

NORTH DAKOTA ADMINISTRATIVE CODE

Supplement 11

July 1, 1979

**Prepared by the Legislative Council staff
for the
Administrative Rules Committee**



TITLE 13

COMMISSIONER OF BANKING AND FINANCIAL INSTITUTIONS

STAFF COMMENT: This change corrects a typographical error.

13-02-01-05. INDIVIDUAL RETIREMENT ACCOUNT AND KEOGH (H.R. 10) PLAN DEPOSITS OF LESS THAN ONE HUNDRED THOUSAND DOLLARS. Except as provided in section ~~13-02-01-02~~ 13-02-01-01, a state banking association may pay interest on any time deposit with a maturity of three years or more that consists of funds deposited to the credit of, or in which the entire beneficial interest is held by, an individual pursuant to an Individual Retirement Account agreement or KEOGH (H.R. 10) Plan established pursuant to 26 U.S.C. (I.R.C. 1954) sections 401, 408, at a rate not in excess of the highest of any of the permissible rates that can be paid on time deposits under one hundred thousand dollars with a maturity in excess of six months (twenty-six weeks) by any federally insured commercial bank, mutual savings bank, or savings and loan association.

General Authority
NDCC 6-01-04

Law Implemented
NDCC 6-03-02,
6-03-63



TITLE 55

BOARD OF EXAMINERS FOR NURSING HOME ADMINISTRATORS

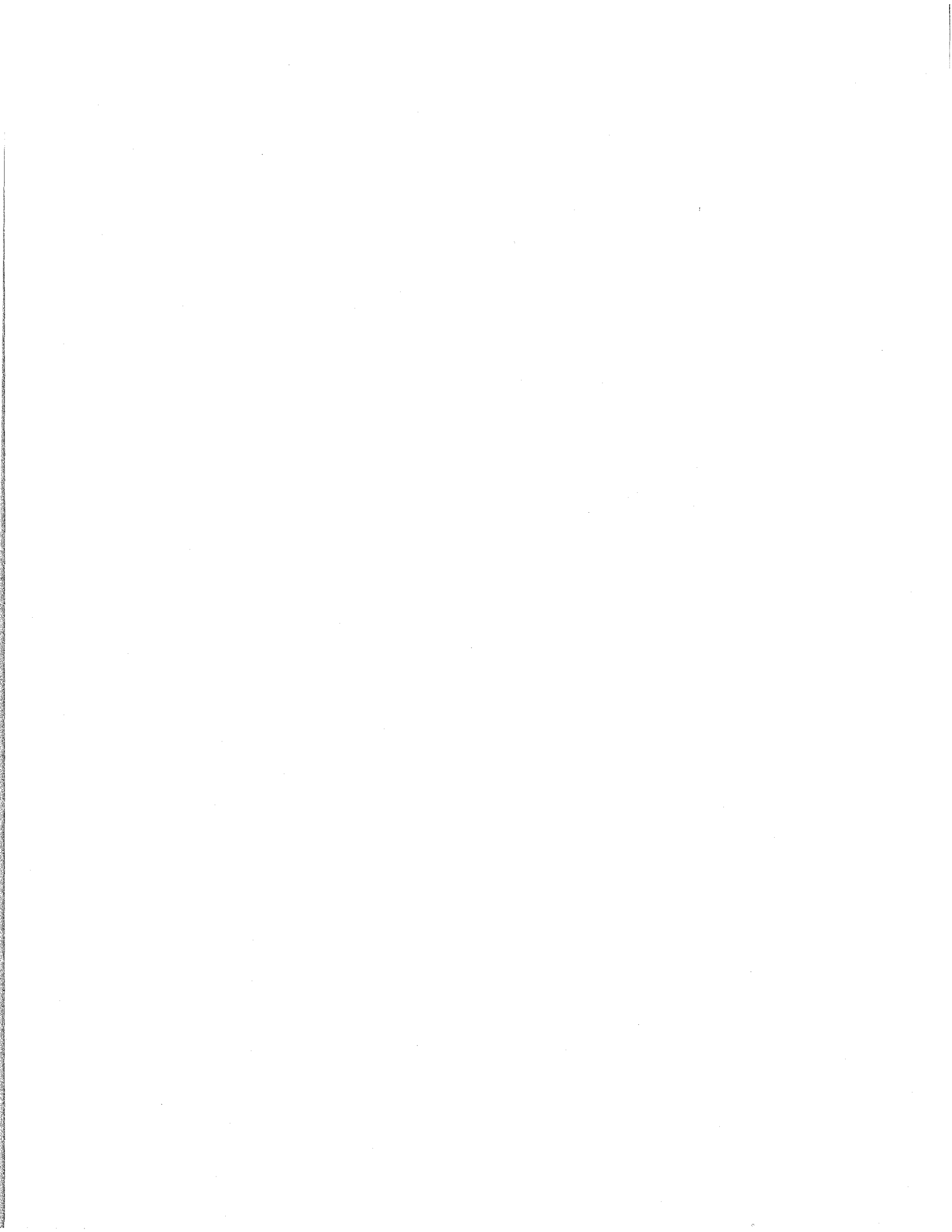
55-02-01-07. PREEXAMINATION REQUIREMENTS - CONDITIONS PRECEDENT. No person shall be admitted to or be permitted to take an examination for license as a nursing home administrator unless the person shall have first submitted evidence satisfactory to the board that the person is:

1. Is at least eighteen years of age.
- 2:--A-citizen-of-the-United-States-of-America:
- 3: 2. Is of good moral character.
- 4: 3. Is of sound physical and mental health.
4. Has an associate of arts degree or equivalent of sixty semester hours from a regionally accredited college or university or three years active full-time experience as a licensed nursing home administrator or as an assistant administrator in a licensed long term care facility.

History: Amended effective July 1, 1979.

General Authority
NDCC 43-34-08

Law Implemented
NDCC 43-34-03





TITLE 69

PUBLIC SERVICE COMMISSION

STAFF COMMENT: Article 69-05.1 contains all new material and supersedes Article 69-05.

ARTICLE 69-05.1

SURFACE COAL MINING AND
RECLAMATION OPERATIONS

Chapter	
69-05.1-01	Definitions
69-05.1-02	Permit Applications and Mining and Reclamation Plans
69-05.1-03	Bond Requirements
69-05.1-04	Maps and Reports
69-05.1-05	Signs and Markers
69-05.1-06	Postmining Use of Land
69-05.1-07	Backfilling and Grading
69-05.1-08	Disposal of Spoil and Waste Material in Areas Other Than the Mine Workings or Excavations
69-05.1-09	Suitable Plant Growth Material Handling
69-05.1-10	Prime Farmlands
69-05.1-11	Protection of the Hydrologic System
69-05.1-12	Dams Constructed of or Impounding Waste Materials
69-05.1-13	Use of Explosives
69-05.1-14	Revegetation
69-05.1-15	Experimental Practices
69-05.1-16	Applicability of Article
69-05.1-17	Off-Permit Use of Solid, Noncoal Natural Resources

CHAPTER 69-05.1-01
DEFINITIONS

Section	
69-05.1-01-01	Definitions

69-05.1-01-01. DEFINITIONS. As used throughout this article, except where otherwise indicated:

1. "Acid drainage" means water with a pH of less than six discharged from active or abandoned mines and from areas affected by coal mining operations.
2. "Acid-forming materials" means earth materials that contain sulfide mineral or other materials which, if exposed to air,

water, or weathering processes, will cause acids that may create acid drainage.

3. "Aquifer" means a zone, stratum, or group of strata that can store and transmit water in sufficient quantities for a specific use.
4. "Combustible material" means organic material that is capable of burning either by fire or through a chemical process (oxidation) accompanied by the evolution of heat and a significant temperature rise.
5. "Compaction" means the reduction of pore spaces among the particles of soil or rock, generally done by running heavy equipment over the earth materials.
6. "Disturbed area" means those lands that have been affected by surface coal mining and reclamation operations.
7. "Diversion" means a channel, embankment, or other manmade structure constructed for the purpose of diverting water from one area to another.
8. "Downslope" means the land surface between a valley floor and the projected outcrop of the lowest coalbed being mined along each highwall.
9. "Embankment" means an artificial deposit of material that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways, or other similar purposes.
10. "Essential hydrologic functions" means, with respect to alluvial valley floors, the role of the valley floor in collecting, storing, and regulating the natural flow of surface water and ground water, and in providing a place for irrigated and subirrigated farming, by reason of its position in the landscape and the characteristics of its underlying material.
11. "Flood irrigation" means irrigation through natural overflow or the temporary diversion of high flows in which the entire surface of the soil is covered by a sheet of water.
12. "Ground water" means subsurface water that fills available openings in rock or soil materials such that they may be considered water-saturated.
13. "Hydrologic balance" means the relationship between the quality and quantity of inflow to, outflow from, and storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake, or reservoir. It encompasses the quantity and quality relationships between precipitation, runoff,

evaporation, and the change in ground and surface water storage.

14. "Hydrologic regime" means the entire state of water movement in a given area. It is a function of the climate, and includes the phenomena by which water first occurs as atmospheric water vapor, passes into a liquid or solid form and falls as precipitation, moves thence along or into the ground surface, and returns to the atmosphere as vapor by means of evaporation and transpiration.
15. "Impoundment" means a closed basin formed naturally or artificially built, which is dammed or excavated for the retention of water, sediment, or waste.
16. "Intermittent or perennial stream" means a stream or part of a stream that flows continuously during all (perennial) or for at least one month (intermittent) of the calendar year as a result of ground water discharge or surface runoff. The term does not include an ephemeral stream which is one that flows for less than one month of a calendar year and only in direct response to precipitation in the immediate watershed and whose channel bottom is always above the local water table.
17. "Leachate" means a liquid that has percolated through soil, rock, or waste and has extracted dissolved or suspended materials.
18. "Noxious plants" means species as defined in North Dakota Century Code section 63-01.1-02 that have been included on the official state list of noxious plants.
19. "Productivity" means the vegetative yield produced by a unit area for a unit of time.
20. "Recharge capacity" means the ability of the soils and underlying materials to allow precipitation and runoff to infiltrate and reach the zone of saturation.
21. "Recurrence interval" means the precipitation event expected to occur, on the average, once in a specified interval. For example, the ten-year twenty-four-hour precipitation event expected to be exceeded on the average once in ten years. Magnitude of such events are as defined by the National Weather Service Technical Paper No. 40, Rainfall Frequency Atlas of the United States, May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.
22. "Roads" means access and haul roads constructed, used, reconstructed, improved, or maintained for use in surface coal mining and reclamation operations, including use by coal-hauling vehicles leading to transfer, processing, or storage

areas. The term includes any such road used and not graded to approximate original contour within forty-five days of construction other than temporary roads used for suitable plant growth material removal and coal haulage roads within the pit area. Roads maintained with public funds such as all federal, state, county, or local roads are excluded.

23. "Runoff" means precipitation that flows overland before entering a defined stream channel and becoming streamflow.
24. "Safety factor" means the ratio of the available shear strength to the developed shear stress on a potential surface of sliding determined by accepted engineering practice.
25. "Sediment" means undissolved organic and inorganic material transported or deposited by water.
26. "Sedimentation pond" means any natural or artificial structure or depression used to remove sediment from water and store sediment or other debris.
27. "Significant, imminent environmental harm to land, air, or water resources" is determined as follows:
 - a. An environmental harm is any adverse impact on land, air, or water resources, including but not limited to plant and animal life.
 - b. An environmental harm is imminent if a condition, practice, or violation exists which is causing such harm or may reasonably be expected to cause such harm at any time before the end of the reasonable abatement time that would be set under North Dakota Century Code section 38-14.1-28.
 - c. An environmental harm is significant if that harm is appreciable and not immediately reparable.
28. "Slope" means average inclination of a surface, measured from the horizontal. Normally expressed as a unit of vertical distance to a given number of units of horizontal distance, e.g., 1v to 5h = 20 percent = 11.3 degrees.
29. "Soil horizons" means contrasting layers of soil lying one below the other, parallel or nearly parallel to the land surface. Soil horizons are differentiated on the basis of field characteristics and laboratory data. The three major soil horizons are:
 - a. "A horizon". The uppermost layer in the soil profile often called the surface soil. It is the part of the soil in which organic matter is most abundant, and where

leaching of soluble or suspended particles is the greatest.

- b. "B horizon". The layer immediately beneath the A horizon. This middle layer commonly contains more clay, iron, or aluminum than the A or C horizons.
 - c. "C horizon". The deepest layer of the soil profile. It consists of loose material or weathered rock that is relatively unaffected by biologic activity.
- 30. "Spoil" means overburden that has been removed during surface mining.
 - 31. "Stabilize" means any method used to control movement of soil, spoil piles, or areas of disturbed earth and includes increasing bearing capacity, increasing shear strength, draining, compacting, or revegetating.
 - 32. "Subirrigation" means irrigation of plants with water delivered to the roots from underneath.
 - 33. "Surface water" means water, either flowing or standing, on the surface of the earth.
 - 34. "Suspended solids" means organic or inorganic materials carried or held in suspension in water that will remain on a forty-five hundredths micron filter.
 - 35. "Ton" means two-thousand pounds avoirdupois [0.90718 metric ton].
 - 36. "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.
 - 37. "Toxic-mine drainage" means water that is discharged from active or abandoned mines and from other areas affected by coal mining operations and which contains a substance which through chemical action or physical effects is likely to kill, injure, or impair biota commonly present in the area that might be exposed to it.
 - 38. "Valley fill and head-of-hollow fill" means a structure consisting of any materials other than waste placed so as to encroach upon or obstruct to any degree any natural stream channel other than those minor channels located on highland areas where overland flow in natural rills and gullies is the predominant form of runoff. Such fills are normally constructed in the uppermost portion of a V-shaped valley in order to reduce the upstream drainage area (head-of-hollow

fills). Fills located farther downstream (valley fills) must have larger diversion structures to minimize infiltration. Both fills are characterized by rock underdrains and are constructed in compacted lifts from the toe to the upper surface in a manner to promote stability.

39. "Waste" means earth materials, which are combustible, physically unstable, or acid-forming or toxic-forming, wasted or otherwise separated from product coal and are slurried or otherwise transported from coal processing facilities or preparation plants after physical or chemical processing, cleaning, or concentrating of coal.

40. "Water table" means the upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-02,
38-14.1-03,
38-14.1-21

CHAPTER 69-05.1-02

PERMIT APPLICATIONS AND MINING AND RECLAMATION PLANS

Section	
69-05.1-02-01	Format Alteration
69-05.1-02-02	Land Description - Extended Mining Plan
69-05.1-02-03	Surface and Subsurface Ownership - Extended Mining Plan
69-05.1-02-04	Geologic Data - Extended Mining Plan
69-05.1-02-05	Topographic Map - Extended Mining Plan
69-05.1-02-06	Soil Map - Extended Mining Plan
69-05.1-02-07	Archaeological and Historical Survey - Extended Mining Plan
69-05.1-02-08	Hydrologic Data - Extended Mining Plan
69-05.1-02-09	Alluvial Valley Floors - Extended Mining Plan
69-05.1-02-10	Extended Mining Plan - Copies Required - Amendment
69-05.1-02-11	Hydrologic Data - Mining and Reclamation Plan
69-05.1-02-12	Land Description - Mining and Reclamation Plan
69-05.1-02-13	Surface and Subsurface Ownership - Mining and Reclamation Plan
69-05.1-02-14	Geologic Data - Mining and Reclamation Plan
69-05.1-02-15	Area Map - Mining and Reclamation Plan
69-05.1-02-16	Soil Survey - Mining and Reclamation Plan - Soil Classifier
69-05.1-02-17	Archaeological and Historical Survey - Mining and Reclamation Plan
69-05.1-02-18	Landowner's Preference
69-05.1-02-19	Mining and Reclamation Plan - Copies Required
69-05.1-02-20	Permit Application Filing Fee
69-05.1-02-21	Permit Application Review Period
69-05.1-02-22	Amended Permit Application - Extension of Review Period - Notification of Amendments
69-05.1-02-23	Permit Revisions
69-05.1-02-24	Computation of Time
69-05.1-02-25	Advisory Committee - Procedures
69-05.1-02-26	Change in Map Scales
69-05.1-02-27	Surface Owner Interference
69-05.1-02-28	Permit Area Determination - Porcelanite, Sand, and Gravel Borrow Pits

69-05.1-02-01. FORMAT ALTERATION. The commission may, from time to time, alter the format of the application and proposal forms for mining permits, bonds, and reclamation plans, and add to or delete from the information required for such forms and plans consistent with the purpose of the law.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-12,
38-14.1-14,
38-14.1-15

Law Implemented
NDCC 38-14.1-13,
38-14.1-14,
38-14.1-15,
38-14.1-16

69-05.1-02-02. LAND DESCRIPTION - EXTENDED MINING PLAN. The legal description of lands included in the extended mining plan shall be furnished to the nearest quarter section.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-03. SURFACE AND SUBSURFACE OWNERSHIP - EXTENDED MINING PLAN. The permit applicant shall indicate to the commission those surface rights and subsurface mineral rights within the extended mining plan which are in private, state, and federal ownership.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-04. GEOLOGIC DATA - EXTENDED MINING PLAN. The geologic data to be submitted as part of the extended mining plan shall consist of:

1. Cross-sections sufficient to depict the major subsurface variations within the mine plan area. The horizontal scale shall be 1:24,000 and the vertical scale shall be one inch equals twenty feet [2.54 centimeters = 6.10 meters]. The lithology of the overburden (glacial drift, sand, silt, clay,

etc.) must be shown, and gamma ray and density logs included as verifications.

2. Chemical and physical overburden analyses for:

- a. pH.
- b. Sodium adsorption ratio (include sodium, calcium and magnesium cation concentrations).
- c. Electrical conductivity of the saturation extract.
- d. Texture (by pipette or hydrometer). Include percent breakdown of sand, silt and clay.

The minimum sampling density shall be determined by the commission in consultation with the permit applicant. Samples are to be taken at five-foot [1.52 meter] intervals and are to be taken dry whenever possible. Both dry and wet samples can be used for analysis. Laboratory analyses shall be made by the methods outlined in United States Department of Agriculture Handbook 525, Laboratory Methods Recommended for Chemical Analyses of Mined Land Spoils and Overburden in Western United States, by Sandoval and Powers, or United States Department of Agriculture Handbook 60, Diagnosis and Improvement of Saline and Alkali Soils, by the United States Salinity Laboratory Staff, United States Government Printing Office, Washington, D. C.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-05. TOPOGRAPHIC MAP - EXTENDED MINING PLAN. The topographic map to be submitted as part of the extended mining plan shall be at a scale of 1:24,000 with legible contours, and must show the following:

1. The scale, date, location, company name, legal subdivision boundaries, and an appropriate legend.
2. The boundaries of the plan area and the delineation of the proposed mining sequence of its subareas.
3. The location and identification of streams, natural drainageways, and watersheds.

4. Current land use, including existing haul roads and mine railways, railroads, roads, highways, agricultural usage, and pipelines and transmission routes.

The above information may be contained on one map or on separate maps.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-06. SOIL MAP - EXTENDED MINING PLAN. The soil map to be submitted with the extended mining plan shall be at a scale of 1:20,000 or 1:15,840 and show the kinds of soils and the extent of the soils in the area covered by the extended mining plan. On a separate map, the land capability classes as indicated in the local soil conservation service technical guide shall be shown by using the standard soil conservation service land capability color code.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-07. ARCHAEOLOGICAL AND HISTORICAL SURVEY - EXTENDED MINING PLAN. As a part of the extended mining plan, the permit applicant must submit the results of an archaeological and historical survey conducted in accordance with the survey requirements developed by the state historical board.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-08. HYDROLOGIC DATA - EXTENDED MINING PLAN. The hydrologic data to be submitted as a part of the extended mining plan shall include:

1. A general account of the surface and groundwater hydrology (the water resources of the area).

2. A general account of water use in the area.
3. Contour maps or maps showing the water table or piezometric surface of the water in each aquifer (including waterbearing coal seams) that will be affected by mining developed from available groundwater studies and from existing wells located in the extended mine plan area. The locations of data points shall be shown on the map and given to the nearest ten acres [4.05 hectares]. The scale of the map shall be 1:24,000. Data accompanying the map or maps should include available lithologic and geophysical logs of any wells or holes in which piezometers are located and piezometer construction details. Elevations of the water level and land surface to the accuracy necessary for valid analysis of the groundwater hydrology of the area should also be included.
4. Where feasible, water samples shall be collected from each of the data points for chemical analyses, if possible. The analyses shall include:
 - a. Total dissolved solids.
 - b. Hardness.
 - c. Sodium.
 - d. Iron.
 - e. Bicarbonate.
 - f. Nitrate.
 - g. Sulfate.
 - h. Chloride.
 - i. pH.
 - j. Sodium adsorption ratio (include calcium, magnesium and sodium cation concentrations).
 - k. Electrical conductivity.
 - l. Any other relevant analyses which the commission may require.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-09. ALLUVIAL VALLEY FLOORS - EXTENDED MINING PLAN. For extended mine plan areas that may contain alluvial valley floors, the permit applicant, in consultation with the commission, shall determine the baseline data to be collected before the operation moves within or adjacent to this area. This baseline data will be used by the commission in the determination of the existence or nonexistence of an alluvial valley floor in the area.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-10. EXTENDED MINING PLAN - COPIES REQUIRED - AMENDMENT. Ten copies of the extended mining plan shall be submitted to the commission. The permittee shall annually advise the commission by the twenty-fifth day of January of the status of the plan and shall submit ten copies of any amendments to the plan.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-15

Law Implemented
NDCC 38-14.1-15

69-05.1-02-11. HYDROLOGIC DATA - MINING AND RECLAMATION PLAN. Because water supplies may be affected several miles [kilometers] beyond the mined area, it is necessary to develop an analysis of the groundwater hydrology and water resources of the potentially affected area prior to mining. The hydrologic data to be submitted as a part of the mining and reclamation plan shall include:

1. A general account of the surface and groundwater hydrology (the water resources of the area).
2. A general account of water use in the area.
3. Contour map or maps showing the water table or piezometric surface of the water in each aquifer (including waterbearing coal seams) down to the next local aquifer beneath the lowest coal seam to be mined. These maps shall be prepared using a minimum of one data point (a piezometer nest) per four square miles [6.44 square kilometers], unless a greater density is required by the commission. The locations of data points shall be shown on the map and given to the nearest ten acres

[4.05 hectares]. The scale of the map shall be 1:24,000. Data accompanying the map or maps should include the lithologic and geophysical (gamma ray and density) logs of the holes in which piezometers are installed, piezometer construction details, and elevations of the water level and land surface to the accuracy necessary for valid analysis of the groundwater hydrology of the area. The area covered by the map or maps shall be the potentially affected area.

4. Water samples shall be collected from each of the data points for chemical analyses, if possible. The analyses shall include:
 - a. Total dissolved solids.
 - b. Hardness.
 - c. Sodium.
 - d. Iron.
 - e. Bicarbonate.
 - f. Nitrate.
 - g. Sulfate.
 - h. Chloride.
 - i. pH.
 - j. Sodium adsorption ratio (include calcium, magnesium, and sodium cation concentrations).
 - k. Electrical conductivity.
 - l. Any other relevant analyses which the commission may require.
5. A groundwater monitoring plan developed according to the requirements of section 69-05.1-11-11.
6. In addition, if the proposed permit area contains or is adjacent to an identified alluvial valley floor, the survey and data requirements in section 69-05.1-11-12 shall be met.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-12. LAND DESCRIPTION - MINING AND RECLAMATION PLAN. The lands included in the mining and reclamation plan shall be described so that they may be identified and distinguished from other lands (by metes and bounds or standard government land survey descriptions).

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-13. SURFACE AND SUBSURFACE OWNERSHIP - MINING AND RECLAMATION PLAN. The name and address of the owner or owners of record of the surface rights and subsurface mineral rights, as well as the permit applicant's legal right to mine, shall consist of certified copies of the relevant lease agreements. The permit applicant shall also identify all known utility easements within the permitted area.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-14. GEOLOGIC DATA - MINING AND RECLAMATION PLAN. The geologic data to be submitted as part of the mining and reclamation plan shall consist of:

1. Cross-sections sufficient to depict the major subsurface variations within the mine plan area. The vertical scale, lithology, and log requirements shall be the same as those for the extended mining plan, but the horizontal scale shall be 1:4,800. The information presented in this section shall extend a depth to be determined by the commission or to the base of the next confining clay stratum occurring beneath the lowest seam of coal to be mined.
2. A thickness (isopach) map of the overburden to the top of the deepest seam to be mined. The contour interval shall be ten feet [3.05 meters] and the horizontal scale shall be 1:4,800.
3. A report relating chemical and physical properties of the overburden deposits and the stratum immediately underlying the coal to the lithology of the cross-section in subsection 1. Chemical and physical properties to be reported include:

- a. pH.
- b. Sodium adsorption ratio (include calcium, magnesium, and sodium cation concentrations).
- c. Electrical conductivity of the saturation extract.
- d. Texture (by pipette or hydrometer). Include percent breakdown of sand, silt and clay.

The density of overburden sampling will be determined by the commission in consultation with the operator. The sampling and analyses requirements shall be the same as for those for the extended mining plan.

The information in subsections 1, 2, and 3 shall, at the discretion of the commission, be developed from drill holes within the proposed permit area, from highwall sampling, or from a combination of the two.

History: Effective July 1, 1979.

General Authority
 NDCC 38-14.1-03,
 38-14.1-14

Law Implemented
 NDCC 38-14.1-14

69-05.1-02-15. AREA MAP - MINING AND RECLAMATION PLAN. A 1:4,800 planimetric mine map, together with as many separate detail maps as necessary, shall be used to depict the following information regarding the proposed permit areas:

1. The scale, date, location, company name, legal subdivision boundaries, and an appropriate legend.
2. The delineation of the exact area being considered for permit.
3. The location of structures, wells, springs, streams, natural drainageways, railroads, roads, highways, existing and proposed haul roads and mine railways, existing pipelines and transmission lines, and all other manmade features.
4. The location of any drill holes used for collecting geologic and overburden information.
5. Present and postmining land use, along with the major vegetative types and their distribution.
6. Pit layout, proposed sequence of mining operations, crop line, final graded spoil line, spoil placement, and areas proposed for stockpiling suitable plant growth material.

7. The intended post-mining topography and surface drainage, if it will differ significantly from that which existed prior to mining.
8. A surface water management plan including but not limited to: delineation of the watershed boundaries, the location of all proposed sediment ponds, water impoundments, diversions, or other water management structures (including those located outside of proposed permit area) and the design specifications of such structures to meet the criteria set forth in chapter 69-05.1-11.
9. To determine the natural slopes of the area before mining, the permit applicant shall submit to the commission the following maps:
 - a. Topographic maps with five-foot [1.52 meter] contour intervals; and
 - b. Cross-sections or an area slope map that adequately represents the existing land surface configuration and reflects the geomorphic differences of the area to be disturbed. If cross-sections are used, the location of each cross-section submitted should be identified on the topographic map.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-16. SOIL SURVEY - MINING AND RECLAMATION PLAN - SOIL CLASSIFIER. The soil survey to be submitted as part of the mining and reclamation plan shall consist of a map and report.

1. The map shall be made by accepted principles and methods and submitted on a scale of 1:4,800. A map shall show the following:
 - a. The location and the vertical and lateral (areal) extent of the soil material and suitable plant growth material (first lift) within the permit area that is considered best for top-dressing the area to be reclaimed. Soil material and suitable plant growth material considered best for top-dressing is based upon an electrical conductivity of less than two millimhos per centimeter ($EC \times 10^3$), a sodium adsorption ratio of less than four (exchangeable sodium percentage of less than five), a free lime percentage (calcium carbonate equivalent) of less than ten on medium to fine textured soils, and an organic

matter percentage of one and one-half or more (unless this organic matter percentage is not available within the permit area). The first lift should normally be made up of the dark-colored surface horizon materials.

- b. The location and the vertical and lateral (areal) extent of the remaining soil material and suitable plant growth material (second lift) within the permit area, based on electrical conductivity of the saturation extract₃ of less than four millimhos per centimeter ($EC \times 10^3$), and a sodium adsorption ratio of less than ten (exchangeable sodium percentage of less than twelve).
2. The report shall contain the following:
 - a. The results of any chemical and physical analyses made to determine the properties of soil material and suitable plant growth material. Textural analyses shall be included for the second lift suitable plant growth material.
 - b. The volume of soil material and suitable plant growth material (first lift) in the permit area by ownership which is considered best for top-dressing the area being reclaimed.
 - c. The volume of soil material and suitable plant growth material (second lift) in the permit area by ownership.
 - d. A description and discussion of the properties of the soil material and suitable plant growth material in the permit area.
 - e. The capability unit for each soil unit mapped and the total acreage [hectarage] for each capability unit.
 - f. The productivity level of each soil unit for common crops and grasses, based upon the most current yield data available in the local soil conservation service technical guide.

In addition, for areas identified as prime farmland that will be disturbed by mining, the prime farmland soil survey requirements in section 69-05.1-10-03 shall be included.

Laboratory analyses will be made by the methods and procedures outlined in United States Department of Agriculture Handbook 60, Diagnosis and Improvement of Saline and Alkali Soils, by the United States Government Printing Office, Washington, D. C.

Prior to a professional soil classifier beginning work on the required soil survey, a meeting of the professional soil classifier, the permit applicant, if the permit applicant so desires, and the commission

staff shall be held for the purpose of discussion of adopted techniques, procedures for sampling and analyses, and reviewing commission policy and the area to be surveyed.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-17. ARCHAEOLOGICAL AND HISTORICAL SURVEY - MINING AND RECLAMATION PLAN. As a part of the mining and reclamation plan, the permit applicant shall submit the results of an archaeological and historical survey conducted in accordance with the survey requirements developed by the state historical board.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-18. LANDOWNER'S PREFERENCE. The landowner's written preference for a postmining land use covering the landowner's affected land must accompany the permit applicant's mining and reclamation plan.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-19. MINING AND RECLAMATION PLAN - COPIES REQUIRED. Ten copies of the mining and reclamation plan and required materials shall be submitted to the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-02-20. PERMIT APPLICATION FILING FEE. A filing fee shall be included with each application for a permit and shall be computed as follows: a nonrefundable filing fee in the amount of two hundred fifty dollars plus a refundable filing fee of ten dollars per acre [0.40 hectares] or fraction of an acre [0.40 hectares] for all lands included within the permit which will be affected by mining during the permit term. The ten dollar per acre [0.40 hectares] fee shall be refunded to the permit applicant in the event the application or any amendments thereto, for which such fee is required, is rejected by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-13

Law Implemented
NDCC 38-14.1-13

69-05.1-02-21. PERMIT APPLICATION REVIEW PERIOD. The commission shall have one hundred twenty days to review a permit application submitted under this chapter if no informal conference is held.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-21

Law Implemented
NDCC 38-14.1-21

69-05.1-02-22. AMENDED PERMIT APPLICATION - EXTENSION OF REVIEW PERIOD - NOTIFICATION OF AMENDMENTS. Upon receipt of a significant amendment to a permit application, the commission may extend the review period provided for in section 69-05.1-02-21 not to exceed an additional one hundred twenty days. If necessary, the commission may require notification of the amendment in accordance with North Dakota Century Code section 38-14.1-18 and advisory committee review in accordance with North Dakota Century Code section 38-14.1-21.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-21

Law Implemented
NDCC 38-14.1-18,
38-14.1-21

69-05.1-02-23. PERMIT REVISIONS.

1. A revision to a permit shall be obtained:
 - a. For changes in the surface coal mining or reclamation operations described in the application and approved under the existing permit.
 - b. For those new surface coal mining and reclamation operations proposed to be initiated within a permit area that are not specified and approved in a permit.
2. An application for permit revision shall include:
 - a. A narrative describing the proposed permit revision.
 - b. Appropriate maps, cross-sections, graphs, construction details, revised reclamation plans and other data which affirmatively demonstrate compliance with the applicable parts of North Dakota Century Code sections 38-14.1-14, 38-14.1-16 and 38-14.1-24 and their associated regulations.
3. The commission shall review an application for a permit revision and make a determination on a site specific basis as to whether the proposed permit revision is a significant alteration in the reclamation plan. If the application for a permit revision is found to be a significant alteration in the reclamation plan, the commission shall notify the permittee in writing of the decision and, at a minimum, the application shall be subject to the notice and hearing requirements of North Dakota Century Code sections 38-14.1-18, 38-14.1-19, and 38-14.1-20.
4. Permit revision applications submitted to the commission that do not constitute a significant alteration to an existing permit are not subject to the requirements of North Dakota Century Code sections 38-14.1-18, 38-14.1-19, and 38-14.1-20, unless otherwise found necessary by the commission.
5. The commission shall have one hundred twenty days to review and approve or disapprove permit revisions.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-23

69-05.1-02-24. COMPUTATION OF TIME. Except as otherwise provided, computation of time for this article will be based on calendar days:

1. In computing any period of prescribed time, the day on which the designated period of time begins is not included. The last day of the period is included unless it is a Saturday, Sunday, or legal holiday on which the commission is not open for business, in which event the period runs until the end of the next day which is not a Saturday, Sunday, or legal holiday.
2. Intermediate Saturdays, Sundays and legal holidays are excluded from the computation when the period of prescribed time is seven days or less.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-03

69-05.1-02-25. ADVISORY COMMITTEE - PROCEDURES. The commission shall distribute copies of the mining and reclamation plan and supporting materials to the advisory committee formed to aid the commission in evaluating the plan. Members of the advisory committee shall forward their evaluation of the plan to the commission within forty-five days of receipt. The commission shall distribute copies of all commission orders on permit applications to the advisory committee at the time of issuance.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-21

69-05.1-02-26. CHANGE IN MAP SCALES. The map scales called for in this article may be changed at the request of the permit applicant if such change is deemed proper by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14,
38-14.1-15

Law Implemented
NDCC 38-14.1-14,
38-14.1-15

69-05.1-02-27. SURFACE OWNER INTERFERENCE. The surface owner is prohibited from interfering with reclamation procedures as long as such procedures form a part of a commission-approved reclamation plan.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-14

69-05.1-02-28. PERMIT AREA DETERMINATION - PORCELANITE, SAND, AND GRAVEL BORROW PITS. In determining whether porcelanite (scoria), sand, and gravel borrow pits may be excluded from the permit area where such pits are located on lands adjacent to areas upon which surface coal mining activities occur or where such activities disturb the natural land surface, the commission may consider the following factors, including, but not limited to:

1. Proximity of the pits to the surface coal mining operation.
2. If the pits are adjacent to the surface coal mining operation, the acreage [hectarage] affected by the pits and the impact of the pits upon land, air, or water resources.
3. Degree of dependency of the surface coal mining operation on the pits.
4. Degree of control over the operation of the pits by the permittee or operator.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

CHAPTER 69-05.1-03
BOND REQUIREMENTS

Section	
69-05.1-03-01	Bond Level
69-05.1-03-02	Reduction in Bond - Release of Bond
69-05.1-03-03	Bond Forfeiture - Criteria
69-05.1-03-04	Bond Forfeiture - Amount of Forfeiture
69-05.1-03-05	Bond Forfeiture - Procedures

69-05.1-03-01. BOND LEVEL. In order to establish the amount of a performance bond in excess of one thousand five hundred dollars per acre [0.40 hectare] for areas where coal is mined and where overburden is removed or deposited, or the amount in excess of two hundred dollars per acre [0.40 hectare] for areas affected by all other activities, the commission must be informed as to any unusual condition known to exist in the proposed permit area, and shall require from the permit applicant cost estimates of:

1. Backfilling and grading.
2. Replacing suitable plant growth material.
3. Revegetation.
4. Such other information as the commission may require.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-14,
38-14.1-16

69-05.1-03-02. REDUCTION IN BOND - RELEASE OF BOND. The permittee's request for any reduction in bond as a result of backslipping and grading carried out within the permit area shall, at the discretion of the commission, be accompanied by surface profiles or topographic maps with contour intervals of five feet [1.52 meters] at a scale of 1:4,800.

Upon request for final bond release, considering the intended post-mining land use, the operator shall provide documentation as required in section 69-05.1-14-06 that vegetative establishment and yield have achieved a level equal to or exceeding the premining level.

Further, the request shall be accompanied by a complete history of initial and subsequent seedings and fertilization (including mixtures and rates), appropriate soil tests, supplemental irrigation, or any other management practices employed.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-17

69-05.1-03-03. BOND FORFEITURE - CRITERIA.

1. The commission shall require forfeiture of all or part of a bond, if the commission determines that:
 - a. The permittee has violated any of the terms or conditions of the bond;
 - b. The permittee has failed to conduct the surface coal mining and reclamation operations in accordance with North Dakota Century Code chapter 38-14.1, this article, and the conditions of the permit within the time required;
 - c. The permit for the area under bond has been revoked, unless the permittee assumes liability and assigns sufficient collateral to the commission to guarantee completion of reclamation work; or
 - d. The permittee has failed to comply with a compliance schedule approved pursuant to subsection 3.
2. The commission may require forfeiture of all or part of a bond, if the commission determines that:
 - a. The permittee has become insolvent, failed in business, been adjudicated a bankrupt, filed a petition in bankruptcy or for a receiver, or has had a receiver appointed by any court; or
 - b. A creditor of the permittee has attached or executed a judgment against the permittee's equipment, materials, facilities at the permit area, or on the collateral pledged to the commission; and
 - c. The permittee cannot demonstrate or prove the ability to continue to operate in compliance with North Dakota Century Code chapter 38-14.1, this article, and the permit.

3. The commission may withhold forfeiture, if the permittee and surety, if applicable, agree to a compliance schedule to comply with the violations of the permit or bond conditions.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-16,
38-14.1-30,
38-14.1-33

69-05.1-03-04. BOND FORFEITURE - AMOUNT OF FORFEITURE. The commission shall either:

1. Determine the amount of the bond to be forfeited on the basis of the estimated cost to the commission or its contractor to complete the reclamation plan and other regulatory requirements in accordance with North Dakota Century Code chapter 38-14.1, this article, and the requirements of the permit; or
2. Require forfeiture of the entire amount of the bond for which liability is outstanding.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-16,
38-14.1-30

69-05.1-03-05. BOND FORFEITURE - PROCEDURES.

1. In the event forfeiture of the bond is required by section 69-05.1-03-03, the commission shall:
 - a. Send written notification by certified mail to the permittee, and the surety on the bond, if applicable, of the commission's determination to require forfeiture of all or part of the bond and the reasons for the forfeiture, including a finding of the amount to be forfeited.
 - b. Advise the permittee and surety, if applicable, of his right to request judicial review pursuant to North Dakota Century Code section 38-14.1-35.

- c. Proceed in an appropriate action for collection on the bond.
2. The written determination to require forfeiture of all or part of the bond, including the reasons for forfeiture and the amount to be forfeited, shall be a final decision of the commission.
3. The commission may require forfeiture of any or all bonds deposited for an entire permit area in order to satisfy sections 69-05.1-03-03 and 69-05.1-03-04. Liability under any bond, including separate bond increments or indemnity agreements applicable to a single operation, shall extend to the entire permit area with respect to protection of the hydrologic balance.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-16,
38-14.1-30,
38-14.1-33,
38-14.1-35

CHAPTER 69-05.1-04
MAPS AND REPORTS

Section	
69-05.1-04-01	Coal Production and Reclamation Fee Report
69-05.1-04-02	Annual Map
69-05.1-04-03	Mine Maps
69-05.1-04-04	Authorizations to Operate

69-05.1-04-01. COAL PRODUCTION AND RECLAMATION FEE REPORT. A copy of the Coal Production and Reclamation Fee Report (OSM Form 837-1) submitted to the office of surface mining shall be submitted to the commission no later than thirty calendar days after the end of the calendar quarter.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-03

69-05.1-04-02. ANNUAL MAP. An annual map shall be submitted to the commission for each permit by January twenty-fifth during each year of the permit term and shall be a mine map at a scale of 1:4,800. The map or maps or overlays accompanying the map shall show:

1. Acreage [hectarage] affected within the permit areas.
2. Acreage [hectarage] affected outside the permit areas.
3. Acreage [hectarage] shaped.
4. Acreage [hectarage] respread with suitable plant growth material.
5. Acreage [hectarage] planted.
6. Acreage [hectarage] stripped of suitable plant growth material.

7. Location of suitable plant growth material stockpiles. Supporting information shall include ownership, date seeded, type of material in each stockpile (first lift or second lift), and estimated cubic yards [meters] for each stockpile.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-27

69-05.1-04-03. MINE MAPS. Any person conducting surface coal mining and reclamation operations on and after July 1, 1979, shall submit two copies of an accurate map of the mine and permit area at a scale of 1:4,800 or larger. The map shall show as of July 1, 1979, the lands from which coal has not yet been removed and the lands and structures which have been used or disturbed to facilitate mining. The map shall also show the premining land use of the lands where the coal has not been removed as of July 1, 1979. The mine map shall be certified as accurate and shall be submitted to the commission no later than August 15, 1979.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-03

69-05.1-04-04. AUTHORIZATIONS TO OPERATE. A copy of all current permits, licenses, approved plans, or other authorizations to operate the mine shall be available for inspection at or near the mine site.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-27

CHAPTER 69-05.1-05
SIGNS AND MARKERS

Section
69-05.1-05-01 Signs and Markers

69-05.1-05-01. SIGNS AND MARKERS.

1. Specifications. All signs required to be posted shall be of a standard design that can be seen and read easily and shall be made of durable material. The signs and other markers shall be maintained during all operations to which they pertain and shall conform to local ordinances and codes.
2. Mine and permit identification signs. Signs identifying the mine area shall be displayed at all points of access to the permit area from public roads and highways. Signs shall show the name, business address, and telephone number of the permittee and identification numbers of current mining and reclamation permits or other authorizations to operate. Such signs shall not be removed until after release of all bonds.
3. Perimeter markers. The perimeter of the permit area and other commission approved activities located outside the permit area shall be clearly marked by durable and easily recognized markers, or by other means approved by the commission.
4. Buffer zone markers. Buffer zones as defined in section 69-05.1-11-06 shall be marked in a manner consistent with the perimeter markers along the interior boundary of the buffer zone.
5. Blasting signs. If blasting is necessary to conduct surface coal mining operations, signs reading "Blasting Area" shall be displayed conspicuously at the edge of blasting areas along access and haul roads within the mine property. Signs reading "Blasting Area" and explaining the blasting warning and all-clear signals shall be posted at all entrances to the permit area.

6. Suitable plant growth material markers. Where suitable plant growth material is segregated and stockpiled according to chapter 69-05.1-09, the stockpiled material shall be marked. Markers shall remain in place until the material is respread.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24,
38-14.1-27

CHAPTER 69-05.1-06
POSTMINING USE OF LAND

Section

69-05.1-06-01	Postmining Land Use
69-05.1-06-02	Determining Premining Land use
69-05.1-06-03	Land-use Categories
69-05.1-06-04	Criteria for Approving Alternative Postmining Use of Land

69-05.1-06-01. POSTMINING LAND USE. All disturbed areas shall be restored in a timely manner to conditions that are capable of supporting the uses which they were capable of supporting before any mining, or to higher or better uses achievable under the criteria and procedures of section 69-05.1-06-04.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-06-02. DETERMINING PREMINING LAND USE. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported if the land has not been previously mined and has been properly managed.

1. The postmining land use for land that has been previously mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and which is compatible with surrounding areas.
2. The postmining land use for land that has received improper management shall be judged on the basis of the premining use of surrounding lands that have received proper management.
3. If the premining use of the land was changed within five years of the beginning of mining, the comparison of postmining use

to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-06-03. LAND-USE CATEGORIES. Land use is categorized in the following groups. Change from one to another land-use category in premining to postmining constitutes an alternate land use and the permittee shall meet the requirements of section 69-05.1-06-04 and all other applicable environmental protection performance standards of article 69-05.1.

1. Heavy industry. Manufacturing facilities, powerplants, airports, or similar facilities.
2. Light industry and commercial services. Office buildings, stores, parking facilities, apartment houses, motels, hotels, or similar facilities.
3. Public services. Schools, hospitals, churches, libraries, water-treatment facilities, solid-waste disposal facilities, public parks and recreation facilities, major transmission lines, major pipelines, highways, underground and surface utilities, and other servicing structures and appurtenances.
4. Residential. Single and multiple family housing (other than apartment houses) with necessary support facilities. Support facilities may include commercial services incorporated in and comprising less than five percent of the total land area of housing capacity, associated open space, and minor vehicle parking and recreation facilities supporting the housing.
5. Cropland. Land used primarily for the production of cultivated and close-growing crops for harvest alone or in association with sod crops. Land used for facilities in support of farming operations are included.
6. Rangeland. Rangelands and forest lands which support a cover of herbaceous or scrubby vegetation suitable for grazing or browsing use.
7. Hayland or pasture. Land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or cut and cured for livestock feed.

8. Forest land. Land with at least a twenty-five percent tree canopy or land at least ten percent stocked by forest trees of any size, including land formerly having had such tree cover and that will be naturally or artificially reforested.
9. Impoundments of water. Land used for storing water for beneficial uses such as stock ponds, irrigation, fire protection, recreation, or water supply.
10. Fish and wildlife habitat and recreation lands. Wetlands, fish and wildlife habitat, and areas managed primarily for fish and wildlife or recreation.
11. Combined uses. Any appropriate combination of land uses where one land use is designated as the primary land use and one or more other land uses are designated as secondary land uses.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-06-04. CRITERIA FOR APPROVING ALTERNATIVE POSTMINING USE OF LAND. An alternative postmining land use shall be approved by the commission, after consultation with the landowner or the land management agency having jurisdiction over state or federal lands, if the following criteria are met:

1. The proposed land use is compatible with adjacent land use and, where applicable, with existing local or state land use policies and plans. A written statement of the views of the authorities with statutory responsibilities for land use policies and plans shall accompany the request for approval of local or state land management agencies, including any necessary zoning or other changes necessarily required for the final land use.
2. Specific plans have been prepared which show the feasibility of the proposed land use as related to needs, projected land use trends and markets and that include a schedule showing how the proposed use will be developed and achieved within a reasonable time after mining and be sustained. The commission may require appropriate demonstrations to show that the planned procedures are feasible, reasonable, and integrated with mining and reclamation, and that the plans will result in successful reclamation.
3. Provision of any necessary public facilities is assured as evidenced by letters of commitment from parties other than the

permittee, as appropriate, to provide them in a manner compatible with the permittee's plans.

4. Specific and feasible plans for financing attainment and maintenance of the postmining land use including letters of commitment from parties other than the permittee as appropriate, if the postmining land use is to be developed by such parties.
5. The plans are designed under the general supervision of a registered professional engineer, or other appropriate professional, who will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, and vegetative cover, and aesthetic design appropriate for the postmining use of the site.
6. The proposed use or uses will present neither actual nor probable hazard to public health or safety nor will they pose any actual or probable threat of water flow diminution or pollution.
7. The use or uses will not involve unreasonable delays in reclamation.
8. Necessary approval of measures to prevent or mitigate adverse effects on fish and wildlife has been obtained from the commission and reviewed by the state game and fish department.
9. Proposals to change premining land uses of range, fish and wildlife habitat, forest land, hayland, or pasture to a postmining cropland use, where the cropland would require continuous maintenance such as seeding, plowing, cultivation, fertilization, or other similar practices to be practicable or to comply with applicable state and local laws shall be reviewed by the commission to assure that:
 - a. There is a written commitment by the permittee or by the landowner or land manager to provide sufficient crop management after release of applicable performance bonds to assure that the proposed postmining cropland use remains practical and reasonable.
 - b. There is sufficient water available and committed to maintain crop production.
 - c. Suitable plant growth material quality and depth are shown to be sufficient to support the proposed use.

10. The commission has provided by public notice not less than forty-five days nor more than sixty days for interested citizens and local and state agencies to review and comment on the proposed land use.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-07
BACKFILLING AND GRADING

Section	
69-05.1-07-01	Small Depressions
69-05.1-07-02	Permanent Impoundments
69-05.1-07-03	Stabilizing Rills and Gullies
69-05.1-07-04	Covering Coal and Waste Materials - Stabilizing Backfilled Materials - Using Waste Material as Fill
69-05.1-07-05	Grading Along the Contour
69-05.1-07-06	Slope Measurements
69-05.1-07-07	Slippage and Piping Zones

69-05.1-07-01. SMALL DEPRESSIONS. The requirement to achieve the gentlest topography consistent with adjacent unmined landscape elements does not prohibit construction of small depressions if they are approved by the commission to minimize erosion, conserve soil moisture, or promote revegetation. These depressions shall be compatible with the approved postmining land use and shall not be inappropriate substitutes for construction of lower grades on the reclaimed lands. Depressions approved under this section shall have a holding capacity of less than one cubic yard [0.76 cubic meters] of water. If it is necessary that they be larger and are approved by the commission, they shall not restrict normal access throughout the area or constitute a hazard. Large permanent impoundments shall be governed by section 69-05.1-07-02 and subsection 7 of North Dakota Century Code section 38-14.1-24.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-02. PERMANENT IMPOUNDMENTS. No permanent impoundments shall be constructed on top of areas in which excess materials are deposited pursuant to chapter 69-05.1-08. Impoundments shall not be used to meet the requirements of section 69-05.1-07-04.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-03. STABILIZING RILLS AND GULLIES. When rills or gullies deeper than nine inches [22.86 centimeters] form in areas that have been regraded and the suitable plant growth materials replaced but vegetation has not yet been established, the permittee shall fill, grade, or otherwise stabilize the rills and gullies and reseed or replant the areas according to chapter 69-05.1-14. The commission shall specify that rills or gullies of lesser size be stabilized if the rills or gullies will be disruptive to the approved postmining land use or may result in additional erosion and sedimentation.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-04. COVERING COAL AND WASTE MATERIALS - STABILIZING BACKFILLED MATERIALS - USING WASTE MATERIAL AS FILL.

1. All exposed coal seams remaining after mining and any acid-forming, toxic-forming, combustible materials, or any other waste materials identified by the commission that are exposed, used, or produced during mining shall be covered with a minimum of four feet 01.22 meters of nontoxic and noncombustible material; or, if necessary, treated to neutralize toxicity in order to prevent water pollution and sustained combustion, and to minimize adverse effects on plant growth and land uses. Spoil materials that are either saline, sodic, or both, are considered to be toxic-forming materials and shall be covered with a minimum of four feet 01.22 meters of nontoxic material; provided four feet 01.22 meters of such material is available, but in no case shall the depth of cover that is necessary for successful revegetation be less than the average amount of material that existed prior to mining in areas where the available nontoxic material averages less than a four foot 01.22 meter depth. The availability and suitability of nontoxic materials shall be determined by the commission based on data provided by the permittee. Where necessary to protect against upward migration of salts, exposure by erosion, to provide an adequate depth for plant growth, or to otherwise meet local conditions, the commission shall specify thicker amounts of cover using nontoxic material; provided, more than four feet 01.22 meters of nontoxic material is available. Acid-forming or toxic-forming materials shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution or otherwise violate the provisions of chapter 69-05.1-11.

2. Backfilled materials shall be selectively placed and compacted wherever necessary to prevent leaching of toxic-forming materials into surface or subsurface waters in accordance with chapter 69-05.1-11 and wherever necessary to ensure the stability of the backfilled materials. The method of compacting material and the design specifications shall be approved by the commission before the toxic materials are covered.
3. Before waste materials from a coal preparation or conversion facility or from other activities conducted outside the permit area such as municipal wastes are used for fill material, it must be demonstrated to the commission by hydrogeological means and chemical and physical analyses that use of these materials will not adversely affect water quality, water flow and vegetation, will not present hazards to public health and safety, and will not cause instability in the backfilled area.
4. Disposal in mined areas of refuse, ash, and other residue from coal utilization processes must be accomplished in accordance with solid waste management regulations as currently set forth by the North Dakota department of health or, in the absence of a regulation, as directed by the commission. The disposal described above shall not be undertaken until the operator has furnished the commission with one copy of each permit issued by the state department of health in connection with such disposal.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-05. GRADING ALONG THE CONTOUR. All final grading, preparation of overburden before replacement of suitable plant growth material, and placement of the suitable material, in accordance with chapter 69-05.1-09, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour would be hazardous to equipment operators then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides surfaces for replacement of suitable plant growth material, which will minimize slippage.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-06. SLOPE MEASUREMENTS. After the disturbed area has been graded, the final graded slope shall be measured at sufficient locations to provide surface profiles or a contour map that will accurately show the postmining topography. The surface profiles or contour maps shall be submitted as required by the commission for a determination that the grading requirements have been met prior to spreading suitable plant growth materials.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-07-07. SLIPPAGE AND PIPING ZONES. The commission may require that the operator shall make full use of current research findings and available technology to minimize the development of subsurface piping in the overburden and slippage at the suitable plant growth material-overburden interface to ensure that the operator has or will make proper reclamation as required herein.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-08
DISPOSAL OF SPOIL AND WASTE MATERIAL IN AREAS
OTHER THAN THE MINE WORKINGS OR EXCAVATIONS

Section

- 69-05.1-08-01 Disposal of Spoil in Other Than Valley or
Head-of-Hollow Fills
- 69-05.1-08-02 Disposal of Spoil in Valley or Head-of-Hollow
Fills

69-05.1-08-01. DISPOSAL OF SPOIL IN OTHER THAN VALLEY OR HEAD-OF-HOLLOW FILLS. Excess spoils shall be placed in a controlled (engineered) manner in disposal areas other than the mine workings or excavations only if all the following conditions, in addition to the other requirements of this article, are met:

1. The disposal areas shall be within the permit area, and they must be approved by the commission as suitable for construction of fills in accordance with the requirements of this section.
2. The disposal areas shall be located on the most moderately sloping and naturally stable areas available as approved by the commission. Where possible, fill materials suitable for disposal shall be placed upon or above a natural terrace, bench, or berm if such placement provides additional stability and prevents mass movement.
3. The fill shall be designed using recognized professional standards, certified by a registered professional engineer, and approved by the commission.
4. The disposal area does not contain springs, natural water courses, or wet weather seeps unless lateral drains are constructed from the wet areas to the underdrains in such a manner that infiltration of the water into the spoil pile will be prevented.
5. All organic material shall be removed from the disposal area and the suitable plant growth material must be removed and segregated pursuant to chapter 69-05.1-09 before the material is placed in the disposal area. However, if approved by the commission, organic material may be used as mulch or may be included in the suitable plant growth material.
6. The spoil shall be transported and placed in a controlled manner, concurrently compacted as necessary to ensure mass

stability and prevent mass movement, covered, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings, and to ensure long-term stability. The final configuration of the fill must be suitable for postmining land uses approved in accordance with chapter 69-05.1-06.

7. If any portion of the fill interrupts, obstructs, or encroaches upon any natural drainage channel, the entire fill is classified as a valley or head-of-hollow fill and must be designed and constructed in accordance with the requirements of section 69-05.1-08-02.
8. The fill shall be inspected for stability by a registered engineer or qualified professional specialist during critical construction periods to assure removal of all organic material and suitable plant growth material, and placement of underdrainage systems. The registered engineer or other qualified professional specialist shall provide a certified report after each inspection that the fill has been constructed as specified in the design approved by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-08-02. DISPOSAL OF SPOIL IN VALLEY OR HEAD-OF-HOLLOW FILLS. Waste material must not be disposed of in valley or head-of-hollow fills. Spoil to be disposed of in natural valleys must be placed in accordance with the following requirements:

1. The disposal areas shall be within the permit area, and they must be approved by the commission as suitable for construction of fills in accordance with the requirements of this section.
2. The disposal site shall be selected to increase the stability of the fill and to reduce the drainage area above the fill. Where possible, spoil shall be placed above a natural terrace, bench, or berm, if such placement provides additional stability and prevents mass movement.
3. The fill shall be designed using recognized professional standards, certified by a registered professional engineer and approved by the commission.
4. All organic material shall be removed from the disposal area and the suitable plant growth material must be removed and

segregated pursuant to chapter 69-05.1-09 before the material is placed in the disposal area. However, if approved by the commission, organic material may be used as mulch or may be included in the suitable plant growth material.

5. A system of underdrains constructed of durable rock shall be installed along the natural drainage system, shall extend from the toe to the head of the fill, and shall contain lateral drains to each area of potential drainage or seepage. In constructing the underdrains, no more than ten percent of the rock may be less than twelve inches [30.48 centimeters] in size and no single rock may be larger than twenty-five percent of the width of the drain. No rock shall be used in underdrains if it tends to easily disintegrate and thereby clog the drain or if it is acid-forming or toxic-forming. The minimum size of the main underdrain shall be:

Total amount of fill material	Predominant type of fill material	Minimum size of drain in feet [meters]	
		Width	Height
Less than one million cubic yards.	Sandstone	10 [3.05 meters]	4 [1.22 meters]
[764,554.86 cubic meters] Do.	Shale	16 [4.88 meters]	8 [2.44 meters]
More than one million cubic yards.	Sandstone	16 [4.88 meters]	8 [2.44 meters]
[764,554.86 cubic meters] Do.	Shale	16 [4.88 meters]	8 [2.44 meters]

6. Spoil shall be transported and placed in a controlled manner and concurrently compacted as specified by the commission in lifts that are less than four feet [1.22 meters] thick in order to achieve the densities designed to ensure mass stability, to prevent mass movement, to avoid contamination of the rock underdrain, and to prevent formation of voids. The final configuration of the fill must be suitable for postmining land uses approved in accordance with chapter 69-05.1-06.
7. All surface drainage from the undisturbed area above the fill shall be diverted away from the fill by approved structures leading into water courses.
8. The fill shall be inspected for stability by a registered engineer or qualified professional specialist during critical construction periods and at least quarterly throughout construction to assure removal of all organic material and

topsoil, and placement of underdrainage systems according to the approved plan. The registered engineer or other qualified professional specialist shall provide a certified report after each inspection that the fill has been constructed as specified in the design approved by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-09
SUITABLE PLANT GROWTH MATERIAL HANDLING

Section	
69-05.1-09-01	Suitable Plant Growth Material Handling
69-05.1-09-02	Suitable Plant Growth Material Removal
69-05.1-09-03	Suitable Plant Growth Material Redistribution
69-05.1-09-04	Suitable Plant Growth Material Storage
69-05.1-09-05	Nutrients and Soil Amendments

69-05.1-09-01. SUITABLE PLANT GROWTH MATERIAL HANDLING. To prevent suitable plant growth material from being contaminated by spoil or waste materials, the permittee shall remove the suitable material as a separate operation from all areas prior to being disturbed. Suitable plant growth material shall be redistributed according to the requirements of section 69-05.1-09-03 on areas graded to the approved postmining configuration. Such material shall be segregated, stockpiled, and protected from wind and water erosion and from contaminants which lessen its capability to support vegetation if sufficient stable graded areas are not immediately available for redistribution.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-09-02. SUITABLE PLANT GROWTH MATERIAL REMOVAL.

1. All suitable plant growth material to be salvaged shall be removed as directed by the commission before any mining or other surface disturbance. The amount of material to be removed will be based on the results of the soil survey of the area to be disturbed. First and second lift suitable soil materials as defined within the soil survey shall be segregated by two separate operations, unless otherwise approved by the commission. Prior to beginning the removal of second lift suitable soil material, the first lift removal and segregation of suitable soil material must be approved. Where the removal of suitable plant growth material results in erosion that may cause air or water pollution, the commission shall limit the size of the area from which suitable materials may be removed at any one time and specify methods of treatment to control erosion of exposed overburden.

2. Selected second lift suitable plant growth materials may be used instead of, or as a supplement to, first lift top-dressing materials when the resulting soil medium is equal to or more suitable for vegetation, and if all the following requirements are met:
 - a. The permittee demonstrates that the selected second lift materials or a second lift-first lift mixture is more suitable than the first lift materials for restoring land capability and productivity based on the results of chemical and physical analyses. These analyses shall include determinations of pH, percent organic matter, nitrogen, phosphorus, potassium, texture class, water-holding capacity, and such other analyses as required by the commission. The commission may also require that results of field-site trials or greenhouse tests be used to demonstrate the feasibility of using such second lift materials or mixture of materials.
 - b. The chemical and physical analyses and the results of field-site trials and greenhouse tests are accompanied by a certification from a qualified soil or plant scientist.
 - c. The permittee demonstrates that thorough mixing of first lift and second lift materials is technologically feasible.
3. Prior to disturbing the overburden materials, the removal and segregation of the second lift material shall be approved by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-09-03. SUITABLE PLANT GROWTH MATERIAL REDISTRIBUTION.

1. After final grading and before the suitable plant growth material is replaced, regraded land shall be scarified or otherwise treated to eliminate slippage surfaces and to promote root penetration.
2. Second lift suitable plant growth material shall be redistributed as directed by the commission in a manner that:
 - a. Achieves an approximate uniform thickness consistent with the postmining land use.

- b. Prevents excess compaction of the spoil and suitable material.
3. First lift suitable plant growth material shall be redistributed as directed by the commission in a manner that:
 - a. Achieves an approximate uniform thickness consistent with the postmining land use.
 - b. Prevents excess compaction of the suitable plant growth materials.
 - c. Protects the suitable material from wind and water erosion before sufficient vegetative cover is established.
4. The suitable plant growth material saved from property owned by one party must be respread within the boundaries of that property if the surface ownership of the permit area is split between two or more parties, unless the parties otherwise agree.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-09-04. SUITABLE PLANT GROWTH MATERIAL STORAGE. If the storage of suitable plant growth material is necessary, the stockpiled material shall be placed on a stable area where it will not be disturbed or be exposed to water and wind erosion, or contaminants which lessen its capability to support vegetation before it can be redistributed on terrain graded to final contour. First and second lift suitable soil materials shall be stockpiled separately, preventing any possible mixing of these segregated materials. Stockpiles shall be selectively placed and protected from wind and water erosion, unnecessary compaction, and contamination by undesirable materials either by a vegetative cover as defined in chapter 69-05.1-14 or by other methods demonstrated to provide equal protection such as snow fences, chemical binders, and mulching. First lift materials shall be removed from second lift material storage areas before second lift materials are stockpiled. Unless approved by the commission, stockpiled suitable plant growth material shall not be moved until required for redistribution on a disturbed area.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-09-05. NUTRIENTS AND SOIL AMENDMENTS. Nutrients and soil amendments in the amounts and analyses as determined by soil tests shall be applied to the surface soil layer so that it will support the designated postmining land use and the revegetation requirements of chapter 69-05.1-14.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-10
PRIME FARMLANDS

Section	
69-05.1-10-01	Prime Farmland - Applicability
69-05.1-10-02	Prime Farmland - Definition
69-05.1-10-03	Identification of Prime Farmland
69-05.1-10-04	Negative Determination of Prime Farmland
69-05.1-10-05	Plan for Restoration of Prime Farmland
69-05.1-10-06	Permit Issuance
69-05.1-10-07	Special Requirements

69-05.1-10-01. PRIME FARMLAND - APPLICABILITY.

1. Permittees of surface coal mining and reclamation operations conducted on prime farmland shall comply with the general performance standards governing all surface coal mining operations in addition to the special requirements of this section. Prime farmlands are those lands defined in section 69-05.1-10-02 that have been used for the production of cultivated crops, including nurseries, orchards, and other specialty crops, and small grains for at least five years out of the twenty years preceding the date of the permit application.
2. The requirements of this section are applicable to any permit issued on or after August 3, 1977. Permits issued before that date and further extensions of those permits need not conform to the provisions of this section.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-02,
38-14.1-03

Law Implemented
NDCC 38-14.1-02,
38-14.1-21,
38-14.1-24

69-05.1-10-02. PRIME FARMLAND - DEFINITION. Prime farmland means those lands that meet the applicability requirements in section 69-05.1-10-01. Terms used in this section are defined in United States department of agriculture publications: Soil Taxonomy, Agriculture Handbook 436; Soil Survey Manual, Agriculture Handbook 18; Rainfall-Erosion Losses from Cropland, Agriculture Handbook 282; and Saline and

Alkali Soils, Agriculture Handbook 60. To be considered prime farmland, soils must meet all of the following criteria:

1. The soils have:
 - a. Aquic, udic, ustic, or xeric moisture regimes and sufficient available water capacity within a depth of forty inches [101.60 centimeters] or in the root zone, if the root zone is less than forty inches [101.60 centimeters] deep, to produce the commonly grown crops in seven or more years out of ten;
 - b. Xeric or ustic moisture regimes in which the available water capacity is limited but the area has a developed irrigation water supply that is dependable and of adequate quality (a dependable water supply is one in which enough water is available for irrigation in eight out of ten years for the crops commonly grown); or
 - c. Aridic or torric moisture regimes and the area has a developed irrigation water supply that is dependable and of adequate quality.
2. The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that at a depth of twenty inches [50.80 centimeters] have a mean annual temperature higher than thirty-two degrees Fahrenheit [0 degrees Celsius]. In addition, the mean summer temperature at this depth in soils with an O horizon is higher than forty-seven degrees Fahrenheit [8.33 degrees Celsius]; in soils that have no O horizon the mean summer temperature is higher than fifty-nine degrees Fahrenheit [15 degrees Celsius].
3. The soils have a pH between four and one-half and eight and four-tenths in all horizons within a depth of forty inches [101.60 centimeters] or in the root zone if the root zone is less than forty inches [101.60 centimeters] deep.
4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow food, feed, fiber, forage, and oilseed crops common to the area to be grown.
5. The soils can be managed so that, in all horizons within a depth of forty inches [101.60 centimeters] or in the root zone if the root zone is less than forty inches [101.60 centimeters] deep, during part of each year the conductivity of the saturation extract is less than four millimhos per centimeter and the exchangeable sodium percentage is less than fifteen.

6. The soils are not flooded frequently during the growing season (less often than once in two years).
7. The soils have a product of K (erodibility factor) times percent slope of less than two and a product of I (soil erodibility) times C (climatic factor) not exceeding sixty.
8. The soils have a permeability rate of at least six one-hundredths inch [0.15 centimeters] per hour in the upper twenty inches [50.80 centimeters] and the mean annual soil temperature at a depth of twenty inches [50.80 centimeters] is less than fifty-nine degrees Fahrenheit [15 degrees Celsius]; the permeability rate is not a limiting factor if the mean annual soil temperature is fifty-nine degrees Fahrenheit [15 degrees Celsius] or higher.
9. Less than ten percent of the surface layer (upper six inches [15.24 centimeters]) in these soils consists of rock fragments coarser than three inches [7.62 centimeters].

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-02,
38-14.1-03

Law Implemented
NDCC 38-14.1-02

69-05.1-10-03. IDENTIFICATION OF PRIME FARMLAND. Prime farmland shall be identified on the basis of soil surveys submitted by the applicant. The commission also may require data on irrigation, drainage, flood control, and subsurface water management. Soil surveys shall be conducted according to the standards of the national cooperative soil survey, which include the procedures set forth in United States Department of Agriculture Handbooks 436 (Soil Taxonomy), and 18 (Soil Survey Manual) and shall include all of the following:

1. Data on moisture availability, temperature regime, flooding, water table, erosion characteristics, permeability, or other information that is needed to determine prime farmland in accordance with section 69-05.1-10-02.
2. A map designating the exact location and extent of the prime farmland.
3. A description of the original undisturbed soil profiles for each soil mapping unit that is identified as prime farmland, indicating the depth and thickness of the soil horizons that are to be removed, stored, and replaced. For each soil mapping unit, the depth and thickness shown shall be of the A horizon (first lift) and B and C horizons (second lift), or

other materials that are determined to be suitable plant growth material.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-10-04. NEGATIVE DETERMINATION OF PRIME FARMLAND. The land shall not be considered as prime farmland where the applicant can demonstrate one or more of the following situations:

1. Lands within the proposed permit boundaries have been used for the production of cultivated crops for less than five out of twenty years preceding the date of the permit application.
2. The slope of all land within the permit area is ten percent or greater.
3. Land within the permit area is not irrigated or naturally subirrigated, has no developed water supply that is dependable and of adequate quality, and the average precipitation is fourteen inches [35.56 centimeters] or less.
4. Other factors exist, such as a very rocky surface or the land is frequently flooded, which clearly place all land within the area outside the purview of prime farmland.
5. A written notification based on scientific findings and soil surveys that land within the proposed mining area does not meet the applicability requirements in section 69-05.1-10-01 is submitted to the commission by a qualified person other than the applicant, and is approved by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-14

Law Implemented
NDCC 38-14.1-14

69-05.1-10-05. PLAN FOR RESTORATION OF PRIME FARMLAND. The applicant shall submit to the commission a plan for the mining and restoration of any prime farmland within the proposed permit boundaries. This plan shall be used by the commission in judging the technological capability of the applicant to restore prime farmlands. The plan shall include all of the following:

1. The proposed method and type of equipment to be used for removal, storage, and replacement of the soil material in accordance with section 69-05.1-10-07.
2. The location of areas to be used for the separate stockpiling of the soil material and plans for soil stabilization before redistribution.
3. If applicable, documentation from agricultural studies or other research data of comparable areas that adequately demonstrates that the use of suitable materials, other than the normal A, B, and C horizons, will restore an area to equal or higher levels of productivity as compared to nonmined prime farmlands in surrounding areas under equivalent levels of management.
4. Plans for seeding or cropping the final graded mine land and the conservation practices to be used to control erosion and sedimentation during the first twelve months after regrading is completed. Proper adjustments for seasons must be made so that final graded land is not exposed to erosion during seasons when vegetation or conservation practices cannot be established due to weather conditions.
5. Available agricultural school studies, company data, or other scientific data for comparable areas that demonstrate that the applicant using the applicant's proposed method of reclamation will achieve, within a reasonable time, equivalent or higher levels of yield after mining as existed before mining.

History: Effective July 1, 1979.

General Authority
 NDCC 38-14.1-03,
 38-14.1-14

Law Implemented
 NDCC 38-14.1-14

69-05.1-10-06. PERMIT ISSUANCE.

1. The commission may grant a permit, which shall incorporate the plan submitted under section 69-05.1-10-05, if it finds in writing that the applicant:
 - a. Has the technological capability to restore the prime farmland within the proposed permit area, within a reasonable time, to equivalent or higher levels of yield as nonmined prime farmland in the surrounding area under equivalent levels of management; and
 - b. Will achieve compliance with the standards of section 69-05.1-10-07.

2. Before any permit is issued for areas that include prime farmlands, the commission shall consult with the state conservationist of the United States soil conservation service. The state conservationist will provide a review of the proposed method of soil reconstruction and comment on possible revisions that will result in a more complete and adequate restoration.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-21

Law Implemented
NDCC 38-14.1-21

69-05.1-10-07. SPECIAL REQUIREMENTS. For all prime farmlands to be mined and reclaimed, the applicant shall meet the following special requirements:

1. All soil horizons or other suitable plant growth materials to be used in the reconstruction of the soil shall be removed as directed by the commission before drilling, blasting, or mining to prevent contaminating the soil materials with undesirable materials. Where removal of soil materials results in erosion that may cause air and water pollution, the commission shall specify methods of treatment to control erosion of exposed overburden. The permittee shall:
 - a. Remove separately the entire A horizon (first lift) or other suitable materials which will create a final soil having an equal or greater productive capacity than that which existed prior to mining in a manner that prevents mixing or contamination with other material before replacement.
 - b. Remove separately the B and C horizons (second lift) or other suitable soil materials that will create a reconstructed soil of equal or greater productive capacity than that which existed prior to mining in a manner that prevents mixing or contamination with other material.
2. If stockpiling of soil materials is approved by the commission in lieu of immediate redistribution, the first lift and second lift soil materials must be stored separately from each other. The stockpiles must be placed within the permit area and where they will not be disturbed or exposed to excessive erosion by water or wind before the stockpiled horizons can be redistributed on terrain graded to final contour. Stockpiles in place for more than thirty days must meet the storage requirements of section 69-05.1-09-04.

3. The final graded land shall be scarified before second lift materials are replaced.
4. The second lift suitable plant growth materials specified in subsection 1 shall be replaced as directed by the commission in such a manner as to avoid excessive compaction of overburden.
5. The first lift suitable plant growth materials shall be replaced as directed by the commission in a manner that will produce a soil profile having an equal or greater productive capacity than existed prior to mining and also:
 - a. Prevents excess compaction of both the surface layer and underlying material and reduction of permeability to less than six hundredths inch [1.52 millimeters] per hour in the upper twenty inches [50.8 centimeters] of the reconstructed soil profile.
 - b. Protects the surface layer from wind and water erosion before it is seeded or planted.
6. Nutrients and soil amendments shall be applied as needed to establish quick vegetative growth.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-11
PROTECTION OF THE HYDROLOGIC SYSTEM

Section	
69-05.1-11-01	Protection of the Hydrologic System
69-05.1-11-02	Water Quality Standards and Effluent Limitations
69-05.1-11-03	Compliance with State Department of Health Standards
69-05.1-11-04	Surface-Water Monitoring
69-05.1-11-05	Diversion of Overland Flow
69-05.1-11-06	Stream Channel Diversions
69-05.1-11-07	Sediment Control Measures
69-05.1-11-08	Sedimentation Ponds
69-05.1-11-09	Discharge Structures
69-05.1-11-10	Acid and Toxic Materials
69-05.1-11-11	Ground Water
69-05.1-11-12	Alluvial Valley Floors
69-05.1-11-13	Compliance with the Standards of the State Engineer
69-05.1-11-14	Hydrologic Impact of Roads
69-05.1-11-15	Hydrologic Impacts of Other Transport Facilities
69-05.1-11-16	Discharge of Waters into Underground Mines

69-05.1-11-01. PROTECTION OF THE HYDROLOGIC SYSTEM. The permittee shall plan and conduct coal mining and reclamation operations to minimize disturbance to the prevailing hydrologic balance in order to prevent long-term adverse changes in the hydrologic balance that could result from surface coal mining and reclamation operations, both onsite and offsite. Changes in water quality and quantity, in the depth to ground water, and in the location of surface water drainage channels shall be minimized such that the postmining land use of the disturbed land is not adversely affected and applicable state statutes and regulations are not violated. The permittee shall conduct operations so as to minimize water pollution and shall, where necessary, use treatment methods to control water pollution. The permittee shall emphasize surface coal mining and reclamation practices that will prevent or minimize water pollution and changes in flows in preference to the use of water treatment facilities. Practices to control and minimize pollution include, but are not limited to, stabilizing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, lining drainage channels with rock or vegetation, mulching, sealing acid-forming and toxic-forming materials, and selectively placing waste materials in backfill areas. If pollution can be controlled only by treatment, the permittee shall operate and

maintain the necessary water-treatment facilities for as long as treatment is required.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-02. WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS. All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, shall be passed through a sedimentation pond or a series of sedimentation ponds before leaving the mine area. Sedimentation ponds shall be retained until drainage from the disturbed area has met the water quality requirements of this chapter and the revegetation requirements of chapter 69-05.1-14 have been met. The commission may grant exemptions from this requirement only when the disturbed drainage area within the total disturbed area is small and if the permittee shows that sedimentation ponds are not necessary to meet the effluent limitations of this section and to maintain water quality in downstream receiving waters. For purposes of this chapter only, disturbed area shall not include those areas in which only diversion ditches, sedimentation ponds, or roads are installed in accordance with this section and the upstream area is not otherwise disturbed by the permittee. Sedimentation ponds required by this section shall be constructed in accordance with section 69-05.1-11-07 in appropriate locations prior to any mining in the affected drainage area in order to control sedimentation or otherwise treat water in accordance with this section. Discharges from areas disturbed by surface coal mining and reclamation operations must meet all applicable state laws and regulations and, at a minimum, the following numerical effluent limitations:

Effluent limitations, in milligrams per liter,
except for pH

Effluent characteristics	Maximum allowable*	Average of daily values for thirty consecutive discharge days*
Iron, total	7.0	3.5
Manganese, total	4.0	2.0
Total suspended solids**	45.0	30.0
pH***	within the range 6.0 to 9.0	

* Based on representative sampling.

** Total suspended solids limitations will be determined on a case-by-case basis, but they must not be greater than these limits.

*** Where the application of neutralization and sedimentation treatment technology results in inability to comply with the manganese limitations set forth, the regulatory authority may allow the pH level in the discharge to exceed to a small extent the upper limit of 9.0 in order that the manganese limitations will be achieved.

1. Any overflow or other discharge of surface water from the disturbed area within the mine area demonstrated by the permittee to result from a precipitation event larger than a ten-year, twenty-four-hour frequency event will not be subject to the effluent limitations of this section.
2. The permittee shall install, operate, and maintain adequate facilities to treat any water discharged from the disturbed area that violates applicable state laws or regulations or the limitations of this section. If the pH of waters to be discharged from the disturbed area is normally less than six, an automatic lime feeder or other neutralization process approved by the commission shall be installed, operated, and maintained. If the commission finds that small and infrequent treatment requirements to meet applicable standards do not necessitate use of an automatic neutralization process and

that the mine normally produces less than five hundred tons [453.50 metric tons] of coal per day, the commission may approve the use of a manual system if the permittee ensures consistent and timely treatment.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-03. COMPLIANCE WITH STATE DEPARTMENT OF HEALTH STANDARDS. Runoff water and pit water discharge shall meet the water quality requirements of the North Dakota department of health, as well as the requirements of this article. No mining permit shall be issued by the commission until the state department of health has had an opportunity to review the permit application. No rights under the mining permit shall be exercised until the necessary permits are obtained from the state department of health.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-42

Law Implemented
NDCC 38-14.1-21,
38-14.1-42

69-05.1-11-04. SURFACE-WATER MONITORING.

1. The permittee shall submit for approval by the commission a surface-water monitoring program which meets the following requirements:
 - a. Provides adequate monitoring of all discharges from the disturbed area.
 - b. Provides adequate data to describe the likely daily and seasonal variation in discharges from the disturbed area in terms of water flow, pH, total iron, total manganese, and total suspended solids and, if requested by the commission, any other parameter characteristic of the discharge.
 - c. Provides monitoring at appropriate frequencies to measure normal and abnormal variations in concentrations.
 - d. Provides an analytical quality control system including standard methods of analysis as specified by the commission.

- e. Provides a regular report of all measurements to the commission within sixty days of sample collection unless violations of permit conditions occur, in which case the commission shall be notified immediately after receipt of analytical results by the permittee. If the discharge is subject to regulation by a state permit issued in compliance with North Dakota Century Code chapter 61-28, a copy of the completed reporting form supplied to meet the permit requirements may be submitted to the commission to satisfy the reporting requirements, if the data meet the sampling frequency and other requirements of this section. The surface-water monitoring plan shall be submitted with the permit application.
2. After disturbed areas have been regraded and stabilized in accordance with this article, the permittee shall monitor surface water flow and quality. Data from this monitoring shall be used to demonstrate that the quality and quantity of runoff without treatment will be consistent with the requirement of this chapter to minimize disturbance to the prevailing hydrologic balance and with the requirements of this article to attain the approved postmining land use. These data shall provide a basis for approval by the commission for removal of water quality or flow control systems and for determining when the requirements of this chapter are met. The commission shall determine the nature of data, frequency of collection, and reporting requirements.
3. Equipment, structures, and other measures necessary to accurately measure and sample the quality and quantity of surface water discharges from the disturbed area of the permit area shall be properly installed, maintained, and operated and shall be removed when no longer required.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-27

69-05.1-11-05. DIVERSION OF OVERLAND FLOW. In order to minimize erosion and to prevent or remove water from contacting toxic-producing deposits, overland flow from undisturbed areas may, if required or approved by the commission, be diverted away from disturbed areas by means of temporary or permanent diversion structures. The following requirements shall be met:

1. Temporary diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a two-year recurrence interval, or a larger event as specified by the commission. The design criteria must assure adequate

protection of the environment and public during the existence of the temporary diversion structure.

2. Permanent diversion structures are those remaining after mining and reclamation and approved for retention by the commission and other appropriate state agencies. To protect fills and property and to avoid danger to public health and safety, permanent diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a one-hundred-year recurrence interval, or a larger event as specified by the commission. Permanent diversion structures shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete, or other similar linings shall not be used unless specifically required to prevent seepage or to provide stability and are approved by the commission.
3. Diversions shall be designed, constructed, and maintained in a manner to prevent additional contributions of suspended solids to streamflow or to runoff outside the mine area to the extent possible, using the best technology currently available. In no event shall such contributions be in excess of requirements set by applicable state law. Appropriate sediment control measures for these diversions shall include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-06. STREAM CHANNEL DIVERSIONS.

1. Flow from perennial and intermittent streams within the mine area may be diverted only when the diversions are approved by the commission and they are in compliance with applicable state statutes and regulations. When streamflow is allowed to be diverted, the new stream channel shall be designed and constructed to meet the following requirements:
 - a. The average stream gradient shall be maintained and the channel designed, constructed, and maintained to remain stable and to prevent additional contributions of suspended solids to streamflow, or to runoff outside the mine area to the extent possible, using the best technology currently available. In no event shall such contributions be in excess of requirements set by applicable state law. Erosion control structures such as

channel lining structures, retention basins, and artificial channel roughness structures shall be used only when approved by the commission for temporary diversions where necessary or for permanent diversions where they are stable and will require only infrequent maintenance.

- b. Channel, bank, and flood-plain configurations shall be adequate to safely pass the peak runoff of a precipitation event with a ten-year recurrence interval for temporary diversions and a one-hundred-year recurrence interval for permanent diversions, or larger events as specified by the commission.
 - c. Fish and wildlife habitat and water and vegetation of significant value for wildlife shall be protected in consultation with the state game and fish department.
- 2. All temporary diversion structures shall be removed and the affected land regraded and revegetated consistent with the requirements of chapters 69-05.1-07 and 69-05.1-14. At the time such diversions are removed, the permittee shall ensure that downstream water treatment facilities previously protected by the diversion are modified or removed to prevent overtopping or failure of the facilities.
 - 3. No land within one hundred feet [30.50 meters] of an intermittent or perennial stream shall be disturbed by surface coal mining and reclamation operations unless the commission specifically authorizes surface coal mining and reclamation operations through such a stream. The decision concerning such authorization shall not be made without consultation with the state water commission. The area not to be disturbed shall be designated a buffer zone and marked as specified in chapter 69-05.1-05.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24,
38-14.1-42

69-05.1-11-07. SEDIMENT CONTROL MEASURES. Appropriate sediment control measures shall be designed, constructed, and maintained to prevent additional contributions of sediment to streamflow or to runoff outside the mine area to the extent possible, using the best technology currently available. Sediment control measures include practices carried out within and adjacent to the disturbed area. The scale of downstream practices shall reflect the degree to which successful techniques are applied at the sources of the sediment. Sediment control measures consist of the utilization of proper mining, reclamation

methods, and sediment control practices (singly or in combination) including but not limited to:

1. Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and timely revegetation.
2. Consistent with the requirements of chapters 69-05.1-07 and 69-05.1-08, shaping the backfill material to promote a reduction of the rate and volume of runoff.
3. Retaining sediment within the pit and disturbed area.
4. Diverting overland and channelized flow from undisturbed areas around or in protected crossings through the disturbed area.
5. Utilizing straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume or entrap sediment.
6. Sedimentation ponds.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-08. SEDIMENTATION PONDS.

1. Sedimentation ponds shall be used individually or in series and shall:
 - a. Be constructed before any disturbance of the undisturbed area to be drained into the pond.
 - b. Be located as near as possible to the disturbed area and out of perennial streams, unless approved by the commission.
 - c. Meet all the criteria of this section.
2. Sedimentation ponds shall provide a minimum sediment storage volume equal to:
 - a. The accumulated sediment volume from the drainage area to the pond for a minimum of three years. Sediment storage volume shall be determined using the Universal Soil Loss Equation, gully erosion rates, and the sediment delivery ratio converted to sediment volume, using either the

sediment density or other empirical methods derived from regional sediment pond studies if approved by the commission; or

- b. One-tenth acre-foot [123.35 cubic meters] for each acre [0.40 hectares] of disturbed area within the upstream drainage area or a greater amount if required by the commission based upon sediment yield to the pond. The commission may approve a sediment storage volume of not less than thirty-five thousandths acre-foot [43.17 cubic meters] for each acre [0.40 hectares] of disturbed area within the upstream drainage area, if the person who conducts the surface mining activities demonstrates that sediment removed by other sediment control measures is equal to the reduction in sediment storage volume.
3. Sedimentation ponds shall provide the required theoretical detention time for the water inflow or runoff entering the pond from a ten-year, twenty-four-hour precipitation event (design event). Theoretical detention time is defined as the average time that the design flow is detained in the pond, and is further defined as the time difference between the centroid of the inflow hydrograph and the centroid of the outflow hydrograph for the design event. Runoff diverted under sections 69-95.1-11-05 and 69-05.1-11-06 away from the disturbed drainage areas and not passed through the sedimentation pond need not be considered in sedimentation pond design. In determining the runoff volume, the characteristics of the mine site, reclamation procedures, and onsite sediment control practices shall be considered. Sedimentation ponds shall provide a theoretical detention time of not less than twenty-four hours, or any higher amount required by the commission, except as provided under subdivisions a, b, or c.
 - a. The commission may approve a theoretical detention time of not less than ten hours, when the person who conducts the surface mining activities demonstrates that:
 - (1) The improvement in sediment removal efficiency is equivalent to the reduction in detention time as a result of pond design. Improvements in pond design may include but are not limited to pond configuration, in-flow and out-flow facility locations, baffles to decrease in-flow velocity and short-circuiting, and surface areas; and
 - (2) The pond effluent is shown to achieve and maintain applicable effluent limitations.
 - b. The commission may approve a theoretical detention time of not less than ten hours when the person who conducts the surface mining activities demonstrates that the size

distribution or the specific gravity of the suspended matter is such that applicable effluent limitations are achieved and maintained.

- c. The commission may approve a theoretical detention time of less than twenty-four hours to any level of detention time, when the person who conducts the surface mining activities demonstrates to the commission that the chemical treatment process to be used:
 - (1) Will achieve and maintain the effluent limitations; and
 - (2) Is harmless to fish, wildlife, and related environmental values.
 - d. The calculated theoretical detention time and all supporting documentation and drawings used to establish the required detention times under subdivisions a, b, and c shall be included in the permit application.
4. The water storage resulting from inflow shall be removed by a nonclogging dewatering device or a conduit spillway approved by the commission, and shall have a discharge rate to achieve and maintain the required theoretical detention time. The dewatering device shall not be located at a lower elevation than the maximum elevation of the sedimentation storage volume.
 5. Each person who conducts surface mining activities shall design, construct, and maintain sedimentation ponds to prevent short-circuiting to the greatest extent possible.
 6. The design, construction, and maintenance of a sedimentation pond or other sediment control measures in accordance with this section shall not relieve the person from compliance with applicable effluent limitations as contained in section 69-05.1-11-02.
 7. There shall be no out-flow through the emergency spillway during the passage of the runoff resulting from the ten-year, twenty-four-hour precipitation event or lesser events through the sedimentation pond.
 8. Sediment shall be removed from sedimentation ponds when the volume of sediment accumulates to sixty percent of the design sediment storage volume. With the approval of the commission, additional permanent storage may be provided for sediment or water, or both, above that required for the design sediment storage. Upon the approval of the commission for those cases where additional permanent storage is provided above that required for sediment under subsection 2, sediment removal may be delayed until the remaining volume of permanent storage has

decreased to forty percent of the total sediment storage volume provided the theoretical detention time is maintained.

9. An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff from a twenty-five-year, twenty-four-hour precipitation event, or larger event specified by the commission. The elevation of the crest of the emergency spillway shall be a minimum of one foot [30.48 centimeters] above the crest of the principal spillway. Emergency spillway grades and allowable velocities shall be approved by the commission.
10. The minimum elevation at the top of the settled embankment shall be one foot [30.48 centimeters] above the water surface in the pond with the emergency spillway flowing at design depth. For embankments subject to settlement, this one foot [30.48 centimeters] minimum elevation requirement shall apply at all times, including the period after settlement.
11. The constructed height of the dam shall be increased a minimum of five percent over the design height to allow for settlement, unless it has been demonstrated to the commission that the material used and the design will ensure against all settlement.
12. The minimum top width of the embankment shall not be less than the quotient of $(H+35)/5$, where H is the height, in feet, or $(H+10.7)/5$, where H is the height, in meters, of the embankment as measured from the upstream toe of the embankment.
13. The combined upstream and downstream side slopes of the settled embankment shall not be less than 1v:5h, with neither slope steeper than 1v:2h. Slopes shall be designed to be stable in all cases, even if flatter side slopes are required.
14. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.
15. The fill material shall be free of sod, large roots, other large pieces of vegetative matter, and frozen soil, and in no case shall coal-processing waste be used.
16. The placing and spreading of fill material shall be started at the lowest point of the foundation. The fill shall be brought up in horizontal layers of such thicknesses as are required to facilitate compaction and meet the design requirements of this section. Compaction shall be conducted as specified in the design approved by the commission.
17. If a sedimentation pond has an embankment that is more than twenty feet [6.10 meters] in height, as measured from the

upstream toe of the embankment to the crest of the emergency spillway, or has a storage volume of twenty acre-feet [24,669.64 cubic meters] or more, the following additional requirements shall be met:

- a. An appropriate combination of principal and emergency spillways shall be provided to discharge safely the runoff resulting from a one hundred-year, twenty-four-hour precipitation event, or a larger event specified by the commission.
 - b. The embankment shall be designed and constructed with a static safety factor of at least 1.5, or a higher safety factor as designated by the commission to ensure stability.
 - c. Appropriate barriers shall be provided to control seepage along conduits that extend through the embankment.
18. Each pond shall be designed and inspected during construction under the supervision of, and certified after construction by, a registered professional engineer.
 19. The entire embankment including the surrounding areas disturbed by construction shall be stabilized with respect to erosion by a vegetative cover or other means immediately after the embankment is completed. The active upstream face of the embankment where water will be impounded may be riprapped or otherwise stabilized. Areas in which the vegetation is not successful or where rills and gullies develop shall be repaired and revegetated in accordance with section 69-05.1-07-03.
 20. All ponds shall be examined for structural weakness, erosion, and other hazardous conditions in accordance with the inspection requirements and guidelines established by the commission.
 21. Sedimentation ponds shall not be removed until the disturbed area has been restored, and the vegetation requirements of chapter 69-05.1-14 are met and the drainage entering the pond has met the applicable state water quality requirements for the receiving stream. When the sedimentation pond is removed, the affected land shall be regraded and revegetated in accordance with chapters 69-05.1-07, 69-05.1-09, and 69-05.1-14, unless the pond has been approved by the commission for retention as being compatible with the approved postmining land use under chapter 69-05.1-06. If the

commission approves retention, the sedimentation pond shall meet all the requirements for permanent impoundments of subsection 7 of North Dakota Century Code section 38-14.1-24.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-09. DISCHARGE STRUCTURES. Discharges from sedimentation ponds and diversions shall be controlled, where necessary using energy dissipators, surge ponds, and other devices to reduce erosion and prevent deepening or enlargement of stream channels and to minimize disturbances to the hydrologic balance.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-10. ACID AND TOXIC MATERIALS. Drainage from acid-forming and toxic-forming mine waste materials and spoils into ground and surface water shall be avoided by:

1. Identifying, burying, and treating where necessary, spoil or other materials that, in the judgment of the commission, will be toxic to vegetation or that will adversely affect water quality if not treated or buried. Such material shall be disposed of in accordance with the provisions of section 69-05.1-07-04.
2. Preventing, to the extent possible, water from coming in contact with toxic-producing deposits.
3. Burying or otherwise treating all toxic or harmful materials within thirty days, if such materials are subject to wind and water erosion, or within a lesser period designated by the commission. If storage of such materials is approved, the materials shall be placed on impermeable material and protected from erosion and contact with surface water. Coal waste ponds and other coal waste materials shall be maintained according to subsection 4 of this section, and chapter 69-05.1-12 shall apply.
4. Burying or otherwise treating waste materials from coal preparation plants no later than ninety days after the

cessation of the filling of the disposal area. Burial or treatment shall be in accordance with section 69-05.1-07-04.

5. Taking such other actions as required by the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-11. GROUND WATER.

1. Recharge capacity of reclaimed lands. The disturbed area shall be reclaimed to restore approximate premining recharge capacity through restoration of the capability of the reclaimed areas as a whole to transmit water to the ground water system. The recharge capacity should be restored to support the approved postmining land use and to minimize disturbances to the prevailing hydrologic balance at the mined area and in associated offsite areas. The permittee shall be responsible for monitoring according to this section to ensure that operations conform to this requirement.
2. Ground water systems. Backfilled materials shall be placed to minimize adverse effects on ground water flow and quality, to minimize offsite effects, and to support the approved postmining land use. The permittee shall be responsible for performing monitoring according to this section to ensure that operations conform to this requirement.
3. Monitoring. Ground water levels, infiltration rates, subsurface flow and storage characteristics, and the quality of ground water shall be monitored in a manner approved by the commission to determine the effects of surface coal mining and reclamation operations on the recharge capacity of reclaimed lands and on the quantity and quality of water in ground water systems at the mine area and in associated offsite areas. When operations are conducted in such a manner that may affect the ground water system, ground water levels and ground water quality shall be periodically monitored using wells that can adequately reflect changes in ground water quantity and quality resulting from such operations. Sufficient water wells must be used by the permittee. The commission may require drilling and development of additional wells if needed to adequately monitor the ground water system. As specified and approved by the commission, additional hydrologic tests,

such as infiltration tests and aquifer tests, must be undertaken by the permittee to demonstrate compliance with this section.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24,
38-14.1-27

69-05.1-11-12. ALLUVIAL VALLEY FLOORS.

1. Surface coal mining operations conducted in or adjacent to alluvial valley floors shall be planned and conducted so as to preserve the essential hydrologic functions of these alluvial valley floors throughout the mining and reclamation process. These functions shall be preserved by maintaining or reestablishing those hydrologic and biologic characteristics of the alluvial valley floor that are necessary to support the functions. The permittee shall provide information to the commission as required in subsection 2 to allow identification of essential hydrologic functions and demonstrate that the functions will be preserved. The characteristics of an alluvial valley floor to be considered include, but are not limited to:
 - a. The longitudinal profile (gradient), cross-sectional shape, and other channel characteristics of streams that have formed within the alluvial valley floor and that provide for maintenance of the prevailing conditions of surface flow.
 - b. Aquifers (including capillary zones and perched water zones) and confining beds within the mined area which provide for storage, transmission, and regulation of natural ground water and surface water that supply the alluvial valley floors.
 - c. Quantity and quality of surface and ground water that supply alluvial valley floors.
 - d. Depth to and seasonal fluctuations of ground water beneath alluvial valley floors.
 - e. Configuration and stability of the land surface in the flood plain and adjacent low terraces in alluvial valley floors as they allow or facilitate irrigation with flood waters or subirrigation and maintain erosional equilibrium.

- f. Moisture-holding capacity of soils (or plant growth medium) within the alluvial valley floors, and physical and chemical characteristics of the subsoil which provide for sustained vegetation growth or cover through dry months.
2. Before surface mining and reclamation operations authorized under subdivision e of subsection 3 of North Dakota Century Code section 38-14.1-21 may be issued a new, revised, or amended permit, the permittee shall submit, for commission approval, detailed surveys and baseline data to establish standards against which the requirements of subsection 1 of this section may be measured and from which the degree of material damage to the quantity and quality of surface and ground water that supply the alluvial valley floors may be assessed. The surveys and data shall include the following:
- a. A map, at a scale determined by the commission, showing the location and configuration of the alluvial valley floor.
 - b. Baseline data covering a sufficient length of time to show the seasonal variation for each of the hydrologic functions identified in subsection 1 of this section.
 - c. Plans showing how the operation will avoid, during mining and reclamation, interruption, discontinuance, or preclusion of farming on the alluvial valley floors and will not materially damage the quantity or quality of water in surface and ground water systems that supply such valley floors.
 - d. Historic land use data for the proposed permit area and for farms to be affected.
 - e. Such other data as the commission may require. Surface mining operations which qualify for the exceptions in subdivision e of subsection 3 of North Dakota Century Code section 38-14.1-21 are not required to submit the plans prescribed in this subsection.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-11,
38-14.1-21,
38-14.1-24

69-05.1-11-13. COMPLIANCE WITH THE STANDARDS OF THE STATE ENGINEER. Any water impoundment, diversion, structure, or drainage

ditch built as part of an approved mining and reclamation plan shall be constructed in accordance with the requirements of the North Dakota state engineer, as well as the requirements of this article. No mining permit shall be issued by the commission until the state engineer has had opportunity to review the permit application. No rights under the mining permit shall be exercised until necessary permits are obtained from the state engineer.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-42

Law Implemented
NDCC 38-14.1-24,
38-14.1-42

69-05.1-11-14. HYDROLOGIC IMPACT OF ROADS.

1. Access and haul roads and associated bridges, culverts, ditches, and road right of way shall be constructed, maintained, and reclaimed to prevent additional contributions of suspended solids to streamflow, or to runoff outside the mine area to the extent possible, using the best technology currently available. In no event shall the contributions be in excess of requirements set by applicable state law. All access and haul roads shall be removed and the land affected regraded and revegetated consistent with the requirements of chapters 69-05.1-07 and 69-05.1-14, unless retention of a road is approved as part of a postmining land use under chapter 69-05.1-06 as being necessary to support the postmining land use or necessary to adequately control erosion and the necessary maintenance is assured.
2. Construction.
 - a. All roads, insofar as possible, shall be located on ridges or on the available flatter and more stable slopes to minimize erosion. Stream fords are prohibited unless they are specifically approved by the commission as temporary routes across dry streams that will not adversely affect sedimentation and that will not be used for coal haulage. Other stream crossings shall be made using bridges, culverts, or other structures designed and constructed to meet the requirements of this section. Roads shall not be located in active stream channels nor shall they be constructed or maintained in a manner that increases erosion or causes significant sedimentation or flooding. However, nothing in this subsection will be construed to prohibit relocation of stream channels in accordance with section 69-05.1-11-06.

b. In order to minimize erosion and subsequent disturbances of the hydrologic balance, roads shall be constructed in compliance with the following grade restrictions or other grades determined by the commission to be necessary to control erosion:

(1) The overall sustained grade shall not exceed 1v:10h (ten percent).

(2) The maximum grade greater than ten percent shall not exceed 1v:6.5h (fifteen percent) for more than three hundred feet [91.44 meters].

(3) There shall not be more than three hundred feet [91.44 meters] of grade exceeding ten percent within each one thousand feet [304.8 meters].

c. All access and haul roads shall be adequately drained using structures such as, but not limited to, ditches, water barriers, cross drains, and ditch relief drains. For access and haul roads that are to be maintained for more than one year, water-control structures shall be designed with a discharge capacity capable of passing the peak runoff from a ten-year, twenty-four-hour precipitation event. Drainage pipe and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets. Drainage ditches shall be provided at the toe of all cut slopes formed by construction of roads. Trash racks and debris basins shall be installed in the drainage ditches wherever debris from the drainage area could impair the functions of drainage and sediment control structures. Ditch relief and cross drains shall be spaced according to grade. Effluent limitations of section 69-05.1-11-02 shall not apply to drainage from access and haul roads located outside the disturbed area as defined in section 69-05.1-11-02 unless otherwise specified by the commission.

d. Access and haul roads shall be surfaced with durable material. Toxic- or acid-forming substances shall not be used. Vegetation may be cleared only for the essential width necessary for road and associated ditch construction and to serve traffic needs.

e. All access and haul road ditches shall be stabilized using the best technology currently available to effectively control erosion.

3. Maintenance.

a. Access and haul roads shall be routinely maintained by means such as, but not limited to, wetting, scraping, or surfacing.

b. Ditches, culverts, drains, trash racks, debris basins, and other structures serving to drain access and haul roads shall not be restricted or blocked in any manner that impedes drainage or adversely affects the intended purpose of the structure.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-15. HYDROLOGIC IMPACTS OF OTHER TRANSPORT FACILITIES. Railroad loops, spurs, sidings, and other transport facilities shall be constructed, maintained, and reclaimed to control diminution or degradation of water quality and quantity and to prevent additional contributions of suspended solids to streamflow, or runoff outside the mine area to the extent possible, using the best technology currently available. In no event shall contributions be in excess of requirements set by applicable state law.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-11-16. DISCHARGE OF WATERS INTO UNDERGROUND MINES. Surface and ground waters shall not be discharged or diverted into underground mine workings.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

<u>Case</u>	<u>Loading condition</u>	<u>Minimum safety factor</u>
I	End of construction	1.3
II	Partial pool with steady seepage saturation	1.5
III	Steady seepage from spillway or decant crest	1.5
IV	Earthquake (cases II and III with seismic loading)	1.0
(4)	The dam, foundation, and abutments shall be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the factors of safety of the dam for all loading conditions in paragraph 3 and for all increments of construction.	
(5)	Seepage through the dam, foundation, and abutments shall be controlled to prevent excessive uplift pressures, internal erosion, sloughing, removal of material by solution, or erosion of material by loss into cracks, joints, and cavities. This may require the use of impervious blankets, pervious drainage zones or blankets, toe drains, relief wells, or dental concreting of jointed rock surface in contact with embankment materials.	
(6)	Allowances shall be made for settlement of the dams and the foundation so that the freeboard will be maintained.	
(7)	Impoundments created by dams of waste materials shall be subject to a minimum drawdown criterion that allows the facility to be evacuated by spillways or decants of ninety percent of the volume of water stored during the design precipitation event within ten days.	
(8)	During construction of dams subject to this section, the structures shall be periodically inspected by a registered professional engineer to ensure construction according to the approved design. On completion of construction, the structure shall be certified by a registered professional engineer experienced in the field of dam construction as having been constructed in accordance with accepted professional practice and the approved design.	
(9)	A permanent identification marker, at least six feet [1.83 meters] high that shows the dam number assigned pursuant to plan requirements and guidelines established by the commission and the name of the person operating or controlling the dam, shall be	

located on or immediately adjacent to each dam within thirty days of certification of design pursuant to this section.

- d. All dams shall be routinely inspected by a registered professional engineer, or someone under the supervision of a registered professional engineer, in accordance with guidelines established by the commission.
- e. All dams shall be routinely maintained. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible materials present on the surface, other than those used for surface stability such as mulch or dry vegetation, shall be removed and any other appropriate maintenance procedures followed.
- f. All dams subject to this section shall be certified annually as having been constructed and modified in accordance with current prudent engineering practices to minimize the possibility of failures. Any changes in the geometry of the impounding structure shall be highlighted and included in the annual certification report. These certifications shall include a report on existing and required monitoring procedures and instrumentation, the average and maximum depths and elevations of any impounded structures, any fires occurring in the material over the past year and any other aspects of the structures affecting their stability.
- g. Any enlargements, reductions in size, reconstruction, or other modifications of the dams shall be approved by the commission before construction begins.
- h. All dams shall be removed and the disturbed areas regraded, revegetated, and stabilized unless the commission approves retention of such dams as being compatible with an approved postmining land use pursuant to chapter 69-05.1-06.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-25

CHAPTER 69-05.1-13
USE OF EXPLOSIVES

Section	
69-05.1-13-01	Use of Explosives
69-05.1-13-02	Preblasting Survey
69-05.1-13-03	Public Notice of Blasting Schedule
69-05.1-13-04	Public Notice of Changes to Blasting Schedules
69-05.1-13-05	Blasting Procedures
69-05.1-13-06	Blasting Standards
69-05.1-13-07	Seismograph Measurements
69-05.1-13-08	Records of Blasting Operations

69-05.1-13-01. USE OF EXPLOSIVES.

1. The permittee shall comply with all applicable local and state laws and regulations and the requirements of this chapter in the storage, handling, preparation, and use of explosives.
2. Blasting operations that use more than the equivalent of five pounds [2.27 kilograms] of trinitrotoluene shall be conducted according to a time schedule approved by the commission.
3. All blasting operations shall be conducted by experienced, trained, and competent persons who understand the hazards involved. Persons working with explosive materials shall:
 - a. Have demonstrated a knowledge of, and a willingness to comply with, safety and security requirements.
 - b. Be capable of using mature judgment in all situations.
 - c. Be in good physical condition and not addicted to intoxicants, narcotics, or other similar types of drugs.
 - d. Possess current knowledge of the local and state laws and regulations applicable to their work.
 - e. Have obtained a certificate of completion of training and qualification as required by state law or the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-02. PREBLASTING SURVEY.

1. On the request to the commission of a resident or owner of a manmade dwelling or structure that is located within one-half mile [.85 kilometers] of any part of the permit area, the permittee shall conduct a preblasting survey of the dwelling or structure and submit a report of the survey to the commission.
2. Personnel approved by the commission shall conduct the survey to determine the condition of the dwelling or structure and to document any preblasting damage and other physical factors that could reasonably be affected by the blasting. Assessments of structures such as pipes, cables, transmission lines, and wells and other water systems shall be limited to surface condition and other readily available data. Special attention shall be given to the preblasting condition of wells and other water systems used for human, animal, or agricultural purposes and to the quantity and quality of the water.
3. A written report of the survey shall be prepared and signed by the person or persons who conducted the survey and prepared the written report. The report shall include recommendations of any special conditions or proposed adjustments to the blasting procedures and standards outlined in sections 69-05.1-13-05 and 69-05.1-13-06 which should be incorporated into the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the commission.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-03. PUBLIC NOTICE OF BLASTING SCHEDULE. At least ten days, but not more than twenty days, before beginning a blasting program in which explosives that use more than the equivalent of five pounds [2.27 kilograms] of trinitrotoluene are detonated, the permittee shall publish a blasting schedule in the official newspaper of each county wherein the surface coal mining operation is located and in other daily newspapers of general circulation in the locality of the proposed site. Copies of the schedule shall be distributed by mail to local governments and public utilities and to each residence within one-half mile [0.85

kilometers] of the blasting sites described in the schedule. Daily notice shall also be provided to residents in such areas prior to any blasting. The permittee shall republish and redistribute the schedule by mail at least every three months. Blasting schedules shall not be so general as to cover all working hours but shall identify as accurately as possible the location of the blasting sites and the time periods when blasting will occur. The blasting schedule shall contain at a minimum all of the following:

1. Identification of the specific areas in which blasting will take place. The specific blasting areas described shall not be larger than three hundred acres [121.41 hectares] with a generally contiguous border.
2. Dates and times when explosives are to be detonated expressed in not more than four-hour increments.
3. Methods to be used to control access to the blasting area.
4. Types of audible warnings and all-clear signals to be used before and after blasting.
5. A description of possible emergency situations (defined in section 69-05.1-13-05), which have been approved by the commission, when it may be necessary to blast at times other than those described in the schedule.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-04. PUBLIC NOTICE OF CHANGES TO BLASTING SCHEDULES. Before blasting in areas not covered by a previous schedule or whenever the proposed frequency of individual detonations is materially changed, the permittee shall prepare a revised blasting schedule in accordance with the procedures in section 69-05.1-13-03. If the change involves only a temporary adjustment of the frequency of blasts, the permittee may use alternate methods to notify the governmental bodies and individuals to whom the original schedule was sent.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-05. BLASTING PROCEDURES.

1. All blasting shall be conducted only during the daytime hours, defined as sunrise until sunset. Based on public requests or other considerations, including the proximity to residential areas, the commission may specify more restrictive time periods.
2. Blasting may not be conducted at times different from those announced in the blasting schedule except in emergency situations where rain, lightning, other atmospheric conditions, or operator or public safety requires unscheduled detonation.
3. Warning and all-clear signals of different character that are audible within a range of one-half mile [0.85 kilometers] from the point of the blast shall be given. All persons within the permit area shall be notified of the meaning of the signals through appropriate instructions and signs posted as required by section 69-05.1-05-01.
4. Access to the blasting area shall be regulated to protect the public and livestock from the effects of blasting. Access to the blasting area shall be controlled to prevent unauthorized entry at least ten minutes before each blast and until the permittee's authorized representative has determined that no unusual circumstances such as imminent slides or undetonated charges exist and access to and travel in or through the area can safely resume.
5. Areas in which charged holes are awaiting firing shall be guarded, barricaded and posted, or flagged against unauthorized entry.
6. Airblast shall be controlled such that it does not exceed one hundred and twenty-eight decibel linear-peak at any manmade dwelling or structure located within one-half mile [0.85 kilometers] of the permit area.
7. Except where lesser distances are approved by the commission (based upon a preblasting survey or other appropriate investigations) blasting shall not be conducted within:
 - a. One thousand feet [304.8 meters] of any building used as a dwelling, school, church, hospital, or nursing facility; and
 - b. Five hundred feet [152.4 meters] of facilities including, but not limited to, disposal wells, petroleum or gas-storage facilities, municipal water-storage facilities, fluid-transmission pipelines, gas or oil-collection lines, or water and sewage lines.

8. If unscheduled detonation of explosives occurs as allowed by subsection 2 for emergency situations, or for operator or public safety, the operator shall notify the commission by telephone, as soon as practical, and follow the telephone call with a letter stating the reasons for the detonation.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-06. BLASTING STANDARDS.

1. Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface waters outside the permit area.
2. In all blasting operations, except as otherwise stated, the maximum peak particle velocity of the ground motion in any direction shall not exceed one inch [2.54 centimeters] per second at the immediate location of any dwelling, public building, school, church, or commercial or institutional building. The commission may reduce the maximum peak particle velocity allowed if it determines that a lower standard is required because of density of population or land use, age or type of structure, geology or hydrology of the area, frequency of blasts, or other factors.
3. The maximum peak particle velocity of ground motion does not apply to property inside the permit area that is owned or leased by the permittee.
4. An equation for determining the maximum weight of explosives that can be detonated within any eight millisecond period is given in subsection 5. If the blasting is conducted in accordance with this equation, the commission will consider the vibrations to be within the one inch [2.54 centimeter] per second limit.

5. The maximum weight of explosives to be detonated within any eight millisecond period shall be determined by the formula:

$$W=(D/60)^2$$

where W = the maximum weight of explosives, in pounds, that can be detonated in any eight millisecond period, and D = the distance, in feet, to the nearest dwelling, school, church, or commercial or institutional building. For distances between three hundred fifty feet [106.68 meters] and five thousand feet [1524.00 meters], solution of the equation results in the following maximum weight:

Distance (D)		Maximum weight (W)	
Feet	[Meters]	Pounds	[Kilograms]
350	[106.68]	34	[15.42]
400	[121.92]	44	[19.96]
500	[152.40]	69	[31.30]
600	[182.88]	100	[45.36]
700	[213.36]	136	[61.69]
800	[243.84]	178	[80.74]
900	[274.32]	225	[102.06]
1,000	[304.80]	278	[126.10]
1,100	[335.28]	336	[152.41]
1,200	[365.76]	400	[181.44]
1,300	[396.24]	469	[212.73]
1,400	[426.72]	544	[246.75]
1,500	[457.20]	625	[283.50]
1,600	[487.68]	711	[322.50]
1,700	[518.16]	803	[364.23]
1,800	[548.64]	900	[408.23]
1,900	[579.12]	1,002	[454.50]
2,000	[609.60]	1,111	[503.94]
2,500	[762.00]	1,736	[787.43]
3,000	[914.40]	2,500	[1133.98]
3,500	[1066.80]	3,402	[1543.12]
4,000	[1219.20]	4,444	[2015.77]
4,500	[1371.60]	5,625	[2551.46]
5,000	[1524.00]	6,944	[3149.74]

6. If on a particular site the peak particle velocity continuously exceeds one-half inch [1.27 centimeters] per second after a period of one second following the maximum ground particle velocity, the commission shall require the blasting procedures to be revised to limit the ground motion.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-07. SEISMOGRAPH MEASUREMENTS.

1. Where a seismograph is used to monitor the velocity of ground motion and the peak particle velocity limit of one inch [2.54 centimeters] per second is not exceeded, the equation in subsection 5 of section 69-05.1-13-06 need not be used. However, if the equation is not being used, a seismograph record shall be obtained for every shot.
2. The use of a modified equation to determine maximum weight of explosives for blasting operations at a particular site may be approved by the commission on receipt of a petition accompanied by reports including seismograph records of test blasting on the site. However, in no case shall the commission approve the use of a modified equation where the peak particle velocity limit of one inch [2.54 centimeters] per second required in subsection 2 of section 69-05.1-13-06 would be exceeded.
3. The commission may require a seismograph recording of any blasts.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03,
38-14.1-24

Law Implemented
NDCC 38-14.1-24

69-05.1-13-08. RECORDS OF BLASTING OPERATIONS. A record of each blast, including seismograph reports, shall be retained for at least three years and shall be available for inspection by the commission and the public on request. The record shall contain all of the following data:

1. Name of permittee, operator, or other person conducting the blast.
2. Location, date, and time of blast.
3. Name, signature, and license number of blaster-in-charge.
4. Direction and distance, in feet, to the nearest dwelling, school, church, or commercial or institutional building not owned or leased by the permittee.
5. Weather conditions.
6. Type of material blasted.

CHAPTER 69-05.1-14
REVEGETATION

Section	
69-05.1-14-01	Revegetation
69-05.1-14-02	Use of Introduced Species
69-05.1-14-03	Timing of Revegetation
69-05.1-14-04	Mulching
69-05.1-14-05	Methods of Revegetation
69-05.1-14-06	Standards for Measuring Success of Revegetation
69-05.1-14-07	Seeding of Stockpiled Suitable Plant Growth Material

69-05.1-14-01. REVEGETATION.

1. The permittee shall establish on all land that has been disturbed, a diverse, effective, and permanent vegetative cover of species native to the area of disturbed land or species that will support the planned postmining uses of the land approved according to chapter 69-05.1-06. For areas designated as prime farmland, the reclamation procedures of chapter 69-05.1-10 shall apply.
2. Revegetation shall be carried out in a manner that encourages a prompt vegetative cover and recovery of productivity levels compatible with approved land uses. The vegetative cover shall be capable of stabilizing the soil surface with respect to erosion. All disturbed lands, except water areas and surface areas of roads that are approved as a part of the postmining land use, shall be seeded or planted to achieve a vegetative cover of the same seasonal variety native to the area of disturbed land. If both the premining and postmining land use is intensive agriculture, planting of the crops normally grown will meet the requirement. Vegetative cover will be considered of the same seasonal variety when it consists of a mixture of species of equal or superior utility for the intended land use when compared with the utility of naturally occurring vegetation during each season of the year.

3. On federal lands, the surface management agency shall be consulted for approval prior to revegetation regarding what species are selected, and following revegetation, to determine when the area is ready to be used.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24,
38-14.1-42

69-05.1-14-02. USE OF INTRODUCED SPECIES. Introduced species may be substituted for native species only if appropriate field trials have demonstrated that the introduced species are of equal or superior utility for the approved postmining land use, or are necessary to achieve a quick, temporary, and stabilizing cover. Such species substitution shall be approved by the commission. Introduced species shall meet applicable state seed or introduced species statutes, and shall not include poisonous or potentially toxic species.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-14-03. TIMING OF REVEGETATION. Seeding and planting of disturbed areas shall be conducted during the first normal period for favorable planting conditions after suitable plant growth materials have been spread. The normal period for favorable planting shall be that planting time generally accepted locally for the type of plant materials selected to meet specific site conditions and climate. Any disturbed areas, except water areas and surface areas of roads that are approved under chapter 69-05.1-06 as part of the postmining land use, which have been graded shall be seeded with a temporary cover of small grains, grasses, or legumes to control erosion until an adequate permanent cover is established. When rills and gullies that would preclude the successful establishment of vegetation or the achievement of the postmining land use form in regraded suitable plant growth material and overburden materials as specified in chapter 69-05.1-07, additional regrading or other stabilization practices will be required before seeding and planting.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-14-04. MULCHING. Mulch shall be used on all regraded areas and where suitable plant growth material has been respread to control erosion, to promote germination of seeds, and to increase the moisture retention of the soil. The rate and timing of mulch application shall be determined in consultation with the commission. Mulch shall be anchored to the soil surface to ensure effective protection of the soil and vegetation. Mulch means vegetative residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing micro-climatic conditions suitable for germination and growth, and do not interfere with the postmining use of the land. Annual grains such as oats, rye, and wheat may be used instead of mulch when it is shown to the satisfaction of the commission that the substituted grains will provide adequate stability and that they will later be replaced by species approved for the postmining use.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-14-05. METHODS OF REVEGETATION.

1. The permittee shall use technical publications or the results of laboratory and field tests approved by the commission to determine the varieties, species, seeding rates, and soil amendment practices essential for establishment and self-regeneration of vegetation. The commission shall approve species selection and planting plans.
2. Where hayland, pasture, or range is to be the postmining land use, the species of grasses, legumes, browse, trees, or forbs for seeding or planting and their pattern of distribution shall be selected by the permittee to provide a diverse, effective, and permanent vegetative cover with the seasonal variety, succession, distribution, and regenerative capabilities native to the area. Livestock grazing will not be allowed on reclaimed land until the seedlings are established and can sustain managed grazing. The commission, in consultation with the permittee and the landowner or in concurrence with the governmental land managing agency having jurisdiction over the surface, shall determine when the revegetated area is ready for livestock grazing.
3. Where forest is to be the postmining land use, the permittee shall plant trees adapted for local site conditions and climate. Trees shall be planted in combination with an herbaceous cover of grains, grasses, legumes, forbs, or woody plants to provide a diverse, effective, and permanent

vegetative cover with the seasonal variety, succession, and regeneration capabilities native to the area.

4. Where wildlife habitat is to be included in the postmining land use, the permittee shall consult with appropriate state wildlife and land management agencies and shall select those species that will fulfill the needs of wildlife, including food, water, cover, and space. Plant groupings and water resources shall be spaced and distributed to fulfill the requirements of wildlife.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24,
38-14.1-42

69-05.1-14-06. STANDARDS FOR MEASURING SUCCESS OF REVEGETATION.

1. A premining and postmining vegetation inventory process shall be developed from established reference areas pursuant to methods approved by the commission that will be used to determine the degree of success in the revegetated area. The purpose of this vegetative inventory is to develop a data base to compare postmining revegetation success. Reference areas mean land units of varying size and shape identified and maintained under appropriate management for the purpose of measuring ground cover, productivity, and species diversity that are produced naturally. Reference areas shall be selected and premining inventory information, as specified and approved by the commission, shall be submitted with the permit application. Reference areas for all lands affected after July 1, 1975, under existing permits, shall be selected in a timely manner and shall be specified and approved by the commission. The reference areas must be representative of the permit area. Management of the reference area shall be comparable to that which will be required for the approved postmining land use of the area to be mined.
2. Upon request for final bond release, considering the intended postmining land use, the operator shall provide documentation that vegetative establishment and yield have achieved a level equal to or exceeding the premining level. The ground cover and productivity of living plants on all significant portions of the revegetated area shall be equal to or greater than the ground cover and productivity of living plants of the approved reference area with a ninety percent statistical confidence for a minimum of two growing seasons. Exceptions may be authorized by the commission for any of the following:

- a. Previously mined areas that were not reclaimed to the standards required by this article prior to the effective date of this article. The ground cover of living plants for such areas shall not be less than required to control erosion, and in no case shall ground cover be less than that existing before redisturbance.
 - b. Areas to be developed immediately for industrial or residential use. The ground cover of living plants shall not be less than required to control erosion. As used in this section, immediately means less than two years after regrading has been completed for the area to be used.
 - c. Areas to be used for agricultural cropland purposes. Success in revegetation of cropland shall be determined on the basis of crop production from the mined area compared to the reference area. Crop production from the mined area shall be equal to or greater than that of the approved reference area for a minimum of two growing seasons.
3. Species diversity, distribution, seasonal variety, and vigor shall be evaluated on the basis of the results which could reasonably be expected using the methods of revegetation approved under section 69-05.1-14-05.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

69-05.1-14-07. SEEDING OF STOCKPILED SUITABLE PLANT GROWTH MATERIAL. Suitable plant growth material stockpiles must be seeded or planted with an effective cover of nonnoxious, quick-growing annual and perennial plants during the first normal period for favorable planting conditions or protected by other approved measures such as snow fences, chemical binders, and mulching.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-24

CHAPTER 69-05.1-15
EXPERIMENTAL PRACTICES

Section

69-05.1-15-01 Experimental Plots
69-05.1-15-02 Variances for Experimental Practices

69-05.1-15-01. EXPERIMENTAL PLOTS. Any agency or authorized organization wishing to establish experimental or evaluation plots of any kind on mined land prior to the release of bond by the state must obtain the written approval of the commission and the operator. Landowner approval need be obtained only if the anticipated life of the plot will extend beyond the time at which bond release for the permit area is sought. Applicants shall state the objectives sought, the methods proposed to be used, the amount of land required, and duration of the proposed research. The applicant must also agree to submit a yearly progress report and a final report to both the commission and the operator. Once the experimental work has ended, the acreage [hectarage] must be returned to acceptable state reclamation requirements. The operator is to assume the costs of bringing the land used for experimental plots to a condition that will meet state reclamation requirements, unless the operator obtains written assurance from the agency or organization of that agency's or organization's intent and ability to reclaim.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-03

69-05.1-15-02. VARIANCES FOR EXPERIMENTAL PRACTICES.

1. In order to encourage advances in surface mining and reclamation practices, or to allow postmining land use for industrial, commercial, residential, or public use (including recreational facilities), the commission may, with the approval of the director of the office of surface mining, United States department of the interior, authorize variances in individual cases on an experimental basis from the environmental protection performance standards of North Dakota Century Code section 38-14.1-24.
2. Variances shall not be authorized for other than experimental practices.

3. No person shall engage in or maintain any experimental practice, unless that practice has first been approved in a permit.
4. Each person who desires to conduct an experimental practice shall submit a permit application to the commission for approval. The permit application shall contain appropriate descriptions, maps and plans which show:
 - a. The nature of the experimental practice.
 - b. How use of the experimental practice:
 - (1) Encourages advances in mining and reclamation technology; or
 - (2) Allows a postmining land use for industrial, commercial, residential, or public use (including recreational facilities), on an experimental basis, when the results are not otherwise attainable under the environmental protection performance standards.
 - c. That the surface mining and reclamation operations proposed for using an experimental practice are not larger nor more numerous than necessary to determine the effectiveness and economic feasibility of the experimental practice.
 - d. That the experimental practice:
 - (1) Is potentially more or at least as environmentally protective, during and after the proposed surface mining and reclamation operations, as those required under the environmental protection performance standards; and
 - (2) Will not reduce the protection afforded public health and safety below that provided by the environmental protection performance standards.
 - e. That the applicant will conduct special monitoring with respect to the experimental practice during and after the operations involved. The monitoring program shall:
 - (1) Ensure the collection and analysis of sufficient and reliable data to enable the commission and the director of the office of surface mining to make adequate comparisons with other surface coal mining and reclamation operations employing similar experimental practices.
 - (2) Include requirements designed to identify, as soon as possible, potential risks to the environment and

public health and safety from the use of the experimental practice.

5. Each application shall set forth the environmental protection performance standards which will be implemented in the event the objective of the experimental practice is a failure.
6. All experimental practices for which variances are sought shall be specifically identified through newspaper advertisements by the applicant and the written notifications by the commission required by North Dakota Century Code section 38-14.1-18.
7. No permit authorizing an experimental practice shall be issued unless the commission first finds, in writing, upon the basis of both a complete application filed in accordance with the requirements of this section and the comments of the director of the office of surface mining that:
 - a. The experimental practice meets all of the requirements of subdivisions b through e of subsection 4.
 - b. The experimental practice is based on a clearly defined set of objectives which can reasonably be expected to be achieved.
 - c. The experimental practice has been specifically approved, in writing, by the director of the office of surface mining, based on the director's findings that all of the requirements of subdivisions a through e of subsection 4 will be met.
 - d. The permit contains conditions which specifically:
 - (1) Limit the experimental practice authorized to that granted by the commission and the director of the office of surface mining.
 - (2) Impose enforceable alternative environmental protection requirements.
 - (3) Require the person to conduct the periodic monitoring, recording and reporting program set forth in the application, with such additional requirements as the commission or the director of the office of surface mining may require.
8. Each permit which authorizes the use of an experimental practice shall be reviewed in its entirety at least every three years by the commission, or at least once prior to the middle of the permit term. After review, the commission shall, with the consent of the director of the office of surface mining, require by order, supported by written

findings, any reasonable revision or modification of the permit provisions necessary to ensure that the operations involved are conducted to protect fully the environment and public health and safety. Any person who is or may be adversely affected by the order shall have the opportunity for a hearing as provided for in North Dakota Century Code section 38-14.1-30.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-03

CHAPTER 69-05.1-16
APPLICABILITY OF ARTICLE

Section
69-05.1-16-01 Applicable Lands
69-05.1-16-02 Permit Renewal - Limitation

69-05.1-16-01. APPLICABLE LANDS. The requirements of this article apply to any person conducting surface coal mining operations; and to all surface coal mining operations conducted after July 1, 1979, on lands from which the coal had not yet been removed and to any other lands used, disturbed, or redisturbed in connection with or to facilitate mining or to comply with the requirements of North Dakota Century Code chapter 38-14.1 or of this article. Surface mining permits issued by the commission prior to July 1, 1979, are deemed to be modified on July 1, 1979, to incorporate the requirements of this article, as it applies to surface coal mining operations conducted after July 1, 1979, on lands from which the coal has not yet been removed and to any other lands used, disturbed, or redisturbed in connection with or to facilitate mining or to comply with the requirements of North Dakota Century Code chapter 38-14.1 or of this article.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-10

69-05.1-16-02. PERMIT RENEWAL - LIMITATION. Any surface coal mining permit issued by the commission prior to July 1, 1979, that expires prior to the reapplication requirements of North Dakota Century Code section 38-14.1-11 may be renewed by the commission subject to all of the following conditions:

1. The term of the permit renewal shall continue only until such time as a new permit under the reapplication requirements of North Dakota Century Code section 38-14.1-11 is approved by the commission.
2. The permit renewal shall apply only to those lands included within the original permit area and any amendments or revisions thereto.

3. The surface coal mining operations must be conducted in compliance with North Dakota Century Code chapter 38-14.1 and this article.
4. Such other conditions as the commission may prescribe.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
NDCC 38-14.1-22

CHAPTER 69-05.1-17
OFF-PERMIT USE OF OTHER MINERALS

Section
69-05.1-17-01 Off-Permit Use of Other Minerals

69-05.1-17-01. OFF-PERMIT USE OF OTHER MINERALS. Any operator proposing to utilize and remove other minerals from the permit area should submit a plan to the commission for approval, including at a minimum the following information:

1. Name and address of the applicant.
2. Identification of the other minerals to be removed and utilized in nondetrimental manner.
3. A map showing the location of the other minerals to be removed and identification of the permit number.
4. The method to be used to remove and transport the other minerals.
5. Any impact the removal will have on the reclamation potential of the area.
6. A description and the location of the proposed use of the other minerals and if the use is temporary or permanent.
7. Chemical and physical characteristics of the other minerals that the commission may require for material other than sand, gravel, and porcelanite.
8. The name and address of the owner or owners of record of the other minerals, as well as proof, consisting of certified copies of the relevant lease agreements, of the operator's legal right to remove the other minerals.
9. A statement identifying all applicable statutory requirements and how the applicant plans to comply with these requirements.
10. An estimate of the volume of other minerals proposed to be removed.

11. Such other information as the commission may require.

History: Effective July 1, 1979.

General Authority
NDCC 38-14.1-03

Law Implemented
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