TITLE 267 – NEBRASKA OIL AND GAS CONSERVATION COMMISSION

CHAPTER 3 – DRILLING, DEVELOPMENT, PRODUCING AND ABANDONMENT

012 GENERAL DRILLING RULES

Unless altered, modified or changed for a particular pool or pools, upon hearing before the Commission, the following shall apply to the drilling of all wells:

012.01 When drilling where high pressures are likely to exist, the operator shall take all reasonable precautions for keeping the well under control at all times and shall provide at the time the well is started proper high pressure fittings and equipment. Under such conditions, the conductor string of casing must be cemented throughout its length, unless other procedure is authorized by the Director or authorized agent, and all strings of casing must be securely anchored.

012.02 In areas where pressures and formations are unknown, sufficient surface casing shall be run to reach a depth below the base of formations generally contributing water supplies for domestic, agricultural and municipal use as well as water bearing formations reasonably expected to be utilized for domestic, agricultural and municipal use if not presently utilized. The amount of surface casing run shall be approved by the Director or authorized agent and sufficient to prevent blowouts and uncontrolled flows at reasonable depths and of sufficient size to permit the use of an intermediate string or strings of casing where necessary to control deeper blowout or uncontrolled flow sources. Surface casing shall be set in a relatively impervious formation and shall be cemented by the plug or displacement or other approved method with sufficient cement to fill the annulus to the top of the hole except in cases where unusually long strings of surface casing are required and approval is secured from the Director or his authorized agent to use other adequate methods of cementation.

012.03 In wells drilled in areas where subsurface conditions are known through drilling experience, surface casing shall be set at a depth approved by the Director or authorized agent and cemented to the surface by the pump and plug or displacement or other approved methods at a depth sufficient to protect all domestic, agricultural or municipal water supplies and to insure against blowouts or uncontrolled flows.

012.04 Cement shall be allowed to stand under pressure until the cement has reached a compressive strength of five hundred (500) pounds per square inch before drilling the plug. The term "under pressure"

as used herein, will be complied with if one float valve is used or if pressure is otherwise held. All cement and cement additives used shall have been tested in accordance with API RP 10B-2 (R2010), "Recommended Practices for Testing Oil-Well Cements and Cement Additives," and the results reported to the Director prior to use.

012.05 In all proven areas, the use of blowout equipment shall be in accordance with the established practice in the area.

012.06 In areas where high pressures may be reasonably anticipated, all drilling wells shall be equipped with a master-gate or its equivalent, an adequate blowout preventer, together with choke and kill line or lines of the proper size and working pressure. The entire control equipment shall be in good working condition at all times.

012.07 If a well is deepened for the purpose of producing oil and gas from the lower stratum, such deepening to and completion in the lower stratum shall be conducted in such a manner as to protect all upper productive strata.

012.08 All wells shall be so drilled that the horizontal distance between the bottom of the hole and the location at the top of the hole shall be at all times at a practical minimum.

012.09 If and when it becomes necessary to run a production string, such production string shall be cemented by the pump and plug method.

012.10 By approved reasonable methods, the operator shall shut off and exclude all alien water from any oil or gas bearing stratum; and to determine the effectiveness of such operations, the operator shall make a casing test before suspending drilling operations or drilling into the oil or gas bearing stratum and completing the well.

012.11 Before commencing to drill, proper and adequate pits shall be constructed for the reception and confinement of mud and cuttings. Reserve pits used in the drilling and completion of oil and gas wells shall be designed and constructed to protect the surface and the waters of the state from pollution.

For all reserve pits the minimum criteria shall be as follows:

- Minimum of two (2) foot freeboard is required.
- All topsoil shall be stockpiled on or adjacent to the location and be used for reclamation after drilling operations have been completed when practical.

- Reserve pits shall not contain, at anytime, any non-exempt E&P waste.

The Commission may administratively approve field-wide or area-wide applications covering drilling reserve pit design and construction.

012.12 For those reserve pits located within one-half (1/2) mile of surface waters of the state, the operator shall meet the requirements set forth in Section 012.11. Additionally, an application filed with Form 2 shall include:

- Drilling location layout plan.
- Pit size.
- Type of mud program.
- Anticipated time pit will be in use.
- Scaled topographic map showing the surface drainage and distance to any lakes, rivers, streams or springs.

012.13 If salt based or oil based muds are used during the drilling program or if a salt section of sufficient thickness to affect the mud quality is anticipated, then the reserve pit design and construction shall meet the requirements of this rule and an application shall be submitted along with Form 2 for approval. Minimum design criteria shall be as follows:

- Steel working tanks will be required on the drilling rig circulating system.
- Reserve pits shall be designed to accommodate those fluids while protecting the lands and waters of the state.
- Soil mixture liners, recompacted clay liners and manufactured liners must be compatible with the wastes contained.
- The application shall include the type and specifications of the liner to be used. All liners constructed of manufactured materials must meet or exceed the specifications set forth by the Commission.
- Synthetic liners must be installed over smooth fill sub-grade which is free of pockets, loose rocks, or other materials which could damage the liner. Sand, sifted dirt, or bentonite are suggested as cushion material if needed.

- The application shall contain a plan for disposal of liquids and solids.
- Liner edges must be secured to prevent wind damage.

The Director or authorized agent may authorize alternative methods upon review of the application.

012.14 All pits shall be backfilled within one year after completion of drilling operations.

The disposal of drilling fluids, stimulation fluids or any oil field waste into any well shall be prohibited unless approved by the Director prior to disposal.

Within thirty (30) days after cessation of drilling operations, non-exempt E&P waste materials including but not limited to crankcase oil shall be contained in non-leaking containers and disposed of in accordance with DEQ or any applicable federal regulations.

In those areas where acceptable, and upon application and approval, land farming or land spreading of fresh water based drilling mud may be allowed on the lease with the written permission obtained from the landowner and submitted to the Director.

012.15 After the reserve pits have been properly backfilled, a biodegradable mulch may be required if soil erosion or the establishment of vegetation is determined to be a problem by the Director or authorized agent.