transport and remove all process water that passes through the upper liner at such a rate as to prevent hydraulic head from developing on the lower geomembrane liner to the level at which it may be reasonably expected to result in leaks through the lower liner system. (11-6-20)T

**c.** Upper geomembrane liners with a minimum thickness of eighty (80) milli-inches (two point zero (2.0) mm) or equivalent liners approved by the Department. (11-6-20)T

**d.** Routines and schedules for the evaluation of the efficiency and effectiveness of the removal of process water from the leak collection system. The properly working system will continually relieve head pressures

on the lower geomembrane liner. (11-6-20)T

e. Monitoring points that will provide for early detection of any discharge. (11-6-20)T

f. Specific triggers for maintenance routines to address inadequate performance of liner systems. (11-6-20)T

g. Specific operation and maintenance procedures to address inadequate performance of containment or leak detection and collection systems. (11-6-20)T

**02. Temporary Containment.** Ponds for temporary containment of excess quantities of process water as a result of storm events may be constructed with a single liner if approved by the Department. (11-6-20)T

**203. DESIGN CRITERIA FOR CONTAINERS THAT CONFINE PROCESS WATER.**

Vats, tanks, or other containers that are partially buried and cannot be visually inspected must have a system providing secondary containment and leak detection. If visual inspection is possible and an area for secondary containment equal to one hundred ten percent (110%) of the largest container is provided, a double liner is not required. (11-6-20)T

**204. DESIGN CRITERIA FOR TAILINGS IMPOUNDMENTS.**

**01. Engineered Liner System.** In addition to meeting the general liner requirements in Subsection 200.06.b., the engineered liner system plans and specifications must provide for the following. (11-6-20)T

a. Geomembrane liners with a minimum thickness of sixty (60) milli-inches (one point five (1.5) mm) or equivalent liners approved by the Department. (11-6-20)T

b. A system to limit hydraulic head over the geomembrane liner that preserves the integrity and long-term performance of the liner system and includes the following: (11-6-20)T

i. A system to reduce excess pore pressure within the tailings; and (11-6-20)T

ii. A plan for managing the depth, area, and volume of process water occurring above the tailings surface and in direct contact with the liner, including thresholds and contingency measures to manage excess accumulation of process water in the facility. (11-6-20)T

c. Monitoring points that will provide for early detection of discharges of pollutants. (11-6-20)T

**02. Enhanced Containment Criteria.** An enhanced level of containment may be required by the Department for all of the tailings impoundment or for a portion thereof after considering the following factors: (11-6-20)T

a. The anticipated characteristics of the material to be deposited; (11-6-20)T

b. The characteristics of the soil and geology of the site; (11-6-20)T

c. The methods employed and degree to which the hydraulic head on the liner is minimized; (11-6-20)T

d. The extent of and methods used for material stabilization and recycling or neutralization of process water; (11-6-20)T

e. Area and volume of process water; (11-6-20)T

f. The depth from the surface to all ground water; (11-6-20)T

g. The methods employed in depositing the impounded material; and (11-6-20)T

**h.** The proximity to surface water and the ground water interactions with surface water. (11-6-20)T

**03. Tailings Treatment.** Tailings impoundments are restricted to a maximum of fifty (50) mg/L WAD cyanide concentration in the liquid fraction unless otherwise approved by the Department. (11-6-20)T

**205. ALTERNATIVE PLANS AND SPECIFICATIONS FOR FACILITIES THAT CONTAIN PROCESS WATER.**

An applicant may propose an alternative to the requirements identified in Subsection 200.06, Sections 201, 202, 203, or 204 based on site-specific conditions and best management practices to protect water quality and human health. All other requirements in Section 200 apply to alternative design proposals. (11-6-20)T

**01. Alternative Design Proposal.** The applicant must demonstrate that the alternative design will protect water quality and human health by confirming that the alternative to the minimum design criteria is appropriate based on the WAD cyanide concentration and chemical characteristics of materials contained; the physical characteristics of the materials contained; site-specific soil, geology, hydrology, and hydrogeology characteristics; degree to which hydraulic head on the liner is minimized; area and volume of the facility; depth to ground water; methods employed in depositing the impounded material; potential for leaks and impacts to water quality; and risk to human health and the environment. The alternative design must provide an evaluation based on site-specific data, supported by best available science, and consistent with best management practices demonstrating that process water and process-contaminated water are contained and controlled or treated as necessary to protect public safety and the environment, prevent unauthorized degradation of waters, and achieve all applicable water quality and ground water quality standards. The alternative design must include all applicable elements listed below. (11-6-20)T

**a.** A hydrogeology assessment of site characteristics including depth to ground water; distance to surface water; hydrogeology and stratigraphy of the site; ground water and surface water interaction; and the quality, characteristics and existing and future beneficial uses of ground water and surface water that may be potentially affected by the facility. (11-6-20)T

**b.** An engineering assessment detailing the design of each component of the containment system, including type and thickness of each component of the liner system; types of materials to be used and methods of placement of those materials; structures, devices and techniques for controlling drainage and minimizing solution loss; and method to control internal hydraulic head. (11-6-20)T

**c.** A water quality assessment providing an analysis of potential for the facility to cause degradation of waters including the effect of ground water and surface water interactions, the potential for process water to reach waters, and the potential impact of process water on waters. (11-6-20)T

**02. Preliminary Design Submittal.** Alternative design proposals must be provided to the Department upon submittal of the preliminary design report required in Section 050. (11-6-20)T

**03. Department Review.** In evaluating alternative design proposals, the Department will consider the WAD cyanide concentration and other materials contained in facilities receiving process water, site hydrogeology, advances in liner technology, alternative designs implemented at other facilities receiving process water, and other site-specific factors in determining if an alternative is appropriate to protect water quality and the public health. (11-6-20)T

**04. Cost Recovery Agreement.** As provided in Subsection 100.04, the applicant must enter into an agreement with the Department for actual costs incurred to process an alternative design proposal under this subsection. The Department may utilize a third-party to support Department review of the alternative design proposal. (11-6-20)T

**206. -- 299. (RESERVED)**

**300. APPLICATION PROCESSING PROCEDURE.**

- 01. Completeness Review.** Within thirty (30) days of receipt of an application, the Director will issue a written notice to the applicant and the Idaho Department of Lands, indicating: (11-6-20)T
- a. The application is complete; or (11-6-20)T
  - b. The application is incomplete, specific deficiencies, and additional required information. (11-6-20)T
- 02. Accuracy and Protectiveness Review.** Within ninety (90) days of receipt of an application and upon determination by the Department that the application is complete, the Department will review the application for accuracy and protectiveness based on these and other applicable rules including, but not limited to, IDAPA 58.01.02, "Water Quality Standards," and IDAPA 58.01.11, "Ground Water Quality Rule." (11-6-20)T
- 03. Permit Application Rejection.** (11-6-20)T
- a. If the Director decides to reject an application under Subsection 300.03.b., the Director will provide public notice within ninety (90) days after receipt of the application. Such notice will be in writing, explain the basis for the rejection, and constitute a notice of rejection in accordance with Section 39-118A(2)(b), Idaho Code. (11-6-20)T
  - b. A complete permit application will be rejected if: (11-6-20)T
    - i. The cyanidation facility as proposed cannot be conditioned for construction, operation, and closure so as to comply with applicable state law; or (11-6-20)T
    - ii. Any payment required by the cost recovery agreement under Subsection 100.04 is due and unpaid. (11-6-20)T
- 04. Draft Permit and Fact Sheet.** (11-6-20)T
- a. If the Director decides to prepare a draft permit or draft major permit modification, the draft will contain the following information: (11-6-20)T
    - i. All conditions based on Sections 200 through 204; (11-6-20)T
    - ii. All conditions for an approved alternative under Section 205; (11-6-20)T
    - iii. All conditions under Section 500; (11-6-20)T
    - iv. Any information incorporated into the draft permit by reference; and (11-6-20)T
    - v. Any other condition the Director finds appropriate to protect water quality and public health. (11-6-20)T
  - b. A fact sheet will accompany the draft permit. The fact sheet will briefly state the principal facts and the significant legal and policy questions considered in the draft permit. The fact sheet will include, when applicable: (11-6-20)T
    - i. A brief description of the proposed cyanidation facility and the operating plan described in the application or permit modification request. (11-6-20)T
    - ii. A brief summary of the basis for the conditions on the draft permit, including references to applicable statutes or regulations and appropriate supporting references to the administrative record; and. (11-6-20)T
    - iii. The name and phone number of the agency representative to contact for additional information. (11-6-20)T

301. -- 399. (RESERVED)

**400. PUBLIC NOTICE AND COMMENT.**

**01. Public Notice.** No public notice is required when a request for a permit modification is denied. The Director will give public notice of: (11-6-20)T

- a. Receipt of an application for a permit; (11-6-20)T
- b. A scheduled public meeting; (11-6-20)T
- c. Issuance of a draft permit and fact sheet or a decision to reject an application for a permit; and (11-6-20)T
- d. An appeal that has been filed. (11-6-20)T

**02. Public Notice Information.** A public notice issued under this section will contain at least the following information: (11-6-20)T

- a. Contact information for the Department and applicant; (11-6-20)T
- b. Description of public involvement procedures and how to obtain additional public information available; (11-6-20)T
- c. General description of the facility location; (11-6-20)T
- d. Comment period; and (11-6-20)T
- e. Public meeting location and time conducted under Subsection 400.06 (11-6-20)T

**03. Serving the Public Notice.** Public notice of permit actions will be given by the following methods: (11-6-20)T

- a. By mail to: (11-6-20)T
  - i. The applicant; (11-6-20)T
  - ii. Persons on the public notice mailing list developed under Subsection 400.04; and (11-6-20)T
  - iii. Other appropriate federal, tribal, state, or local government entities. (11-6-20)T
- b. Publication in a daily or weekly major newspaper of general circulation in the area of the proposed cyanidation facility; and (11-6-20)T
- c. Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected. (11-6-20)T

**04. Mailing List.** The Department will develop a mailing list for public notices issued under this section by recording those who request in writing to be on the list, publishing notice of the opportunity to be on the mailing list on the Department's website, and periodically publishing in the local press and in regional and state-funded newsletters, environmental bulletins, state law journals or similar publications. The Department may update the mailing list from time to time by requesting written indication of continued interest from those listed and may delete from the list the name of any person who fails to respond to the Department's request. (11-6-20)T

**05. Participation by Idaho Department of Lands.** The Department will request that the Idaho Department of Lands participate in the public meeting with respect to performance criteria for permanent closure. (11-6-20)T

**06. Public Comment Period.** The Director will allow public comment on a draft permit for a period of sixty (60) days beginning on the date of the public notice for the draft permit. All written comments received during this public comment period will be considered by the Director. (11-6-20)T

**07. Public Meeting.** Within thirty (30) days after the date of the public notice for draft permit or draft major permit modification, the Department will hold a public meeting. Oral or written comments may be submitted by any person at the public meeting. The meeting will be conducted by an official designated by the Director. In order for the Department to address public comments in its Response to Public Comments pursuant to Subsection 450.02, comments must be submitted in writing during the public comment period under Subsection 400.06. (11-6-20)T

**401. -- 449. (RESERVED)**

**450. FINAL PERMIT DECISION.**

**01. Notification of the Decision.** The Director will provide notice of the final permit decision to each person or entity given notice under Subsection 400.03. This notice will include reference to the procedures for administrative appeal under Section 003. For the purpose of this section, a final permit decision means a final decision to issue, deny, or modify a permit. (11-6-20)T

**02. Response to Public Comments.** The Director will prepare and make available to the public a response to relevant written comments received during the public comment period under Subsection 400.06. This response will: (11-6-20)T

**a.** Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and (11-6-20)T

**b.** Briefly describe and respond to all relevant written comments on the draft permit. (11-6-20)T

**03. Basis for Permit Denial.** The Director will deny a permit if: (11-6-20)T

**a.** The application is incomplete or inaccurate; (11-6-20)T

**b.** The cyanidation facility as proposed cannot be conditioned for construction, operation, and closure so as to comply with applicable state law; or (11-6-20)T

**c.** The Idaho Department of Lands has determined that the permanent closure plan does not meet the requirements of Chapter 15, Title 47, Idaho Code, or the rules promulgated thereunder. (11-6-20)T

**04. Immediate Effect of the Permit.** A valid permit authorizes the construction and operation of a cyanidation facility in accordance with the terms of the permit. (11-6-20)T

**451. -- 499. (RESERVED)**

**500. PERMIT CONDITIONS.**

The following conditions apply to and must be specified in all permits: (11-6-20)T

**01. Compliance Required.** The applicant or permittee must comply with all conditions of the permit. Issuance or possession of a permit issued according to these rules does not relieve the applicant or permittee of the responsibility to comply with all other applicable local, state, and federal laws. (11-6-20)T

**02. Construction.** Construction of individual components of a cyanidation facility may commence upon approval by the Department of the final plans and specifications for that component. (11-6-20)T

**03. Record Plans and Specifications.** An Idaho licensed professional engineer must confirm in writing that all record drawings and specifications are complete and accurate. These record plans and specifications must be submitted by the permittee to the Director within thirty (30) days after the completion of the construction of

each critical phase of facility development as approved by the Department. The record plans and specifications must be accompanied by a final construction report. If the construction does not deviate from the approved plans and specifications, a statement to the effect must be submitted by the engineer. The Department will review the final construction report, including record plans and specifications and results of quality control and quality assurance testing, to verify that the facility was constructed in compliance with and does not deviate from the approved plans and specifications. If the Department determines that the facility was not constructed in compliance with or deviates from the approved plans and specifications, the Department will provide the permittee written notice of necessary corrective actions within thirty (30) days of receipt of all submittals required by this subsection. In the event the Department provides such written notice, operation of the facility may not begin until the Department inspects and provides written approval of the corrective actions. Operation of the facility may begin if the Department does not deliver to the permittee such written notice within thirty (30) days of receipt of all submittals required by this subsection. (11-6-20)T

**04. Duty to Provide Information.** The permittee must furnish to the Director, within a reasonable or specified time, any information, including copies of records required by the permit or other applicable rules, that the Director may request to determine whether cause exists for modifying or revoking the permit or to determine compliance with the permit or other applicable rules. (11-6-20)T

**05. Notifications.** After initial construction and seasonal and/or temporary closure, the permittee must, within thirty (30) days, provide written notice to the Director of the permittee's intentions to commence or restart operations. At least thirty (30) days prior to completion of operations, and/or temporary or seasonal operations, the permittee must notify the Director of the permittee's intentions to temporarily, seasonally or permanently close operations. Notification must provide sufficient time for the Director to provide pre-operational or post-operational inspections, as necessary. (11-6-20)T

**06. Entry and Access.** The permittee must allow the Director, or a designee obligated by agreement with the Director to comply with the confidentiality provisions of Section 39-111, Idaho Code, to: (11-6-20)T

**a.** Enter at reasonable times upon the premises of a permitted cyanidation facility or where records required by a permit are kept; (11-6-20)T

**b.** Have access to and copy at reasonable times any records that must be kept under the conditions of the permit; (11-6-20)T

**c.** Inspect at reasonable times any cyanidation facility, equipment, practice, or operation permitted or required by the permit; and (11-6-20)T

**d.** Sample or monitor at reasonable times, substance(s) or parameter(s) directly related to permit or regulation compliance. (11-6-20)T

**07. Reporting.** It is the permittee's responsibility to report to the Director: (11-6-20)T

**a.** Orally, as soon as possible but no later than twenty-four (24) hours from the time the permittee knows or should reasonably know of any noncompliance that may endanger the public health or the environment. (11-6-20)T

**b.** In writing, within five (5) working days from the time a permittee knows or should reasonably know of any event that may be or that may result in a violation of these rules, or IDAPA 58.01.02, "Water Quality Standards," or IDAPA 58.01.11, "Ground Water Quality Rule." This report must contain: (11-6-20)T

**i.** A description of the event and its cause; if the cause is not known, steps taken to investigate and determine the cause; (11-6-20)T

**ii.** The period of the event including, to the extent possible, the individual(s) involved in the incident(s) and the time(s) and date(s) of the incidents; (11-6-20)T

**iii.** Measures taken to mitigate or eliminate the event and protect the public health; and (11-6-20)T



- iv. Steps taken to prevent recurrence of the event; (11-6-20)T
  - c. In writing, confirmation of any conditions that may result in violation of any permit condition; and (11-6-20)T
  - d. In writing, when the permittee knows or should reasonably know of relevant facts not submitted or incorrect information submitted in a permit application or any report or notice to the Director or the Department. Those facts or the correct information must be included as a part of this report. (11-6-20)T
- 08. Discharge Response.** If an unauthorized discharge occurs the permittee must implement the Department approved emergency and spill response plan. (11-6-20)T
- 09. Temporary or Seasonal Closure Plans.** Prior to temporary or seasonal closure, the permittee must submit a temporary or seasonal closure plan to the Director for approval. The plan must describe the procedures, methods, and schedule to be implemented for the treatment and disposal of process water and pollutants, the control of drainage from the cyanidation facility, the control of drainage from the surrounding area, and the secure storage of chemicals during the period of closure. Within thirty (30) days of receiving the plan, the Director will approve and/or suggest modifications necessary to protect waters. The permittee must ensure that closure complies with an approved plan. The approved plan must be implemented before the permittee completes temporary or seasonal closure. Facilities may not be temporarily or seasonally closed for a period longer than two (2) years unless approved by the Director. (11-6-20)T
- 10. Begin Construction.** If the permittee fails to begin construction of a cyanidation facility within one (1) year of the effective date of the permit, the permit will be deemed void. (11-6-20)T
- 11. Permanent Closure.** The permanent closure plan, as approved by the Idaho Department of Lands, will be incorporated by reference into the Department-issued permit as a permit condition and will be enforceable as such. (11-6-20)T
- 501. COMPLETION OF PERMANENT CLOSURE.**
- 01. Implementation of a Permanent Closure Plan.** Unless otherwise specified in the approved permanent closure plan, the permittee must begin implementation of the approved permanent closure plan: (11-6-20)T
- a. Within two (2) years of the final addition of cyanide to the ore processing circuit; or (11-6-20)T
  - b. If the product recovery phase of the cyanidation facility has been suspended for a period of more than two (2) years. (11-6-20)T
- 02. Submittal of a Permanent Closure Report.** The permittee must submit a permanent closure report to the Department for review and approval. A permanent closure report must be of sufficient detail for the directors of the Department and the Idaho Department of Lands to issue a determination that permanent closure, as defined in Section 007, has been achieved. The permanent closure report must address: (11-6-20)T
- a. The effectiveness of material stabilization; (11-6-20)T
  - b. The effectiveness of the water management plan and adequacy of the monitoring plan; (11-6-20)T
  - c. The final configuration of the cyanidation facility and its operational/closure status; (11-6-20)T
  - d. The post-closure operation, maintenance, and monitoring requirements, and the estimated reasonable cost to complete those activities; (11-6-20)T
  - e. The operational/closure status of any land application site of the cyanidation facility; (11-6-20)T

- f.** Source control systems that have been constructed or implemented to eliminate, mitigate, or contain short and long term discharge of pollutants from the cyanidation facility, unless otherwise permitted; (11-6-20)T
- g.** The short and long term water quality trends in surface and ground water through the statistical analyses of the existing monitoring data collected pursuant to the ore processing by cyanidation permit; (11-6-20)T
- h.** Ownership and responsibility for the cyanidation facility during the defined post-closure period; (11-6-20)T
- i.** The future beneficial uses of the land, surface and ground waters in and adjacent to the closed facilities; and (11-6-20)T
- j.** How the permanent closure of the cyanidation facility complies with the Resource Conservation and Recovery Act, Hazardous Waste Management Act, Solid Waste Management Act, and appropriate rules. (11-6-20)T

**502. DECISION TO APPROVE OR DISAPPROVE OF A PERMANENT CLOSURE REPORT.**

**01. Cost Recovery.** Final closure of the cyanidation facility will not be approved if any payment required by the cost recovery agreement under Subsection 100.04 is due and unpaid. (11-6-20)T

**02. Issuance of Director's Determination.** Within sixty (60) days of receipt of a permanent closure report, the Director will issue to the permittee a Director's determination of approval or disapproval of the permanent closure report. The Director's determination will be based on applicable statutes or rules administered by the Department. The Department will coordinate the evaluation of the permanent closure report with the Idaho Department of Lands. (11-6-20)T

**03. Director's Determination to Disapprove a Permanent Closure Report.** A Director's determination to disapprove a permanent closure report will specifically identify and discuss those reasons for disapproval, any administrative actions being considered by the Director, and the permittee's options and procedures for administrative appeal. The Director's determination to disapprove a permanent closure report must include: (11-6-20)T

- a.** Identification of errors or inaccuracies in the permanent closure report; (11-6-20)T
- b.** Issues or details that require additional clarification; (11-6-20)T
- c.** Failures to fully implement the approved permanent closure plans; (11-6-20)T
- d.** Outstanding violations or other noncompliance issues; and (11-6-20)T
- e.** Other issues supporting the Department's disagreement with the contents, final conclusions or recommendations of the permanent closure report. (11-6-20)T

**503. -- 549. (RESERVED)**

**550. VALIDITY AND DURATION OF PERMITS.**

A permit remains valid until the Director determines that permanent closure is completed or the Director revokes or modifies the permit. (11-6-20)T

**551. -- 649. (RESERVED)**

**650. FINANCIAL ASSURANCE.**

**01. Financial Assurance Required.** The permittee is required to provide financial assurance pursuant to the Idaho Mined Land Reclamation Act, Chapter 15, Title 47, Idaho Code, and the rules promulgated thereunder.

The Department will not issue a permit under these rules to a cyanidation facility unless a permanent closure plan for the cyanidation facility has been submitted for approval under Chapter 15, Title 47, Idaho Code. Any permit issued under these rules will prohibit construction and operation of the cyanidation facility until the permittee submits proof acceptable to the Department that financial assurance for the cyanidation facility permanent closure plan has been provided as required by Chapter 15, Title 47, Idaho Code. (11-6-20)T

**02. Insufficiency.** In the event the financial assurance is forfeited as described in the Idaho Mined Land Reclamation Act, Chapter 15, Title 47, Idaho Code, the Department may seek to recover the amount necessary to implement permanent closure under the Department-issued permit and these rules as provided by law. (11-6-20)T

**651. -- 749. (RESERVED)**

**750. PERMIT MODIFICATION.**

**01. Cause for Permit Modification.** Causes for permit modification are: (11-6-20)T

**a.** A material modification or material expansion in the cyanidation facility operation, design or closure plan; or (11-6-20)T

**b.** Natural phenomena substantially different from those anticipated in the original permit. (11-6-20)T

**02. Modification at Request of Permittee.** Requests for modification from the permittee must include: (11-6-20)T

**a.** A written description of the modification(s); (11-6-20)T

**b.** Data supporting the modification request; and (11-6-20)T

**c.** Causes and anticipated effects of the modification. (11-6-20)T

**03. Modification at Request of Director.** Pursuant to Subsection 750.01, if the Director determines that cause exists for permit modification, the Director will notify the permittee in writing and request information necessary for the Director to modify the permit. (11-6-20)T

**04. Modification Procedure.** The Director will evaluate the request for a permit modification, based on the information provided in Subsection 750.02 or otherwise obtained by the Department, and determine if the modification requires a major permit modification or a minor permit modification. (11-6-20)T

**a.** Major permit modifications are subject to the provisions of Sections 100, 200 through 205, 300, 400, and 450. (11-6-20)T

**b.** Minor permit modifications are not subject to the provisions of Sections 100, 300, and 400. The permittee must notify and receive approval from the Department prior to making minor modifications. (11-6-20)T

**05. Major Permit Modifications.** Changes that require a major permit modification include but are not limited to: (11-6-20)T

**a.** Material modifications or material expansions to a cyanidation facility as defined by these rules; (11-6-20)T

**b.** A significant increase or decrease in the time the cyanidation facility is expected to be in operation; (11-6-20)T

**c.** Requests to modify or change water quality compliance criteria and/or water quality compliance monitoring points. (11-6-20)T

**06. Minor Permit Modifications.** Minor permit modifications are those that, if granted, would not

result in any increased hazard to the environment or to the public health. Within thirty (30) days of receipt of a written request for a minor modification, the Department will complete an evaluation of the request and either approve or deny the request in writing. Minor modifications may include but are not limited to: (11-6-20)T

- a. The correction of typographical errors in an approved permit; (11-6-20)T
- b. Legal transfer of ownership or operational control; (11-6-20)T
- c. A change in the requirements for monitoring or reporting frequency of the quality or quantity of the project air, water or waste generated; (11-6-20)T
- d. A change in the cost estimates submitted by a permittee to the Idaho Department of Lands to complete permanent closure; and (11-6-20)T
- e. A change or modification that is required by a state or federal requirement that supersedes the authorities of these rules. (11-6-20)T

**751. -- 799. (RESERVED)**

**800. TRANSFER OF PERMITS.**

**01. Transfer of Permits Allowed.** A permit may be transferred to a new permittee if such permittee provides written notice to the Director containing: (11-6-20)T

- a. A specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees; (11-6-20)T
- b. Demonstration that the new permittee has established appropriate financial assurance for permanent closure of the facility; and (11-6-20)T
- c. The information required in Subsections 100.03.b., 100.03.d., 100.03.e., and 100.03.g. (11-6-20)T

**02. Decision.** The Director will either approve of or deny the transfer of the permit within thirty (30) days of receipt of notice that the current permittee wishes to transfer the permit to a new permittee. (11-6-20)T

**03. Basis for Transfer Denial.** The Director will deny the request for the permit transfer if the new permittee has not provided the information required in Subsection 800.01. (11-6-20)T

**801. -- 849. (RESERVED)**

**850. PERMIT REVOCATION.**

**01. Cause for Revocation.** A material violation of a permit or these rules may be grounds for the Director to revoke a permit. A violation that is shown to have occurred as the result of an unforeseeable act of God despite a permittee's reasonable efforts to comply with all applicable legal requirements will not be considered grounds for revocation. (11-6-20)T

**02. Preliminary Decision.** The Director will provide the permittee written notice of a preliminary decision to revoke a permit, including a statement of the reasons for the preliminary decision and reference to the procedure for requesting a revocation hearing under Subsection 850.03. (11-6-20)T

**03. Revocation Hearing.** A preliminary decision to revoke a permit becomes final thirty-five (35) days after the date of the written notice of the preliminary decision unless the permittee requests in writing an administrative hearing before the preliminary decision becomes final. A request for an administrative hearing must be in the form of and will be considered as a petition to initiate a contested case under IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality." (11-6-20)T

851. -- 899. (RESERVED)

**900. VIOLATIONS.**

**01. Failure to Comply.** Failure by a permittee to comply with the provisions of these rules or with any permit condition is a violation of these rules. (11-6-20)T

**02. Falsification of Statements and Records.** It is a violation of these rules for any person to knowingly make a false statement, representation, or certification in any application, registration, report, document, or record developed, maintained, or submitted pursuant to these rules or the conditions of a permit. (11-6-20)T

**03. Discharges.** Any unauthorized discharge is a violation of these rules. (11-6-20)T

901. -- 999. (RESERVED)

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