15A NCAC 05H .XXX1 EXPLORATION AND PRODUCTION WASTE MANAGEMENT

Any person, firm, or corporation shall manage, control and dispose of all non-domestic exploration and production waste including drill cuttings, brines, drilling fluids, stimulation fluids, well servicing fluids, production fluids, produced water, residual waste(s), encountered water and free hydrocarbons resulting from the exploration, development, production or storage of oil or gas, the transportation of oil or gas, the treatment of oil or gas, or the refinement of oil or gas in a manner that prevents pollution to the land and the waters of the state in accordance with G.S. § 113-390 and § 113-391.

15A NCAC 05H .XXX2 DEFINITIONS

The terms used in this Subchapter shall have the definitions assigned by G.S. §113-389. In addition, the words defined in this Rule shall have the following meanings:

(1) "Barrel" means 42 U.S. gallons at 60° F at atmospheric pressure.

(2) "Discharge" shall mean the release, overflow, leakage or seepage of any fluids associated with the drilling and operation of an oil or gas well covered herein.

(3) "Closed-loop system" means a system that uses aboveground tanks for the management of drilling and production fluids without using below grade tanks or pits.

(4) "Effluent" shall have the meaning assigned to it in 15A NCAC 02T.0100.

(5) "Exploration and Production (E&P) Waste" means wastes associated with the exploration, development and production of oil or gas and are not regulated by the provisions of the Federal Resource Conservation and Recovery Act Subtitle C, and may include, but are not limited to the following: produced brine, sand, and water; drill cuttings; oil-based and water-based drilling fluids; completion, hydraulic fracturing, and workover flowback fluids; rainwater from firewalls and pits at drilling and production facilities; and any other deposits or residuals removed from piping and equipment and packing fluids during exploration and production activities. E&P waste does not mean unused chemicals, fracturing fluids or acids; cleaning solvents, spilled materials, waste compressor oil, radioactive tracer wastes, or any other wastes not associated with the exploration and production of oil and gas.

(6) "Flowback Fluid" means any of a number of liquid and gaseous fluids and mixtures of fluids, chemicals or solids consisting of drilling fluid, silt, sand and other proppants (for example resin and ceramic grains), debris, water, brine, oil, paraffin or other materials that are removed from the well bore during the initial completion or recompletion of a well, or other additives that flow from a well following hydraulic fracturing of a well.

(7) "Pit" shall mean any natural or man-made depression in the ground used for oil or gas exploration or production purposes. Pit does not include steel, fiberglass, concrete or other similar vessels which do not release their contents to surrounding soils and shall include the following types:

(a) "Circulation Pit" means a pit used during drilling in which drilling fluids are circulated during drilling operations. A circulation pit may be part of a mud pit;

(b) "Completion Pit" means a pit used for storage of completion flowback fluid and drilling fluids or other materials that have been cleaned out of the well bore during the initial completion of a well. Circulation or mud pits may be used as a completion pit when drilling operations conclude;

(c) "Emergency Pit" means a pit used for containing fluids at an operating well during an actual emergency and for a temporary period of time;

(d) "Mud Pit" means a pit used during drilling in which fluids are mixed and circulated during drilling operations;

(e) "Permanent pit" means a pit used for the collection, retention or storage of produced water or brine, that is constructed with the conditions and for the duration provided in its permit, and that is not a temporary pit;

(f) "Reserve Pit" means a pit that is not part of the active circulation system, used to store drilling fluids or to contain fluids generated during drilling operations. Such fluids may include cuttings, drilling fluids and produced water;

(g) "Test Pit" means a pit constructed for use during a well test; and

(h) "Workover Pit" means a pit used to contain fluids during the performance of remedial operations on a producing well in an effort to increase production.

(8) "Pollution" means contamination or other alteration of the physical, chemical or biological properties of any land or waters of the state, or discharge of any liquid, gaseous or solid substance on land or in any waters of the state that will, or is likely to, render the land or waters harmful, detrimental, or injurious to public health, safety or welfare; to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, animals, birds, fish or other terrestrial or aquatic life.

(9) "Produced water" means the water that exists in subsurface formations and is brought to the surface during oil and gas production.

(10) "Residuals" as defined in 15A NCAC 02T .0100.

(11) "Tank" shall mean a stationary vessel that is used to contain fluids, constructed of non-earthen materials (e.g. concrete, steel, plastic) that provide structural support.

(12) "Tophole water" means water that is brought to the surface while drilling through the strata containing groundwater or water that is from a body of surface water.

(13) "Transport" means the movement of wastes from the point of generation to any intermediate points, and finally to the point of ultimate storage or disposal.

(14) "Waste" as defined in § 113-389 (15) and § 143-213(18).

15A NCAC 05H .XXX3 EXPLORATION AND PRODUCTION WASTE MANAGEMENT REQUIREMENTS

(a) Prior to generation of waste(s) associated with exploration and production, the well operator shall prepare and obtain an approved exploration and production waste management plan under § 113-390 and § 113-391 for the management, control, and disposal of fluids, residual waste(s) and drill cuttings, including brines, drilling fluids, additives, drilling muds, stimulation fluids, well servicing fluids, oil and production fluids from the drilling, alteration, production, plugging or any other activity associated with an oil and gas well or wellpad.

(b) The plan shall be designed by a professional engineer (P.E.) and shall identify the management, control, and disposal methods or practices to be utilized by the well operator, and must be consistent with these rules and other existing rules in the state. The plan shall include the storage and handling of wastewater, residuals, solid wastes and any other non-hazardous and hazardous wastes related to exploration and production activities.

(1) Well operator shall indicate if wastewater produced onsite will be reused at the permitted oil or gas well, reused at other permitted oil or gas wells, or if the wastewater, and any residuals, will be treated at an offsite permitted facility for disposal; and

(2) If wastes are to be taken to an offsite permitted facility, the operator must follow the facilities direction and rules for waste handling.

(c) The well operator shall revise the plan prior to implementing any changes to the practices identified in the approved plan;

(d) A copy of the approved plan shall be available at the well site during drilling and completion activities to staff of the Department upon request; and

(e) A list of local emergency contact phone numbers for where the well site is located shall be included in the plan and be prominently displayed at the well site during exploration, drilling, completion and alteration activities.

15A NCAC 05H .XXX4 CONSTRUCTION REQUIREMENTS FOR PITS

(a) The well operator shall contain all substances and wastes from the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank, or series of pits and tanks;

(b) The well operator shall install or construct and maintain the pit, tank or series of pits and tanks in accordance with the following requirements:

(1) The location of pit(s), tanks(s), or series of pits and tanks shall be chosen with reasonable consideration to maximize the distance from surface waters and in accordance with any setbacks as required in rule (SETBACK RULES). Pit or tank construction in streams, creeks, lakes, or any other water bodies is prohibited;

Comment [D1]: DWQ- 2T setbacks are in 02T .0506(b). (JR)

(2) The pits shall be constructed and maintained with sufficient capacity to contain all pollutional substances and wastes which are used or produced during drilling, altering, completing and plugging activities at the well site;

(3) All pits shall be designed, constructed and maintained so that at least two feet of freeboard is available at all times. If open tanks are used, the tanks shall be maintained so that at least two feet of freeboard remain at all times, unless the tank is provided with an

overflow system to a standby tank or pit with sufficient volume to contain all excess fluid or waste.

(4) If subsection (3) is violated, the well operator shall notify the Department and immediately take the necessary actions measures to ensure the structural stability of the pit or tank, prevent spills, and to restore the two feet of freeboard;

Comment [D2]: What measures can be taken to restore freeboard for these systems? Lower the level by pumping (to where?), or pump and haul to a WWTP?

(5) Pits and tanks shall be designed by a P.E., and shall be constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties in accordance with section 05. XX12 of this rule. Closed-loop systems shall be maintained in a leak-free condition. For earthen pits, Form X shall be submitted for approval by the Department prior to the start of construction;

(6) A pit that contains drill cuttings from below the casing seat, polluting substances, wastes or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable and shall comply with the following standards and any standards defined below and in (CONSTRUCTION STANDARDS SECTION). The pit shall be constructed:

(i) With a double thickness of a synthetic flexible liner that has a coefficient of permeability of no greater than 1×10^{-7} cm/sec and with sufficient thickness to maintain the integrity of the liner. The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the waste or ultraviolet light, and that the liner is resistant to failures or damage during transportation, handling, installation and use. Adjoining sections of liners shall be sealed together to prevent leakage in accordance with the manufacturer's directions. The liner shall be trenched and anchored into the top of the berm to a depth sufficient to anchor the liner and at least 18 inches deep;

(ii) With a leak detection zone between the two synthetic liners that can rapidly detect a leak, function without damaging the liners, and be designed to allow an operator to monitor and record any leakage into the zone. The well operator shall provide details of the system, either electrical or piped, that will be installed to detect and monitor any leakage from the pit;

(iii) The liner subbase shall be smooth, uniform and free from debris, rock and other material that may puncture, tear, cut or otherwise cause the liner to fail. The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without causing settling that may affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other materials that may cause the liner to fail, a subbase of at least six inches of soil, sand or smooth gravel, or sufficient amount of an equivalent material, shall be installed over the area as the subbase for the liner;

(iv) The well operator shall provide a berm around the pit to prevent stormwater flow from entering the pit. The internal slopes of the berm or pit shall not be any steeper than 2:1 (horizontal: vertical); the outer slopes of any berm slope may not be any steeper than 3:1(horizontal: vertical);

the bottom of the pit shall be at least 20 inches above the seasonal high groundwater table, unless the well operator obtains approval under subsection (c) for a pit that exists only during dry times of the year and is located above groundwater;

(v) if a liner becomes torn or otherwise loses its integrity, the pit shall be managed to prevent the pit contents from leaking from the pit. If repair of the liner or construction of another temporary pit is not practical or possible, the pit contents shall be removed and disposed at an approved waste disposal facility or disposed on the well site in accordance with a land application permit that has been approved by the Division of Water Quality; and

(vi) if the liner drops below the two feet of freeboard, the pit shall be managed to prevent the pit contents from leaking from the pit and the two feet of lined freeboard shall be restored.

(c) The well operator may request to use practices other than those specified in subsection (b) that provide equivalent or superior protection by submitting a request to the Department for approval. The request shall be made on forms provided by the Department;

Comment [e3]: Rules review will require that the standards or "equivalent" be defined.

(d) The well operator may request to use solidifiers, dusting, unlined pits, attenuation or other alternative practices for the disposal of uncontaminated drill cuttings by submitting a request to the Department for approval. The request shall be made on forms provided by the Department

and shall demonstrate that the practice provides equivalent or superior protection to the requirements of this section; and

(e) The plan for a closed-loop system shall use appropriate engineering principles and practices and follow applicable manufacturers' requirements. The plan shall include operating and maintenance procedures and a closure plan. The plan for a closed-loop system may incorporate by reference a standard design for multiple projects that the well operator files with the application or has previously filed with the Department. If the well operator proposes to bury any components associated with a closed-loop system in an on-site trench, the well operator shall provide sufficient information and detail on the site's topography, soils, geology, surface hydrology and groundwater hydrology to enable the Department to evaluate the actual and potential effects on soils, surface water and groundwater and compliance with the siting criteria and any setbacks.

15A NCAC 05H.XXX5 EXISTING PONDS/PITS USED FOR THE CONTROL, STORAGE AND DISPOSAL OF EXPLORATION AND PRODUCTION WASTES

(a) For ponds or pits in existence prior to this rule, the well operator may request approval for an alternate method of satisfying the requirements of this rule relating to control, storage and disposal of exploration and production waste(s) in 15A NCAC 05H .XXX4 and REF CONSTRUCTION STANDARD RULES by demonstrating to the Department's satisfaction, by the use of monitoring wells or other methods approved by the Department, and that the method will provide protection equivalent or superior to that provided by 15A NCAC 05H .XXX4; and

(b) No existing ponds or pits can be used by the well operator to store waste(s) unless approval is granted by the Department prior to the pond or pit being used to store waste(s).

15A NCAC 05H .XXX6 EARTHEN PIT CLOSURE REQUIREMENTS FOR WATER BASED FLUIDS DISPOSAL AND DRILL CUTTINGS

(a) Water-based drilling fluids or produced water stored in the pits shall be removed to the maximum extent practical using pumps or similar equipment at the time of pit closure, and shall be disposed of in one of the following manners:

(1) land applied in accordance with an approved land application permit in accordance with 15A NCAC 02T;

Comment [e4]: What is protection and protection of what? What requirements? The requirement ot have a double liner, hard to beat that.

Comment [D5]: I'm not sure if this in conflict with 02T .1000 Closed Loop recycle systems. If this is not a wastewater than it is fine. If the tanks are closed to rain than it is likely deemed permitted even if it does fall under 02T purview.. (JR)

(2) disposal of fluid into approved NPDES or state permitted facility;

(3) water-based drilling fluids exhibiting high viscosity due to high solids concentration may be solidified or stabilized by use of solidifiers, or by combining with available native soils and placed on the property in accordance with 15ANCAC 13B .0562. The well operator is responsible for ensuring the native soils are properly mixed to prevent any discharge; or

(4) by any other method approved by the Department.

(b) The well operator shall notify the Department 48 hours prior to commencing pit closure activities so that the Department can schedule to be onsite during pit closure;

The well operator shall take measures to ensure that drilling fluids and production fluids that are removed from the well site are properly transported to and disposed of, recycled, or reclaimed at a permitted site or facility;

(c) Any synthetic liner used shall be removed to the fullest extent practicable and properly disposed of. If any liner material cannot be removed, it shall be shredded, or penetrated, so that the base of the pit can be disked, will not create any subsurface hazard, and will promote groundwater flow through it;

(d) The oil and grease content of the material to be buried in situ shall be less than three percent (3%) by dry weight;

(e) The pit shall be returned to grade, reclaimed and seeded within a reasonable amount of time, not to exceed 180 days, after the drilling or workover rig is removed from the site; or in the case of a multiple wells at a well site, within 180 days after the drilling or workover rig utilized for the last well to be drilled from the wellpad is removed, during which period the reserve pit shall be maintained in accordance with the provisions of this rule. Vegetative coverage of seventy-five percent (75%), or equivalent to the surrounding landscape, whichever is less, shall be obtained within 180 days of pit closure unless otherwise approved in writing by the Department. Until vegetation is established, the well operator is responsible for maintaining an effective stormwater erosion and sediment control plan;

(f) The well operator shall submit a signed copy of the "Notice of Pit Closure" to the Department within 30 days after the pit closure has been completed; and

(g) The well operator shall remove or fill the pit within 180 days after completion of the last permitted well on the wellpad, or in accordance with an extension granted by the Department.

Comment [D6]: DWQ- What is the threshold for "high viscosity" and "high solids content"? I don't think we would allow this for any 2T-permitted system. I know we wouldn't for animals.

Comment [WU7]: Shouldn't the fluids be tested before and the mixed soil after to ensure and document that contamination does not remain after mixed soil is buried in situ /left in place? (Betty Wilcox, DWQ-APS)

Comment [WU8]: See comment [WU6]. Are other tests needed to identify and define contaminant limits? At a minimum, reference 15A NCAC 05H.XX13(d)(3) constituents listed in "baseline rules". (Betty Wilcox, DWQ-APS)

Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 days of construction.

15A NCAC 05H .XXX7 EARTHEN PIT CLOSURE REQUIREMENTS FOR OIL- OR SYNTHETIC-BASED DRILLING FLUIDS AND DRILL CUTTINGS

(a) Oil-based and synthetic drilling fluids shall be removed from the pit for reuse on site or hauled to a permitted landfill for disposal. Alternative disposal methods may be used when approved by the Department. Fluids may also be transferred to tanks for reuse at another well location. The well operator shall inform the Department of the location of the disposal or transfer of the oil-based or synthetic drilling fluids or cuttings. Contaminated drill cuttings shall be disposed of at a municipal solid waste (MSW) facility after appropriate waste characterization has been conducted;

(b) If oil-based drilling fluids are used during exploration and production, additional analytical and handling procedures approved by the Department shall be required. The well operator shall test the soils beneath the permanent pit to determine whether a release has occurred in accordance with subsection (c) below;

Comment [WH9]: Just as a note, when we write rules for pit standards, perhaps we should require that a pit used for storing fluids or wastes NOT be constructed within bedrock. Fractured bedrock would serve as a "pipeline" to groundwater. Then again, a good liner still might be safe enough… Just a thought for later…

(c) The well operator shall notify the Department 48 hours prior to commencing pit closure activities so that the Department can schedule to be onsite during pit closure;

(d) The well operator shall collect, at a minimum, a five point, composite sample if there are no wet or discolored areas, or any other indications of a release; or collect individual grab samples from any area that is wet, discolored or showing other evidence of a release;

(1) The sample(s) shall be analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH), and if requested by the Department, chlorides, bromides and sulfates, according to approved EPA and Department methods (15 NCAC 02L. 0412; Insert Cl Ref);

(2) If concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) exceed the soil to groundwater maximum contaminant concentrations, listed by the Division of Waste Management at http://portal.ncdenr.org/c/document_library/get_file?uuid=ad84a424-64a3-423c-a34c-8faeb9ffc27b&groupId=38361, or the background concentration if established, then the Department may require additional delineation upon

review of the results to ensure compliance with other applicable environmental regulations for soil and water contamination.

(e) Any synthetic liner used shall be removed to the fullest extent practicable and properly disposed of. If any liner material cannot be removed, it shall be shredded, or penetrated, so that the base of the pit can be disked, will not create any subsurface hazard, and will promote groundwater flow through it;

(f) The well operator shall ensure that all soil that exceeds limits established in (c) is removed from the pit and properly transported to and disposed of, recycled, or reclaimed at a permitted municipal solid waste landfill; site or facility;

(g) The compacted soil along the bottom of the pit shall be disked and the pit then filled with native materials and covered with topsoil at depths consistent with adjoining onsite areas, with the contour mounded or sloped to discourage erosion and restored as close to the original contours as is practicable. Topsoil and native materials removed during pit construction may be preserved and used during closure;

(h) The area shall be returned to grade, reclaimed and seeded within a reasonable amount of time not to exceed 180 days after the drilling rig is removed from the site. Vegetative coverage of 75%, or equivalent to the surrounding landscape, whichever is less, shall be obtained within 180 days of closure unless otherwise approved in writing by the Department. Until vegetation is established, the well operator is responsible for maintaining an effective erosion and sediment control plan; and

(i) The well operator shall submit the Notice of Pit Closure to the Department within 30 days after pit closure has been completed.

Comment [D10]: DWQ- See notification comment above.

15A NCAC 05H .XXX8 OFF-SITE DISPOSAL OF WASTE(S)

Any wastes that are not able to be disposed of onsite due to particulate or chemical constituents shall be transported, disposed of, or treated at a facility permitted to receive the exploration and production waste in accordance with 15A NCAC 13B.

15A NCAC 05H .XXX9 NATURALLY OCCURRING RADIOACTIVE MATERIALS

A well operator shall ensure compliance with all applicable rules and regulations related to naturally occurring radioactive materials (NORMs) in accordance with 15A NCAC 11.

15A NCAC 05H .XX10 SPILLS AND RELEASES

(a) Spills and releases of exploration and production waste, including drilling and production fluids, shall be controlled and contained immediately upon discovery to protect the environment, public health, safety, welfare and wildlife resources. Impacts resulting from spills and releases shall be investigated and cleaned up as soon as practicable;

(b) The Department may require additional activities to prevent or mitigate threatened or actual significant adverse environmental impacts on any air, water, soil or biological resource, or to the extent necessary to ensure compliance with other applicable environmental regulations for soil and water contamination;

(c) The following reporting requirements apply to reportable spills and releases:

(1) Spills and releases of any exploration and production waste or produced water exceeding a volume of one (1) barrel, including those contained within lined or unlined berms, shall be reported on FORM X: Spill and Release Report;

(2) Spills and releases that exceed a volume of 20 barrels of any exploration and production waste shall be verbally reported to the Director as soon as practicable, but not more than 24 hours after discovery.

(3) Spills and releases of any size that impact, or threaten to impact, any waters of the State, residence or occupied structure, livestock or public byway shall be verbally reported to the Director as soon as practicable, but not more than 24 hours after discovery;

(4) Spills and releases of any size that impact or threaten to impact any surface water or water supply area shall be reported to the Director and the appropriate local county officials as indicated on the emergency contact list. Spills and releases that impact or threaten to impact a surface water intake shall be verbally reported to the emergency contact for that facility within 2 hours of the discovery. This initial notification shall include a description of actions to be taken to mitigate the spill and release;

(5) For all reportable spills, the well operator shall submit FORM X: Spill and Release Report, no more than 5 days after discovery. The report shall include an 8 1/2 by 11 inch topographic map showing the location of the spill, color photographs of the affected area,

a description of the initial mitigation, site investigation, and any additional remediation needed. The Director may require additional information or remediation;

(6) Well operator shall determine the cause of all spills and releases, and shall implement measures to prevent spills and releases due to similar causes in the future; and

(7) Chemical spills and releases shall be reported in accordance with applicable state and federal requirements, including the Emergency Planning and Community Right-to Know Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conversation and Recovery Act and the Clean Water Act, as applicable.

(d) The well operator shall notify the affected surface owner or the surface owner's appointed tenant of reportable spills and releases as soon as practicable, but not more than 24 hours, after discovery. The well operator also shall make good faith efforts to notify and consult with the affected surface owner, or the surface owner's appointed tenant, prior to commencing operations to remediate exploration and production waste from a spill or release in an area not being utilized for oil and gas operations;

Comment [D11]: DWQ- Any requirements to notify downstream water intake owners if it gets to surface waters?

(e) When threatened or actual significant adverse environmental impacts on any air, water, soil or other environmental resource from a spill or release exist or when necessary to ensure compliance with groundwater standards and classifications, the Director may require the well operator to submit a "Site Investigation and Remediation Work Plan," Form X. Such spills and releases shall be remediated in accordance with Rules 05H.0X10; and

(f) Prevention of spills and releases in the form of secondary containment shall be of sufficient capacity to contain the contents of the largest single tank and sufficient freeboard to contain any overflow precipitation. Secondary containment structures shall be sufficiently impervious to contain discharged material. The well operator is also subject to tank and containment requirements under Rules 05H.0XXX. This requirement shall not apply to water tanks with a capacity of 50 barrels or less.

Comment [RC12]: The typical frac tank is 500 bbl, of fresh water, would that require secondary containment?

15A NCAC 05H .XX11 TRANSPORTATION OF WASTES

(a) Well operators shall dispose of gas and oil field waste by transfer to an appropriate permitted solid waste management facility in accordance with 15A NCAC 13B or applied to a Department-authorized beneficial use;

(b) Well operators may transport recovered drilling fluids to other drill sites for reuse provided that such fluids are transported and stored in a manner that does not constitute a hazard to water resources, public health, safety or the environment in accordance with 15A NCAC 13B .0105;

(c) Exploration and production waste, when transported off-site for treatment or disposal, shall be transported to facilities authorized by the Department or waste disposal facilities permitted to receive exploration and production waste by the Department in accordance with 15A NCAC 13B. When transported to facilities outside of North Carolina for treatment or disposal, exploration and production waste shall be transported to facilities authorized and permitted by the appropriate regulatory agency in the receiving state;

(d) Generators of exploration and production waste that is transported offsite shall maintain, for no less than five years, copies of each invoice, bill or ticket and such other records as necessary to document the following requirements:

(1) date or dates of the transport;
(2) identity and location where the waste was generated;
(3) identity of the waste transporter;
(4) location of the waste pickup site;
(5) type and volume of waste; and
(6) name and location of the treatment or disposal site, with signature of receiving party.

(e) Such records shall be signed by the transporter, made available for inspection by the Director during normal business hours, and copies thereof shall be furnished to the Director or the Director's representative on request.

Comment [D13]: DWQ- Should trucks have identifying company info and have placards indicating they are hauling well wastes such as brine? Check w/DOT? (D M Rogers)

15A NCAC 05H .XX12 SAFETY AND SECURITY AT PITS

(a) The well operator shall construct and maintain fencing, or an enclosure, around any pit or tank in a manner that prevents unauthorized public access. Fences are not required if there is an adequate surrounding perimeter fence that prevents unauthorized access to the well site or facility, including the pit(s) or tank(s).

(1) Fencing shall comply with 15A NCAC 05H .XXXX (*refer to the fencing portion of the wellhead rules*). During drilling or workover operations, the well operator is required to fence the entire perimeter of the pit adjacent to the drilling or workover rig;

(b) The well operator shall fence or enclose any pit or tank located within 1,000 feet of a permanent residence, school, hospital, institution or church with a chain link security fence, at least eight feet in height with at least three strands of barbed wire at the top. The well operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site. During drilling or workover operations, the well operator is not required to fence the edge of any temporary pit adjacent to the drilling or workover rig;

(c) The well operator shall fence any other pit or tank areas to exclude livestock with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level. The Department may approve an alternative to this requirement if the well operator demonstrates that an alternative provides equivalent or better protection. The Department may impose additional fencing requirements for the protection of wildlife in particular areas; and

(d) The well operator shall ensure that a permanent pit or a permanent open tank is screened, netted or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting or screening is not feasible, the well operator shall on a monthly basis inspect for and, within 10 days of discovery, report discovery of dead migratory birds or other wildlife to the Department in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring. Any netting or screening installed must comply with the Migratory Bird Treaty Act.

Comment [TSO14]: We may want to say something about how they also need to comply with the federal Migratory Bird Treaty Act.

15A NCAC 05H .XX13 MONITORING AND REPORTING

(a) The well operator shall monitor all exploration and production waste storage and disposal structures and facilities onsite for compliance with the approved exploration and production waste management plan approved under this rule;

(b) The well operator shall inspect any pit or tank after a rain event of one-half (0.5) inch in a 24 hour period to ensure structures have not been adversely affected and have the appropriate height of freeboard;

(1) If damage is noted during the course of inspection, it shall be recorded on a monitoring and maintenance log provided by the well operator. The log shall include the date of inspection, name of the inspector, location of damage, if a spill or release was observed, and any necessary repair work along with the date of completion of any repairs; and

(2) If the damage results in a spill or release, the well operator shall comply with the requirements for reporting, repair, and remediation in accordance with 15A NCAC 05H .XX10.

(c) If any pits are to remain onsite more than 90 days following the completion of all wells permitted at the wellpad, or for future re-stimulation of any well onsite, the well operator shall provide at least three monitoring wells, one up gradient and two down gradient of the pit that will remain onsite until the pits are closed, to ensure there is no leakage due to the degradation of the liner from longer term storage of waste water. In such a case:

(1) The monitoring wells shall be installed according to 15A NCAC 02C.1000;

(2) The bond amount for the pits cannot be returned until the pits meet the pit closure requirements of both 15A NCAC 05H .XXX6 and NCAC 05H .XXX7 and until the monitoring wells have been properly abandoned according to both 15A NCAC 02C.0113 and 15A NCAC 02C.0114; and

(3) The monitoring well(s) shall be sampled and analyzed for the chemical constituents outlined in the first and second round water supply sampling rules;

(i) If any contamination is detected, the operator must notify the Department in writing within 10 days of the receipt of the analytical results.

(ii) The Department may require additional sampling of remediation.

(d) The well operator shall submit an annual report to the Department no later than April 1 of each year for the previous calendar year. The annual waste management report shall include:

(1) The quantity of drill cuttings that have been disposed onsite or disposed at offsite solid waste landfills.

(i) If cuttings are disposed onsite, the well operator shall indicate the location of the disposal site on a surveyed site map. This map shall be recorded and filed with the County Register of Deeds; and

(ii) If drill cuttings are disposed of at offsite solid wastes facilities, the report shall indicate the permit number, name and location of the facility.

(2) The monthly quantity in gallons of wastewater fluids produced in the drilling, stimulation or alteration of a well;

(3) Records of when pits were serviced due to inadequate freeboard, and the actions that were taken to restore the 2 feet of required freeboard.

Comment [WH15]: Do we want to require three monitoring wells here? Having three wells would allow for the 3-D phreatic surface to be assessed. Thus, we would actually know the direction of groundwater flow. Install one well in the expected up-gradient direction and two others in the expected down gradient direction. Maybe we'll want the WWM Committee to discuss this one.

(4) Analytical reports for any leak detection monitoring wells for the chemical constituents listed in 15A NCAC 05H.XXXX (baseline rules); and

(5) If there are no wells installed at a wellpad for a given year, the well operator shall still file the annual report documenting waste and wastewater for a given well or wellpad.

15A NCAC 05H .0X14 VARIANCE AUTHORITY

(a) The Department may grant a variance from any construction standard under sections 05H .0XX3-0XX13. Any variance shall be in writing, and shall be granted upon written application to the Department by the well operator of the well for which the variance is sought, if the Department finds facts to support the following conclusions:

(1) The requested variance to deviate from the standards and rule will provide the same level of protection; and

(2) Construction in accordance with the standards was not technically or economically feasible.

(b) The Department may require the variance applicant to submit such information as the Department deems necessary to make a decision to grant or deny the variance. The Department may impose such conditions on a variance deemed necessary to protect human health and welfare and all water resources. The findings of fact supporting any variance under this Rule shall be in writing and made part of the variance.

(c) The Department shall respond in writing to a request for a variance within 30 days from the receipt of the variance request.

(d) An applicant for a variance who is dissatisfied with the decision of the Department may commence a contested case by filing a petition under G.S. 150B-23 within 60 days after receipt of the decision.