CHAPTER 43-02-02.4
SOLUTION MINING

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43-02-02.4-01. Definitions.

The terms used throughout this chapter have the same meaning as in North Dakota Century Code chapter 38-12, except:

1. "Adjacent area" means land located outside the permit area where air, surface or ground water, fish, wildlife, vegetation, or other resources may be adversely impacted by solution mining and reclamation operations.

2. "Certified or registered mail" means any form of service by the United States postal service, federal express, Pitney Bowes, and any other commercial, nationwide delivery service that provides the mailer with a document showing the date of delivery or refusal to accept delivery.

3. "Department" means the department of mineral resources of the industrial commission.

4. "Deposit" means an underground concentration containing a common accumulation of subsurface minerals.

5. "Director" means the director of the department of mineral resources of the industrial commission.

6. "Diversion" means a channel, embankment, or other manmade structure constructed to divert water from one area to another.

7. "Field" means the general area underlaid by a concentration of subsurface minerals. Field also includes the geological formation containing such subsurface minerals.

8. "Log or well log" means a systematic, detailed, and correct record of formations encountered in the drilling of a well, and includes commercial electrical logs and similar records.

9. "Occupied dwelling" means a residence which is lived in by a person at least six months throughout a calendar year.

10. "Product" means any commodity made from any subsurface mineral.

11. "Saltwater handling facility" means any container, such as a pit, tank, or pool, whether covered or uncovered, used for the handling, storage, disposal of deleterious substances obtained, or used in connection with the drilling or operation of wells.

12. "Solution mining" means the process of injecting fluid into a well to dissolve rock salt or other readily soluble rock or mineral, and the production of the resulting artificial brine.

13. "Toxic-forming materials" means earth materials or wastes which, if acted upon by air, water, weathering, or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

14. "Waste" means:

    a. Physical waste;

    b. Operations which cause or tend to cause unnecessary or excessive surface loss; or

    c. Operations that do not recover all of the mineral being mined that is technically and economically possible.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-02. Scope of chapter.

This chapter contains general rules of statewide application which have been adopted by the industrial commission to conserve the natural resources of North Dakota, to prevent waste, and to provide for operation in a manner as to protect correlative rights of all owners of subsurface minerals. Special rules, pool rules, field rules, and regulations and orders have been and will be issued when required and shall prevail as against general rules, regulations, and orders if in conflict therewith. However, wherever this chapter does not conflict with special rules heretofore or hereafter adopted, this chapter will apply in each case. The commission may grant exceptions to this chapter, after due notice and hearing, when such exceptions will result in the prevention of waste and operation in a manner to protect correlative rights.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-03. Bond.

Before any person receives a permit to produce subsurface minerals via solution mining or commences extraction facility operations, the person shall submit to the commission, and obtain its approval, of a surety bond or cash bond. An alternate form of security may be approved by the commission after notice and hearing, as provided by law. The operator of a well or facility shall be the principal on the bond covering such activity. Each such surety bond shall be executed by a responsible surety company authorized to transact business in North Dakota.

1. Bond amounts and limitations for deep solution and injection wells.

    a. For deep solution wells the amount of the bond shall be commensurate with the number of wells, the type of project, and the environmental risk. The amount of a bond will be determined by a formula that assigns reclamation costs based upon the number of drill sites, the depths of the holes, and the anticipated surface restoration costs.

    b. Wells utilized for commercial disposal operations must be bonded in the amount of fifty thousand dollars.

    When the principal on the bond is drilling or operating a number of wells within the state or proposes to do so, the principal may submit a bond conditioned as provided by law. A well with an approved temporary abandoned status shall have the same status as an exploratory, mineral, or injection well.

2. Extraction facility bond requirements. The amount of the bond shall be specified by the commission in the order approving the permit area and based upon facility size and estimated reclamation costs. Each surety bond shall be executed by a responsible surety company authorized to transact business in North Dakota.

3. Bond terms. Bonds shall be conditioned upon full compliance with North Dakota Century Code chapter 38-12, and all administrative rules and orders of the commission, and continues until any of the following occurs:

    a. The testholes or wells have been satisfactorily plugged which shall include practical reclamation of the well site and appurtenances thereto, and all logs, plugging records, and other pertinent data required by statute or rules and orders of the commission are filed and approved.

    b. The mined lands or lands disturbed by any method of exploration or production of subsurface minerals have been restored and approved by the director.

c. The liability on the bond has been transferred to another bond and such transfer approved by the commission.

4. Transfer of property under bond. Transfer of property does not release the bond. In case of transfer of property or other interest in a well, extraction facility, or surface mining facility and the principal desires to be released from the bond covering the well or facility, such as producers, not ready for plugging, the principal must proceed as follows:

   a. The principal must notify the director in writing of all proposed transfers of property at least thirty days before the closing date of the transfer. The director may, for good cause, waive this requirement.

      The principal shall submit to the commission a form 8-sm reciting that a certain property, or properties, describing each by quarter-quarter, section, township, and range, is to be transferred to a certain transferee, naming such transferee, for the purpose of ownership or operation. The date of assignment or transfer must be stated and the form signed by a party duly authorized to sign on behalf of the principal.

      On said transfer form the transferee shall recite the following: "The transferee has read the foregoing statement and accepts such transfer and the responsibility of such property under the transferee's one-well bond, surface mining facility bond, or extraction facility bond". Such acceptance must be signed by a party authorized to sign on behalf of the transferee and the transferee's surety.

   b. When the commission has approved the transfer and acceptance and accepted it under the transferee's bond, the transferor shall be released from the responsibility of well plugging and site reclamation. If such wells include all the wells within the responsibility of the transferor's bond, such bond will be released by the commission upon written request. Such request must be signed by an officer of the transferor or a person authorized to sign for the transferor. The director may refuse to transfer any well from a bond if the well is in violation of a statute, rule, or order.

   c. The transferee (new operator) of any extraction facility, surface mining facility, or injection well shall be responsible for the plugging and site reclamation of any such property. For that purpose, the transferee shall submit a new bond or, in the case of a surety bond, produce the written consent of the surety of the original or prior bond that the latter's responsibility shall continue and attach to such well. The original or prior bond shall not be released as to the plugging and reclamation responsibility of any such transferor until the transferee submits to the commission an acceptable bond to cover such well. All liability on bonds shall continue until the plugging and site reclamation of such property is completed and approved.

5. Bond termination. The commission shall, in writing, advise the principal and any sureties on any bond as to whether the plugging and reclamation is approved. If approved, liability under such bond may be formally terminated upon receipt of a written request by the principal. The request must be signed by an officer of the principal or a person authorized to sign for the principal.

6. Director's authority. The director is vested with the power to act for the commission as to all matters within this section, except requests for alternative forms of security, which may only be approved by the commission.

7. The director shall periodically review the amount of bond. The director may require adjustments to the amount of bond to reflect inflationary increases or increases in the anticipated costs of reclamation.

The commission may refuse to accept a bond if the operator or surety company has failed in the past to comply with statutes, rules, or orders relating to the operation of wells; if a civil or administrative action brought by the commission is pending against the operator or surety company; or for other good cause.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-04. Designation and responsibilities of operator.

The principal on the bond covering a solution mining facility is the operator of the mine. The operator is responsible for compliance with all laws relating to the mine site. A dispute over designation of the operator of a well or mine site may be addressed by the commission. In doing so, the factors the commission may consider include those set forth in subsection 1 of section 43-02-02.4-18.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-05. Permit required.

A permit is required prior to the commencement of drilling or mining.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-06. Submission of permit applications.

Any person who conducts or expects to conduct solution mining operations shall file with the department a complete mining facility permit application, well permit application under chapter 43-02-02, an underground injection permit under chapter 43-02-2.1, and all required materials. The applicant shall file with the department proof that it submitted a copy of the applications to the county recorder in the county in which the proposed permit area is located.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-07. Summary document.

The permit application must contain a summary document that describes the main elements of the operation and identifies the major environmental issues involved.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-08. Solution mining operation permit requirements.

Permit applications for solution mining operations shall address the following:

1. Identification of interests to include:

    a. The name and address of the operator responsible for the mining operations and reclamation of the site.

b. A listing of all parties, including addresses, which have an ownership and controlling interest in the operation. Alternatively, the applicant may submit the applicant's most recent 10k form required by the United States securities and exchange commission.

c. A statement of all current or previous mining operations within the United States held during the five years prior to application owned, operated, or controlled by any person identified in subdivision b and the names and addresses of regulatory agencies with jurisdiction over the environmental aspects of those operations and that could provide a compliance history for the operations.

d. The name and address of the surface landowners and mineral owners of all land to be affected by the mining operation.

e. The name and address of a designated agent for the service of notices and orders from the director.

f. The mine name and the mine safety and health administration identification number.

g. A listing of all federal and state permits required for the operation.

h. The identification of all property interests the applicant holds, including options, in the lands for which a permit is sought and in all contiguous land. This identification must cover surface and subsurface interests and legal descriptions must be provided identifying the location of each interest and option.

2. Project location description and maps plotted at a scale to accurately identify locational landmarks and operational details, to include:

a. A legal description of the proposed permit area.

b. The general location as shown on a topographic map which gives the location of the following: perennial, intermittent, and ephemeral streams; springs and seeps; wetlands, riparian areas, lakes and other water bodies; residences, businesses, and other structures; existing and proposed roads; other access routes; support facilities; cemeteries; burial grounds; cultural resources listed on the national register of historic places; electrical transmission and communication lines; pipelines; and oil, gas, and water wells on and within one-half mile of the permit area.

c. An operations map which identifies:

(1) The area to be disturbed;

(2) The location of any existing or proposed operations including access roads, drill holes, trenches, pits, cuts, or other planned small mining activities; and

(3) Any adjacent previous disturbance for which the operator is not responsible.

d. A surface facilities map which identifies: buildings; stationary mining/processing equipment; roads; utilities; power lines; proposed drainage control structures; the location of topsoil and subsoil storage areas; tailings or processed waste facilities; disposal areas for overburden; solid and liquid wastes and wastewater discharge treatment and containment facilities.

3. Sampling and analysis plan.

a. The applicant shall submit a proposed sampling and analysis plan (SAP) to the director for review prior to baseline data collection. Four copies should be submitted to facilitate

the review. The proposed SAP should contain, at a minimum, the following information for each relevant resource:

(1) Sampling objectives;

(2) A list of the data to be collected;

(3) Methods of collection;

(4) General water chemistry and the parameters to be analyzed for;

(5) Maps indicating the proposed sampling locations;

(6) Sampling frequency; and

(7) Laboratory and field quality assurance plans.

b. The director shall distribute the proposed SAP to other agencies as determined by the director. The agencies will have thirty days from receipt of the proposed SAP to submit written comments to the director. Any written comments received within thirty days shall be provided to the applicant. The director shall also provide written comments and recommendations to the applicant on the adequacy of the SAP.

c. The applicant may request a conference with the director to discuss the SAP.

4. Baseline data. Descriptions, maps, drawing, or photographs shall be included as required for determination of existing conditions, operations, reclamation, and postmining use. Baseline data shall include, as applicable:

a. A description of the climatological factors representative of the permit area including precipitation, prevailing winds, and temperature.

b. A description of the thickness and nature of the topsoil and subsoil within the proposed permit area. A soil survey and soil analyses conducted in accordance with standard methods acceptable to the director will be required to show variations in topsoil and subsoil depth and suitability. If a published soil survey is not available, a new survey must be prepared by a soil classifier as defined by North Dakota Century Code section 43-36-01.

c. A map which delineates existing vegetation types and a description, including cover, density, and productivity of the plant communities within the proposed permit area. Included in this description shall be the results of an inventory conducted for any sensitive, threatened, or endangered plant species within the permit area.

d. Wildlife information shall be obtained for the permit area and adjacent area. Where species may be impacted beyond these areas, the information shall include, to the extent practicable, the area of potential impact.

e. A description of the ore body in the proposed permit area, including geologic plans and cross sections depicting the nature and depth of overburden, mineralized zone or ore body, and aquifers and springs. A description of the potential for geochemical alteration of overburden, ore body, and other materials present within the permit area. Detailed analyses may be required if the substrata is suspected to contain substances that are likely to create acid drainage or might degrade surface water or ground water or hinder reclamation.

f. Surface and ground water information to include:

(1) A map indicating the location of surface waters and the location and size of watersheds in and adjacent to the proposed permit area. The map shall depict all watercourses, lakes, natural or artificial water bodies, springs, and riparian and wetland areas. Streams shall be classified as ephemeral, intermittent, or perennial. The map shall identify all watercourses, lakes, springs, and riparian and wetland areas into which surface or pit drainage will be discharged or may possibly be expected to reach;

(2) A description of surface drainage systems sufficient to identify the seasonal variation in surface water quantity and quality within the proposed permit and affected areas to the extent possible;

(3) Lithology and thickness of each geologic unit below the site indicating which units are water bearing, cross sections and potentiometric maps indicating the locations of wells and the ground water flow direction in the vicinity of the site, and references or sources for this information;

(4) A description of the aquifer characteristics, including total dissolved solids concentration, maximum and minimum depths to ground water, direction of flow and gradients, transmissivity and storativity, and a general description of ground water quality, and references or sources for this information; and

(5) The location of all water wells and developed springs within and extending at least one mile form the proposed permit area. Water quality and quantity information for each well and spring shall be provided in the format required by the director.

g. A description and delineation on topographic maps of any prior mining operations which may have affected the permit area including, if known, the type of mining and processing method and a list of any processing chemicals or reagents used.

h. A list and accompanying map indicating all sites on or eligible for listing on the national register of historic places and known cemeteries and human burials within the proposed permit area. Included with this list and map shall be a description of the effects of the proposed mining operations may have on these sites and any proposed mitigation measures.

i. A description of the present and historic land use of the permit area, the general patterns of land use in the surrounding areas, and a narrative of land capability and productivity based upon natural resource conservation service land use.

5. Operation plan. Provide a brief narrative description of the proposed mining operation. The description must include the following information:

a. A general description of the minerals sought, the methods of extraction, and any processing to be conducted onsite. Any chemicals to be used on site must be identified.

b. An estimate of depth to ground water and total dissolved solids concentration.

c. Estimated width and length of any new roads to be constructed.

d. The identification of any toxic-forming or acid-forming materials present or to be left on the site as a result of mining or mineral processing.

e. A discussion of plans for saving and replacing topsoil and subsoil from the areas to be affected.

f. The amount of material (including mineral deposit, overburden, waste rock, or core hole material) to be extracted, moved, or proposed to be moved, relating to the mining operation.

g. Maps and plans indicating the location, size, and capacities for the mine facilities, including:

(1) Leach pads, heaps, ore dumps, and stockpiles;

(2) Impoundments;

(3) Ponds;

(4) Diversions;

(5) Disposal systems;

(6) Pits;

(7) Tailings disposal facilities;

(8) Mills;

(9) Water treatment facilities;

(10) Storage areas for equipment, vehicles, fuel, chemicals, and solutions;

(11) Topsoil and subsoil stockpiles;

(12) Waste rock dumps; and

(13) Other facilities or structures.

h. Plans for any structures that will be used for managing runoff from the disturbed areas and a discussion of other sediment control measures that will be used.

i. A contingency plan to mitigate impacts to wildlife when there has been an emergency or accidental discharge of toxic substances that may impact wildlife.

6. Reclamation plan. A reclamation plan will include maps or drawings as necessary and a narrative description of the proposed reclamation, including:

a. A statement of the current land use and the proposed postmining land use for the disturbed area, including a written preference statement from the surface owner for the proposed postmine land use.

b. A description of the manner and the extent to which roads, highwalls, slopes, impoundments, drainages, pits and ponds, piles, drill holes, and similar structures will be reclaimed to the approximate original contour.

c. A detailed description of any surface facilities to be left as part of the postmining land use, including buildings, utilities, roads, pads, ponds, pits, and surface equipment in those instances where the postmine land use has been zoned as industrial or commercial land by the county.

d. A description of the treatment, location, and disposition of any toxic-forming or acid-forming materials generated and left onsite, including a map showing the location of such materials upon the completion of reclamation.

e. Plans for replacing the topsoil and subsoil that is removed and saved.

f. A planting program as best calculated to revegetate the disturbed area.

(1) Plans shall include, at a minimum, soil stabilization procedures, seedbed preparation, seed mixtures and rates, and timing of seeding.

(2) Where there is no original protective vegetative cover, an alternative practical procedure must be proposed to minimize or control erosion or siltation.

g. A topographic map of the anticipated surface configuration of the permit area upon completion of reclamation operations. The map shall be at appropriate contour intervals and scale.

h. A statement that the operator will conduct reclamation as required by these rules.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-09. Review for completeness.

The department will determine whether the application is complete. The department will notify the applicant in writing, within thirty days after the application is submitted, whether the application is complete or whether there are specific deficiencies that must be corrected in order to complete the application. If the application is substantially deficient, it will be rejected. The department will notify the applicant when the application is considered complete.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-10. Review period.

1. The department will have one hundred eighty days after the filing date to approve or disapprove the application.

2. The department may extend the review period not to exceed an additional one hundred eight days if:

a. Additional time is needed to correct application deficiencies;

b. Significant changes are submitted that in the department's judgement require additional time to review. The department may require additional public notification of the amended application; or

c. The department requires additional time to conduct an informal conference or a formal hearing to complete the decision.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-11. Permit applications - Fees.

A fee of five hundred dollars must accompany the permit application.

History: Effective July 1, 2013.

General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-12. Information added after filing date.

Additional information submitted to the department by the applicant to supplement, correct, amend, or clarify an application following the filing date must also be submitted with the county recorder in the county or counties in which the proposed permit area is located. The additional information must be submitted at least thirty days before the hearing date. The applicant must provide proof of submission to the county recorder to the department. The department shall give notice to the public of the additional information at least fifteen days before the scheduled hearing date.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-13. Notice to agencies.

Within the first ten days of the review period of a permit application, the department shall send copies of the application to the department of agriculture, the state department of health, and to the state water commission.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-14. Notice of hearing.

Except in the case of an emergency, the commission will give thirty days' notice to the general public of the time and place of the hearing on the application. Immediately upon receiving notice of the hearing date, the permit applicant shall give notice by certified mail to surface and subsurface owners within the permit application area and to the county recorder in the county or counties in which the proposed permit area is located.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-15. Permit approval or denial.

Within ninety days of the hearing, or a reasonable time thereafter, the department will notify the applicant of the commission's decision as to whether the permit is approved or denied.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-16. Permit term.

1. The permit will remain in effect as long as active mining continues at a mine site and the operator remains in full compliance with all permit conditions.

2. A permit shall be reviewed and may be required to be modified or revised due to:

    a. Additional applicable requirements under North Dakota Century Code chapters 38-12 and 38-12.1 and North Dakota Administrative Code article 43-02; or

b. The director determining that the permit contains a material mistake or that inaccurate statements were made in establishing the terms or conditions of the permit.

3. If the permit area contains property owned by the federal or state government, the expiration or termination of the government's authorization of the operator to conduct mining operations on the property automatically revokes the operator's permit, but does not suspend the operator's reclamation operations.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-17. Permit modifications or revision.

An application for a permit modification or revision shall be in a format acceptable to the director and shall be accompanied by sufficient information for the director to determine whether any of the factors listed in the section are present. A permit modification or revision will not be granted unless the director determines that the proposed modification or revision meets the requirements of this section.

1. A permit modification or revision for a mining operation is required for:

   a. Each new discrete processing, leaching, excavation, storage, or stockpile unit located within the permit area and not identified in the permit;

   b. Each expansion of such a unit identified in the permit that exceeds the design limits specified in the permit; and

   c. Any change in the approved reclamation plan.

2. Revisions are modifications that require public notice and an opportunity for public hearing pursuant to this rule. The director shall review each request for a permit modification to determine whether it must be processed as a revision.

   a. The director shall consider the following factors and their level of impact to determine whether a permit modification would have a significant environmental impact requiring a revision:

      (1) Whether the proposed change would authorize an expansion of design limits beyond that currently authorized by the permit that:

         (a) Would be located in or is expected to have a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers, and other water bodies or riparian areas.

         (b) Is expected to have a direct impact on ground water that has a total dissolved solids concentration of less than ten thousand milligrams per liter.

         (c) Is expected to result in point or nonpoint source surface or subsurface releases of acid or other toxic substances from the permit area.

         (d) Would be located in designated critical habitat areas as determined in accordance with the federal Endangered Species Act of 1973 or in areas determined by the game and fish department likely to result in an adverse impact on an endangered species.

         (e) Would adversely impact cultural resources listed on either the national register of historic places or the state register of cultural properties.

(f) Would be located in a known cemetery or other burial ground.

(g) Would be located in an area designated as a federal wilderness area, a wilderness study area, an area of critical environmental concern, or an area within the national wild and scenic river system.

(2) Whether the proposed change would result in a significant increase in the required amount of financial assurance as determined by the director; or

(3) Whether the proposed change would significantly depart from the nature or scale of the permit.

b. An application for a permit modification or revision shall be accompanied by sufficient information for the director to determine whether any of the factors listed in this section are present.

3. The following actions do not require permit modifications or revisions:

a. The construction, relocation, or modification of roads within the disturbed area that does not change the reclamation plan;

b. Placement or movement of support buildings, equipment areas, maintenance shops, monitoring facilities, wells, power lines, power poles, substations, and communications facilities within the disturbed area that does not change the reclamation plan; and

c. The movement of tanks, pipelines, utilities, and portable units.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-03
Law Implemented: NDCC 38-12-03

43-02-02.4-18. Revocation and limitation of permits.

1. After notice and hearing, the commission may revoke a mining permit or limit its duration. The commission may act upon its own motion or upon the application of an owner in the permit area. In deciding whether to revoke or limit a permit, the factors that the commission may consider include:

a. The technical ability of the operator and other owners to conduct mining operations.

b. The experience of the operator and other owners in similar mining operations.

c. Contractual obligations, such as an expiring lease.

d. The amount of ownership the operator and other owners hold in the lease. If the operator is the majority owner or if its interest when combined with that of its supporters is a majority of the ownership, it is presumed that the operator should retain the permit. This presumption, even if not rebutted, does not prohibit the commission from limiting the duration of the permit. However, if the amount of the interest owned by the owner seeking revocation or limitation and its supporters are a majority of the ownership, the commission will presume that the permit should be revoked.

2. The commission may suspend a permit that is the subject of a revocation or limitation proceeding. A permit will not be suspended or revoked after operations have commenced.

3. If the commission revokes a permit upon the application of an owner and issues a permit to that owner or to another owner who supported revocation, the commission may limit the duration of such permit. The commission may also, if the parties fail to agree, order the owner

acquiring the permit to pay reasonable costs incurred by the former operator and the conditions under which payment is to be made. The costs for which reimbursement may be ordered may include those involving survey of the well site, title search of surface and mineral title, and preparation of an opinion of mineral ownership.

4. If the commission declines to revoke a permit or limit the time within which it must be exercised, it may include a term in its order restricting the ability of the operator to renew the permit or to acquire another permit within the same spacing or drilling unit.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-19. Surface facilities - Location - Exception to location requirements.

1. All surface facilities and flow lines installed shall be constructed so that the materials contained in the facilities do not cause waste. Operation of surface facilities and flow lines shall not begin until the operator has complied with the methods and means to prevent pollution as specified in these rules.

2. Surface facilities may not be located less than five hundred feet from either of the following:

   a. Existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption.

   b. Occupied dwellings.

3. Surface facilities may be located closer than five hundred feet from existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption and occupied dwellings under either of the following conditions:

   a. Upon presentation to the director of a written consent signed by the owner or owners of all existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption and occupied dwellings.

   b. After notice and hearing, the commission determines that the proposed surface facility location will prevent waste, protect environmental values, and not compromise public safety.

4. The director shall be notified within twenty-four hours of emergency repairs to existing surface facilities that substantially modify the facility or piping. Details regarding such emergency repairs, including changes in size or location of facility structures or piping, shall be submitted in writing within thirty days of the repair.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-20. Operators of class III injection wells.

Prior to the construction of any injection well to be utilized for the extraction of minerals or energy, an operator shall obtain an underground injection control permit pursuant to chapter 43-02-02.1.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-21. Notice of mechanical integrity testing.

At least thirty days before a regularly scheduled test, an operator shall notify the director of the date and approximate time of the test. The notification shall include a copy of the proposed test procedure, including procedures for wireline logging. Mechanical integrity testing shall not be conducted until an operator has received approval of the test procedure from the director. Mechanical integrity testing may be witnessed by the director.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-22. Mechanical integrity testing.

1. Prior to commencing operations, the operator of a new injection well must demonstrate the mechanical integrity of the well. Injection wells must demonstrate continual mechanical integrity and be tested at least once every five years. An injection well has mechanical integrity if:

    a. There is no significant leak in the casing, tubing, or packer; and

    b. There is no significant fluid movement into an underground source of drinking water or an unauthorized zone through vertical channels adjacent to the injection bore.

2. One of the following methods must be used to evaluate the absence of significant leaks:

    a. Pressure test with liquid or gas.

    b. Monitoring of positive annulus pressure following a valid pressure test.

    c. Radioactive tracer survey.

3. One of the following methods must be used to establish the absence of significant fluid movement:

    a. A log from which cement can be determined or well records demonstrating the presence of adequate cement to prevent such migration.

    b. Radioactive tracer survey, temperature log, or noise log.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-23. Calibration of pressure gauges.

The operator shall calibrate all pressure gauges used in mechanical integrity demonstrations according to the manufacturer's recommendations. A copy of the calibration certificate shall be submitted to the director at the time of demonstration and every time the gauge is calibrated. A pressure gauge shall have a resolution so as to allow detection of at least one-half of the maximum allowable pressure change.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-24. Reports of mechanical integrity.

The operator shall file a signed copy of the report of a mechanical integrity test with the director within sixty days after testing. A copy of the pressure record shall accompany the report. The report shall include evaluation of the test results by a person qualified to provide such an evaluation. Reports of mechanical integrity demonstrations utilizing downhole logs shall be accompanied by an interpretation of the log by a person qualified to make such interpretations.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-25. Mechanical integrity testing required by the director.

The director may require a demonstration of mechanical integrity following a change of well status or if there is reason to believe a well does not have mechanical integrity.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-26. Cavity size.

The operator of a solution well shall submit a plan to monitor cavity size and shape for approval by the director. The plan shall include frequency of monitoring and shall include a description of the method used to determine the size and shape of the cavity.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-27. Subsidence monitoring above a cavity created by solution mining.

The operator shall submit a plan for subsidence monitoring above a cavity for approval by the director. The plan shall include frequency of monitoring and shall include a description of the method used to monitor subsidence.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-28. Abandonment of cavity created by solution mining.

Before abandoning a cavity used for storage, the operator shall remove stored product to the extent practicable and replace it with brine or freshwater subject to the approval of the director.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-29. Central production facility - Commingling of production.

1. The director shall have the authority to approve requests to consolidate production equipment at a central location.

2. Commingling of production from two or more wells in a central production facility is prohibited unless approved by the director. There are two types of central production facilities that may be approved by the director.

a. A central production facility in which all production going into the facility has common ownership (working interests, royalty interests, and overriding royalties), known as a common ownership central production facility. The director may approve a common ownership central production facility provided the production from each well can be accurately determined at reasonable intervals.

b. A central production facility in which production going into the facility has diverse ownership, known as a diverse ownership central production facility. The director may approve a diverse ownership central production facility provided the production from each well is accurately metered prior to commingling. A diverse ownership central production facility that is not metered prior to commingling may only be approved by the commission after notice and hearing.

3. Common ownership central production facility. The application for permission to commingle solutions must be submitted on a sundry notice (form 4-sm) and shall include the following:

   a. A plat or map showing thereon the location of the central facility and the name, well file number, and location of each well and flow lines from each well that will produce into the facility.

   b. A schematic drawing of the facility which diagrams the testing, treating, routing, and transferring of production. All pertinent items should be shown, such as treaters, tanks, flow lines, valves, meters, and recycle pumps.

   c. An affidavit executed by a person who has knowledge as to the state of title demonstrating common ownership.

   d. An explanation of the procedures or method to be used to accurately determine individual well production at periodic intervals. Such procedures or method shall be performed at least once every three months.

      A copy of all tests are to be filed with the director on form 11-sm within thirty days after the tests are completed.

4. Diverse ownership central production facility. The application for permission to commingle solutions must be submitted on a sundry notice (form 4-sm) and shall include the following:

   a. A plat or map showing thereon the location of the central facility and the name, well file number, and location of each well, and flow lines from each well that will produce into the facility.

   b. A schematic drawing of the facility which diagrams the testing, treating, routing, and transferring of production. All pertinent items should be shown, such as treaters, tanks, flow lines, valves, meters, and recycle pumps.

   c. The name of the manufacturer, size, and type of meters to be used. The meters must be proved at least once every three months and the results reported to the director within thirty days following the completion of the test.

   d. An explanation of the procedures or method to be used to accurately determine individual well production at periodic intervals. Such procedures or method shall be performed monthly.

      A copy of all tests are to be filed with the director on form 11-sm within thirty days after the tests are completed.

5. Any changes to a previously approved central production facility must be reported on a sundry notice (form 4-sm) and approved by the director.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-30. Production equipment, dikes, and seals.

Storage of brine solution in underground or partially buried tanks or containers is prohibited. Surface tanks and production equipment must be devoid of leaks and in good condition. Unused tanks and production equipment must be removed from the site or placed into service, within a reasonable time period, not to exceed one year. Dikes must be erected and maintained around tanks at any production facility.

Dikes must be erected around tanks at any new production facility within thirty days after the well has been completed. Dikes as well as the base material under the dikes and within the diked area must be constructed of sufficiently impermeable material to provide emergency containment. Dikes must be of sufficient dimension to contain the total capacity of the largest tank plus one day's fluid production. The required capacity of the dike may be lowered by the director if necessity can be demonstrated to the director's satisfaction.

Numbered metal security seals shall be properly utilized on all access valves and access points to secure the tank or battery of tanks.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-31. Tank cleaning permit.

No tank bottom waste shall be removed from any tank used for the storage or sale of crude oil without prior approval by the director. Verbal approval may be given. Prior approval to remove tank bottom waste from tanks not used for the storage or sale of crude oil is not required.

Within thirty days of the removal of the tank bottom waste of any tank used for the storage or sale of crude oil, the owner or operator shall submit a report (form 10-sm) showing an accurate gauge of the contents of the tank and the amount of merchantable oil determinable from a representative sample of the tank bottom by the standard centrifugal test as prescribed by the American petroleum institute's code for measuring, sampling, and testing crude oil.

Within thirty days of the removal of the tank bottom waste of any permanent tank not used for the storage or sale of crude oil, the owner or operator shall submit a sundry notice (form 4-sm) detailing the cleaning operation.

All tank bottom waste must be disposed of in a manner authorized by the director and in accordance with all applicable local, state, and federal laws and regulations. Nothing contained in this section shall apply to reclaiming of pipeline break oil or the treating of tank bottoms at a pipeline station, crude oil storage terminal, or refinery or to the treating by a gasoline plant operator of oil and other catchings collected in traps and drips in the gas-gathering lines connected to gasoline plants and in scrubbers at such plants.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-32. Saltwater handling facilities.

1. All saltwater liquids or brines produced shall be processed, stored, and disposed of without pollution of freshwater supplies. At no time shall saltwater liquids or brines be allowed to flow over the surface of the land or into streams.

2. Underground injection of saltwater liquids and brines for the purpose of solution mining shall be in accordance with chapter 43-02-02.1.

3. Underground injection of a waste product shall be in accordance with chapter 33-25-01.

4. The operator shall take steps to minimize the amount of solids stored at the facility.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-33. Secondary containment - General requirements.

Secondary containment measures at a wellhead or surface facility shall meet all of the following requirements:

1. The sidewalls and floor of a secondary containment area shall be constructed of sufficiently impermeable material to provide emergency containment.

2. Dikes or firewalls shall be maintained and the enclosure kept free of waste products, stored products, tank bottoms, brine, water, vegetation, debris, and any flammable or combustible material.

3. Dikes must be of sufficient dimension to contain the total capacity of the largest tank plus one day's fluid production.

4. An operator shall install an automatic surface facility shutdown system designed to prevent liquids from overflowing the secondary containment area. A surface facility shall be exempt from the requirement of an automatic shutdown system if the facility has staff present while operating and is equipped with alarm systems on the storage tank or tanks.

5. All transfer and injection pumps shall have leak containment constructed to prevent the seepage of any liquids moved by the pump or any lubricating oils into the surrounding soils, surface waters, or ground water.

6. Wellheads and flare stacks shall have secondary containment and spill containment areas constructed in a manner to prevent the seepage of waste product, stored product, or brine into the surrounding soils, surface waters, or ground water. Secondary containment at the wellhead shall be constructed in a manner to capture leakage of liquid that may occur. In addition, if the wellhead is equipped with a pump jack utilizing a gasoline or diesel-powered engine, then the engine shall also have secondary containment that is sufficient to prevent the seepage of any machine oils or fuels into the surrounding soils, surface waters, or ground water.

7. An operator shall keep secondary containment areas free of standing liquid. All spills in a secondary containment area shall be pumped up within forty-eight hours of discovering the spill.

8. An operator shall submit to the director a plan for inspections and monitoring of active wells and surface facilities.

History: Effective July 1, 2013.

General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-34. Secondary containment - Vessels.

A vessel at a surface facility shall be elevated and placed on impervious pads or constructed so that any leakage can be easily detected. A vessel that is to be used onsite for thirty days or less shall, at a minimum, be placed on leak-resistant material installed in a manner to contain spills or leaks.

A waste product, stored product, or brine storage vessel shall be located in a secondary containment area.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-35. Secondary containment - Loading and unloading areas.

1. A truck loading and unloading area located outside of a secondary containment area shall be constructed and sealed in a manner that prevents the seepage of waste product, stored product, or brine into the surrounding soils, surface waters, or ground water. In addition, a ramp shall be constructed to contain any leakage from transfer operations at the vehicle being loaded or unloaded. The ramp area shall contain a sump and be connected to a secondary containment area so that any spillage drains into the sump and into the secondary containment area. The spill containment ramp and sump shall have a combined capacity of not less than one thousand gallons.

2. Sumps shall be constructed of materials impervious to the waste product, stored product, and brine and resistant to damage and deterioration during use. Sumps shall be connected to the ramp area and the secondary containment area in a manner that prevents leakage.

3. All loading and unloading facility transfer lines that are not in use shall be secured to prevent spillage. A shutoff valve shall be installed at the truck connect point and at the storage vessels. All shutoff valves shall be left in a normally closed position.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-36. Secondary containment - Piping.

All piping at a surface facility shall be routed above the ground and kept within the secondary containment area where practicable. Piping that cannot be routed above the ground shall have its location marked with posts or with other location-identifying markers approved by the director so that the buried piping can be easily located.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-37. Secondary containment - Certification.

Upon completion of the construction of a surface facility, but before its use, an operator of a well shall certify to the director that the secondary containment area is constructed according to the approved plan. Following advance notice, the director may require an inspection of a surface facility before it is put into service. If an inspection is required it shall be conducted within five business days of the receipt of certification.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-38. Line markers for brine pipelines.

If a pipeline conveys liquids to or from a well located outside the perimeter of a manufacturing plant, it is subject to the provisions of this section.

1. Except as provided in subsection 2, a marker shall be placed and maintained as close as practicable over each buried brine pipeline, as follows:

   a. At each crossing of a public road and railroad.

   b. When necessary to identify the location of the brine pipeline to reduce the possibility of damage or interference.

   c. At the point of crossing of or under waterways and other bodies of water.

2. Markers shall be placed and maintained along each section of a brine pipeline that is located aboveground in an area which is accessible to the public.

3. The following information shall be written legibly on a background of sharply contrasting color on each brine pipeline marker:

   a. The word "warning", or "caution", followed by the words "waste product brine" or "brine pipeline", all of which, except for markers in heavily developed urban areas, shall be not less than one and one-half inches high and legible under normal conditions at a distance of twenty-five feet.

   b. The name of the operator and the telephone number, including the area code, where the operator can be reached at all times.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-39. Pipelines - Records.

An operator shall keep records covering each leak discovered, repair made, pipeline break, pipeline patrol, and inspection for as long as the segment of pipeline involved remains in service.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-40. Purging, removal, and abandonment of lines and vessels.

An operator of a well shall remove all flow lines and vessels, including tanks, if the flow lines or vessels are not used for one year and shall provide notification of the removal to the director. The director may allow a line to be purged and abandoned in place upon written application from the operator. The director may grant an exception to this section upon written application.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-41. Existing facilities - Maintenance.

1. The operator of a well shall maintain all existing dikes or firewalls installed before July 1, 2013, and shall keep the containment area free of oil, emulsions, waste products, stored products, tank bottoms, brine, water, vegetation, debris, or any flammable or combustible material.

2. The director may require surface facilities constructed before July 1, 2013, to be upgraded to meet secondary containment requirements of this chapter if the facility is substantially modified or if losses have resulted in pollution.

3. Before any modification of a secondary containment area, other than routine maintenance, the operator of a well shall notify the director in writing. The notification shall include a modified secondary containment plan reflecting the proposed changes. The operator shall receive approval from the director before making the modification. The director shall approve or deny the request within eleven days of receipt of the request. The director may require an inspection of the modified secondary containment area before it is returned to service.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-42. Operational practices.

The operator shall conform to the following practices:

1. The mining and reclamation operation shall be designed and operated using the most appropriate technology and best management practices.

2. Public safety and welfare. The operator shall minimize hazards to the public safety and welfare during operations. Methods to minimize hazards shall include:

   a. The disposal of trash, scrap metal and wood, and extraneous debris;

   b. The plugging or capping of drill, core, or other exploratory holes pursuant to section 43-02-02-24;

   c. The posting of appropriate warning signs in locations where public access to operations is readily available; and

   d. The construction of berms, fences, or barriers above highwalls or other excavations.

3. Drainages. If natural channels are to be affected by the mining operation, then the operator shall take appropriate measures to avoid or minimize environmental damage.

4. Erosion control. Operations shall be conducted in a manner such that sediment from disturbed areas is adequately controlled. The degree of erosion control shall be appropriate for the site-specific and regional conditions of topography, soil, drainage, water quality, or other characteristics.

5. Toxic-forming materials. All toxic-forming or potentially deleterious material shall be safely removed from the site or kept in an isolated condition such that adverse environmental effects are eliminated or controlled.

6. Soils. All available topsoil and subsoil shall be removed, stored, and stabilized. The salvaged topsoil and subsoil must be respread following the backfill and grading of disturbed areas.

7. Concurrent reclamation. During operations, disturbed areas shall be reclaimed as soon as practicable when no longer needed, except to the extent necessary to preserve evidence of

mineralization for proof of discovery. Areas which have been disturbed but are not routinely or currently utilized shall be kept in a safe, environmentally stable condition. All reclamation work through seeding must be completed within three years of completion of mining.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-43. Performance and reclamation standards and requirements.

The land surface of the permit area will be restored as nearly as possible to its original condition unless conflicting with the approved postmining land use. Each reclamation plan must be developed to meet the site-specific characteristics of the mining operation and the site.

1. Most appropriate technology and best management practices. The mining operation and the reclamation plan shall be designed and operated using the most appropriate technology and the best management practices.

2. Contemporaneous reclamation. Contemporaneous reclamation is required to the maximum extent practicable and in a manner that is consistent with the approved reclamation plan. All reclamation work through seeding must be completed within three years of completion of mining.

3. Assure protection. The mining operation and completed reclamation shall meet the following requirements established to assure protection of human health and safety, the environment, wildlife, and domestic animals.

    a. Signs, markers, and safeguarding. Measures will be taken to safeguard the public to prevent falls from highwalls or pit edges. Depending on site-specific characteristics, the following measures shall be required:

        (1) Posting warning signs in locations near hazardous areas;

        (2) Restricting access to hazardous areas;

        (3) Marking the permit area boundaries;

        (4) Posting a sign at the main entrances giving a telephone number of a person to call in the event of emergencies related to the mine; and

        (5) Other measures as needed to protect human safety.

    b. Wildlife protection. Measures shall be taken to minimize adverse impacts on wildlife and important habitat. Based on site-specific characteristics, the following measures will be required:

        (1) Restricting access of wildlife and domestic animals to toxic chemicals or otherwise harmful materials;

        (2) Minimizing harm to wildlife habitat during mining; and

        (3) Reclaiming areas of wildlife habitat if not in conflict with the approved postmining land use.

    c. Cultural resources. Cultural resources listed on or eligible for listing on the national register of historic places, and any cemeteries or burial grounds shall be protected until clearance has been granted by the appropriate authority.

d. Hydrologic balance. Operations shall be planned and conducted to minimize change to the hydrologic balance in both the permit and potentially affected areas. If not in conflict with the approved postmining land use, reclamation shall result in a hydrologic balance similar to premining conditions unless nonmining impacts have substantially changed the hydrologic balance.

(1) Operations shall be designed so that nonpoint source surface releases of acid or other toxic substances shall be contained within the permit area, and that all other surface flows from the disturbed area are treated to meet all applicable state and federal regulations.

(2) The disturbed areas shall not contribute suspended solids above background levels, or where applicable the state department of health standards, to ephemeral, intermittent, and perennial streams.

(3) To provide data to determine background levels for surface water entering the permit area, appropriate monitoring shall be conducted on drainages leading into the permit area.

(4) All diversions of overland flow shall be designed, constructed, and maintained to minimize adverse impacts to the hydrologic balance and to assure the safety of the public.

(a) No diversion shall be located so as to increase the potential for landslides.

(b) Unless site-specific characteristics require a different standard which is included in the approved permit, diversions which have watersheds larger than ten acres shall be designed, constructed, and maintained to safely pass the peak runoff from a ten-year, twenty-four-hour precipitation event.

(c) All diversion designs which have watersheds larger than ten acres shall be included in the permit application and certified by a registered professional engineer. Diversion designs shall be kept onsite or otherwise be made available, upon request, to the director for inspection.

(d) When no longer needed, temporary diversions shall be removed and the disturbed area reclaimed.

e. Stream diversions. When streams are to be diverted, the stream channel diversion shall be designed, constructed, and removed in accordance with the following:

(1) Unless site-specific characteristics require different measures to meet the performance standard and are included in the approved permit, the combination of channel, bank, and floodplain configurations shall be adequate to safely pass the peak runoff of a ten-year, twenty-four-hour precipitation event for temporary diversions, or a one-hundred-year, twenty-four-hour precipitation event for permanent diversions;

(2) The design and construction of all intermittent and perennial stream channel diversions shall be certified by a registered professional engineer. As-built drawings shall be completed promptly after construction and be included in the permit application and retained onsite or otherwise made available upon request to the director; and

(3) When no longer needed, temporary stream channel diversions shall be removed and the disturbed area reclaimed.

f. Impoundments. If impoundments are required, they shall be designed, constructed, and maintained to minimize adverse impacts to the hydrologic balance and adjoining property and to assure the safety of the public.

(1) Unless site-specific characteristics require different measures to meet the performance standard and are included in the approved permit, impoundments having earthen embankments but not subject to the jurisdiction of the mine safety and health administration or the state department of health shall:

(a) Have a minimum elevation at the top of the settled embankment of two feet above the water surface in the pond with the spillway flowing at the design depth;

(b) Have a top width of the embankment not less than six feet;

(c) Have combined upstream and downstream side slopes of the settled embankment not less than five horizontal: one vertical with neither slope steeper than two horizontal: one vertical. Slopes shall be vegetated or otherwise stabilized to control erosion;

(d) Have the embankment foundation cleared of all vegetative matter, all surfaces sloped to no steeper than one horizontal : one vertical and the entire foundation area scarified;

(e) Have fill material free of vegetative matter and frozen soil;

(f) Have sufficient capacity for sediment storage and have sediment removed when that capacity is reached; and

(g) Have spillways provided to safely discharge the peak runoff of a twenty-five-year, twenty-four-hour precipitation event, or an event with a ninety percent chance of not being exceeded for the design life of the structure; or

(h) Have other site-specific design criteria for embankments as long as they result in a minimum static safety factor of 1.3 with water impounded to the design level;

(i) Be designed and certified by a registered professional engineer. As-built drawings shall be completed promptly after construction and be retained onsite or otherwise made available upon request to the director; and

(j) If necessary for sediment control, be in place before any other disturbance to the watershed for the impoundment.

(2) When no longer required, impoundments shall be graded to achieve positive drainage unless:

(a) The surface estate owner has requested in writing that they be retained;

(b) They are consistent with the approved reclamation plan; and

(c) They are appropriate for the postmining land use or the self-sustaining ecosystem.

g. Minimization of mass movement. All temporary stockpiles shall be constructed and maintained to minimize mass movement.

h. Riparian and wetland areas. Disturbance to riparian and wetland areas shall be minimized during mining. Adverse effects to riparian and wetland areas shall be mitigated during reclamation unless the mitigation conflicts with the approved postmining land use.

i. Roads. Roads shall be constructed and maintained to control erosion.

(1) Drainage control structures shall be used as necessary to control runoff and to minimize erosion, sedimentation, and flooding. Culverts or other drainage facilities shall be installed as road construction progresses and shall be capable of safely passing a ten-year, twenty-four-hour precipitation event unless site-specific characteristics indicate a different standard is appropriate and is included in the approved permit. Culverts and drainage pipes shall be constructed and maintained to avoid plugging, collapsing, or erosion.

(2) Roads to be constructed in or across intermittent or perennial streams require site-specific designs to be submitted with the permit application.

(3) Permanent roads must be approved by the surface owner and be consistent with the approved postmining land use.

j. Subsidence control. Underground and in situ solution mining activities shall be planned and conducted, to the extent technologically and economically feasible, to prevent subsidence which may cause material damage to structures or property not owned by the operator.

(1) Solution mining activities near any aquifer that serves as a significant source of water supply to the public water system shall be conducted so as to avoid disruption of the aquifer and consequent exchange of ground water between the aquifer and other strata.

(2) Solution mining activities conducted beneath or adjacent to any perennial stream must be performed in a manner so that subsidence is not likely to cause material damage to streams, water bodies, and associated structures.

k. Explosives. Blasting shall be conducted to prevent injury to persons or damage to property not owned by the operator. Fly rock shall be confined to the permit area. The director may require a detailed blasting plan, or preblast surveys, or may specify blast design limits to control possible adverse effects to structures.

4. Reclamation of surface facilities. The permit area shall be stabilized, to the extent practicable, to minimize future impact to the environment and protect air and water resources. Unless otherwise approved by the department, the reclamation of surface facilities shall include the removal of all buildings, roads, and structures, and the surface restored as nearly as possible to its original condition. Tailings impoundments and ponds must be reclaimed and filled in and respread with topsoil and subsoil. All grading, backfilling, and topographic reconstruction must control erosion and sedimentation, protect areas outside the affected land from slides or other damage, and minimize the need for long-term maintenance.

Measures must be taken to reduce, to the extent practicable, the formation of acid and other toxic drainage that may otherwise occur following closure to prevent releases that cause federal or state standards to be exceeded. Nonpoint source surface releases for acid or other toxic substances shall be contained within the permit area.

Ponds and impoundment reclamation must meet the following requirements:

a. Pond sludge must be chemically characterized to determine whether further treatment is necessary before disposal. Sludge must be removed for disposal at on offsite permitted

solid waste facility or buried and covered onsite in a solid waste facility permitted in accordance with the applicable solid waste rules in article 33-20; and

b. Geomembranes must be removed from impoundments, unless it is demonstrated to the department's satisfaction that they will serve a useful function consistent with the approved postmining land use. The geomembrane material must be disposed of in a permitted landfill or may be disposed of onsite only if the operator first secures a solid waste permit in compliance with article 33-20.

5. Topsoil and subsoil. The operator shall take measures to remove and save all available topsoil and subsoil and protect it from erosion or contamination and assure that it is in a usable condition for sustaining vegetation when needed. The following requirements shall be met unless site-specific characteristics mandate different requirements and those requirements are included in the approved permit.

   a. Topsoil and subsoil shall be sampled and analyzed for vegetation establishment suitability:

      (1) Sample spacing and interval shall be based on site-specific materials; and

      (2) Suitability will be identified by analysis based on site-specific materials.

   b. Revegetation must be a component of the reclamation plan and all available topsoil and subsoil must be salvaged and replaced on disturbed areas.

   c. Where direct distribution of topsoil or subsoil is not possible, it shall be stockpiled separately in a manner to prevent the loss of the resource.

   d. Topsoil and subsoil shall be distributed in a manner to establish and maintain vegetation, consistent with the approved permit.

   e. After distribution, topsoiled and subsoiled areas shall be stabilized to protect loss of the resource.

   f. Where topsoil has been stockpiled for more than one year, the operator may be required to conduct analyses to determine if amendments are necessary.

6. Erosion control. Reclamation of disturbed lands must result in a condition that minimizes erosion. Revegetated lands must not contribute suspended solids above background levels, or where applicable the state department of health standards, to streamflow of intermittent and perennial streams. Acceptable practices to control erosion include the following:

   a. Stabilizing disturbed areas through land shaping, berming, or grading to final contour;

   b. Minimizing reconstructed slope lengths and gradients;

   c. Diverting runoff;

   d. Establishing vegetation;

   e. Regulating channel velocity of water;

   f. Lining drainage channels with rock, vegetation, or other geotechnical materials; and

   g. Mulching.

7. Revegetation. Revegetated lands must meet the following standards:

a. Revegetation success for a return as near as possible to original condition shall be determined through comparison of ground cover, productivity, and diversity and shall be made on the basis of the following approved reference areas:

(1) Foliage or basal cover and productivity of living perennial plants of the revegetated area shall be established equal to ninety percent of the reference area or equal to the approved revegetation standard using scientifically valid sampling techniques;

(2) Diversity of plant life forms (woody plants, grasses, and forbs) shall consider what is reasonable based on the physical environment of the reclaimed area; and

(3) Woody plant species shall be established to the approved density standard.

b. For areas for which the approved postmining land use is for wildlife habitat or forest land, success of vegetation shall be determined on the basis of tree or shrub stocking (density) and ground cover.

(1) The ground cover of living perennial plants shall be equal to ninety percent of the native ground cover of the reference area or other approved standard and shall be adequate to minimize erosion.

(2) Tree density for forest land shall have establishment rates of plant species equal to ninety percent of the approved reference area or other approved standard and shall be adequate to minimize erosion.

(3) If wildlife habitat is to be the postmining land use, the operator shall select and use plant species on the reclaimed areas based on the following criteria:

(a) Their proven nutritional value for fish and wildlife;

(b) Their uses as cover and security for wildlife;

(c) Their ability to support and enhance fish and wildlife habitat; and

(d) Distribute plant life forms to maximize benefits of edge effect, cover, and other benefits for fish and wildlife.

c. Revegetation for other postmining land shall be consistent with the approved postmining land use. Site-specific standards may include standards for foliar or basal cover, production, and diversity and will be included in the approved permit.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-44. Report of water injected.

The operator of each and every injection well shall, on or before the tenth day of the second month succeeding the month in which injection occurs, file with the director the amount of liquid injected, the composition of the liquid, and the source thereof upon approved computer sheets no larger than eight and one-half by eleven inches [21.59 by 27.94 centimeters]. The report shall be signed by both the person responsible for the report and the person witnessing the signature. The printed name and title of both the person signing the report and the person witnessing the signature shall be included.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-45. Report of production.

The operator of a mine shall, on or before the tenth day of the second month succeeding the month in which production occurs, file with the director the amount of production made by the mine upon form 5-sm or approved computer sheets no larger than eight and one-half by eleven inches [21.59 by 27.94 centimeters]. The report shall be signed by both the person responsible for the report and the person witnessing the signature. The printed name and title of both the person signing the report and the person witnessing the signature shall be included.

Production data submitted to the director shall be kept confidential for a period of one year when so requested by the operator. Such period may be further extended upon approval by the commission.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-46. Reports of natural brine produced.

A person who is producing natural brine shall be required by the director to report annually, within sixty days after the end of the calendar year of production, the amount of natural brine produced during the calendar year of production, unless an extension of time is granted by the director. The reports shall be signed by the person who is producing brine on forms prescribed by, or acceptable to, the director.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-47. Solution mining - Reporting.

An operator shall control cavity shape during solution mining of bedded salt.

An operator who is solution mining shall report annually, within sixty days after the end of the calendar year, the amount of soluble mineral or rock removed and the volumes of fluids injected into and removed from each cavity.

The report shall be signed by both the person responsible for the report and the person witnessing the signature. The printed name and title of both the person signing the report and the person witnessing the signature shall be included.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-48. Rock profile determination.

The operator shall determine the cavity roof position not less than biennially. Generally accepted wireline logging methods shall be utilized. The results of the determination shall be filed with the director not more than sixty days after completion and shall include all wireline logs run.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-49. Books and records to be kept to substantiate reports.

All operators within North Dakota shall make and keep appropriate books and records for a period not less than six years covering their operations in North Dakota from which they may be able to make and substantiate the reports required by this chapter.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02

43-02-02.4-50. Additional information may be required.

This chapter shall not be taken or construed to limit or restrict the authority of the commission to require the furnishing of such additional reports, data, or other information relative to production or products as may appear to be necessary or desirable, either generally or specifically, for the prevention of waste, protection of correlative rights, and the conservation of natural resources.

History: Effective July 1, 2013.
General Authority: NDCC 38-12-02
Law Implemented: NDCC 38-12-02