15A NCAC 05H .0XX1 BASELINE AND SUBSEQUENT TESTING REQUIREMENTS

This Section establishes requirements for the pre-drilling testing of water supplies, for the testing of water supplies after production has commenced, and for the reporting of data collected from the testing where drilling operations are proposed to occur.

History Note: *Authority113-391(a)(4)*

Eff.

15A NCAC 05H .XXX2 DEFINITIONS

(1) "Contaminant" means any substance occurring in groundwater in concentrations which exceed the groundwater quality standards specified in Rule 15A NCAC 02L .0202.

(2) "Tracer technology" means technology used to trace hydraulic fracturing fluid back to the well where the fluid was injected.

History Note: *Authority 113-423(f); 113-391(a)(5)b; 113-391(a)(4)*

Eff.

15A NCAC 05H .0XX3 WATER SUPPLY TESTING

(a) A permittee shall provide written notice to all surface owners or owners of a water supply, as defined in §113-389, within a radius of 5000 feet of a wellhead pursuant to §113-420(a) and 113-421(a). The written notice shall include the following:

(1) A statement of the permittee's intent to perform testing of water supplies prior to drilling an oil or gas well;

(2) A statement explaining that if the surface owner or owner of the water supply refuses the permittee access to conduct pre-drilling testing of the water supply, then such refusal may be used as evidence to rebut the presumption of liability established by §113-421(a); and

(3) The name, address, and telephone number of the Department, to which the surface owner or owner of the water supply may respond.

(4) A surface owner may elect to have the Department sample wells located on their property, in lieu of sampling conducted by the oil or gas developer or operator, in which case the developer or operator shall reimburse the Department for the reasonable costs involved in testing of the wells in question. Nothing in this subsection shall be construed to preclude or impair the right of any surface owner to refuse pre-drilling testing of wells located on their property.

Comment [AP1]: Is the intent to require notice be given for subsequent testing? Or is this just pre-drilling?
14 days for non-land disturbing activities – from SL 2012-143.
How many notices are requires; subsequent testing notifications.

Comment [AP2]: NOT for Rules: But shouldn't this include (1) The identity of the operator or developer making the request (2) the nature of the proposed action (an explanation of who is to perform the test and what they are testing for) (3) the timing and duration of the proposed tests, e.g., access for one time? Multiple times?

(b) A permittee shall provide written notice to the Department if a surface owner or water supply owner refuses to allow access to conduct pre-drilling testing. The written notice must include the following:

(1) The name, address, and telephone number of the permittee;

(2) A statement of intent to conduct pre-drilling testing of the water supply;

(3) The name of the person or firm who requested and was refused access to conduct the testing, the date of the request, and a copy of all documentation including that showing the request for access was denied; and

(4) The name, address, and telephone number of the surface owner or owner of the water supply.

(c) All water supplies located within a radius of 5000 feet of the proposed oil or gas well shall be tested prior to initial drilling activities and after production has commenced.

(1) Initial water supply testing shall be conducted no earlier than 12 months but no later than 30 days prior to commencement of drilling activities to establish a baseline;

(2) Subsequent water supply testing shall be conducted at all initial sample locations:

(i) Between 6 and 12 months after production has commenced;

(ii) 24 months after production has commenced until all permitted wells have been completed on a well pad; and

(3) When multiple wells are permitted and constructed at a well pad, initial testing shall be completed prior to drilling the initial oil or gas well. The analytical results conducted for the initial well shall serve as the baseline for all future wells drilled at the same well pad.

(4) Water supply testing required hereunder shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Region IV Science and Ecosystem Support Division (SESD) "Operating Procedure for Groundwater Sampling," document number SESDPROC-301-R3, "Operating Procedure for Surface Water Sampling," document number SESDPROC-201-R3, and the U.S. Geological Survey (USGS) "National Field Manual for the Collection of Water-Quality Data," Book 9, Handbooks for Water-Resources Investigations, which are incorporated by reference, including subsequent amendments and editions. These documents, published by the U.S. EPA and USGS, may be obtained online at no charge at http://www.epa.gov/region4/sesd/fbqstp/Groundwater-Sampling.pdf, http://www.epa.gov/region4/sesd/fbqstp/Surfacewater-Sampling.pdf, and http://water.usgs.gov/owq/FieldManual/ or by mail at U.S. EPA, Region 4, Sam Nunn Atlanta Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303 and Office of Water Quality, USGS, 12201 Sunrise Valley Drive, Mail Stop 412, Reston, VA 20192 respectively.

Comment [AP3]: In what time frame?

Comment [AP4]: Could this be the same as providing a copy of the written notice

(5) If a permittee drills an oil or gas well but does not install production casing and has abandoned the well in accordance with the plugging and abandonment requirements outlined in 15A NCAC 05H .0XX17, subsequent testing pursuant to Paragraph (g) of this Rule is not required; and

(6) The Department may require additional testing if the most recent data collected show an increase in concentration from the previous data for any water supply within 5000 feet.

(d) All sample analysis required by this Rule shall be made by a laboratory certified in accordance with 15A NCAC 2H .0800 and pursuant to laboratory analytical procedures that comply with 15A NCAC 02L .0112 and 15A NCAC 02B .0103.

(e) The initial samples collected in accordance with this Rule shall be analyzed for pH, specific conductance, total dissolved solids (TDS), turbidity, alkalinity, calcium, chloride, magnesium, potassium, fluoride, sodium, sulfate, arsenic, barium, boron, bromide, chromium, iron, manganese, selenium, strontium, lithium, lead, zinc, uranium, isotopic radium (^{226}Ra and ^{228}Ra), isotopic strontium (^{87}Sr and ^{86}Sr), trihalomethanes, benzene, toluene, ethyl benzene, xylenes (BTEX), diesel range organics (DRO), gasoline range organics (GRO), total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH) (including benzo(a)pyrene), and dissolved methane, propane, and ethane.

(f) The first series of subsequent samples collected in accordance with this Rule shall include all parameters listed in paragraph (e) of this section.

(g) If the results from the first series of subsequent sampling and testing, listed in paragraph (e) of this section, did not exceed the permissible concentrations outlined in 15A NCAC 02L .0202 and 15A NCAC 02B .0200 then the permittee may sample and test for pH, specific conductance, TDS, chloride, sodium, divalent cations, and dissolved methane, propane, ethane to complete the second series of subsequent sampling and testing in accordance with this Rule.

Comment [AP5]: Possible contradiction with (i)?

(h) If there is an increase in the concentration or the occurrence of any analytes set forth in Paragraph (g) the well operator shall test for those analytes set forth in Paragraph (e) of this Rule.

(i) If any analysis conducted pursuant to this Rule reveals a concentration of dissolved methane greater than 1.0 milligram per liter (mg/l), then a gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen – ^{12}C, ^{13}C, ^{1}H and ^{2}H) to determine the gas type shall be conducted, the results of which shall be reported in accordance with 15A NCAC 05H .0XX4.

History Note: *Authority113-423(f); 113-391(a)(5)b; 113-391(a)(4); 113-413(f)*

Eff.

15A NCAC 05H .0XX4 REQUEST FOR INVESTIGATION OF WATER SUPPLY

(c) Any surface owner or owner of a water supply who suspects contamination as a result of the drilling, alteration or operation of an oil or gas well may notify the Department and request that an investigation be conducted.

(1) The permittee at the request of the Department shall conduct a test of the water supply and provide the analytical results to the Department; and

(2) The Department shall require the permittee to replace a water supply pursuant to §113-421(a4) if the investigation and analytical results indicate that the water supply is contaminated due to the activities of the permittee.

History Note: *Authority113-423(f); 113-391(a)(5)b; 113-391(a)(4)*
Eff.

15A NCAC 05H .0XX5 REPORTING OF TEST RESULTS

(a) An oil or gas permittee shall provide a water supply testing report to the Department, local health department, surface owner(s), and owner(s) of the water supply within 30 business days of receipt of analytical determinations required in this Section. The report shall be sealed by either a licensed geologist or professional engineer and shall include the following information:

(1) The location of the water supply

(2) Name, address, and telephone number of the surface owner or owner of the water supply.

(3) Identification of the certified laboratory at which analyses required by this Section were conducted; the date(s) on which the analyses were conducted, and identification of the technical personnel who conducted such analyses.

(4) A description of where and how the sample was collected and the name of the person who collected the sample.

(5) Field observations to include odor, water color, sediment, bubbles, and effervescence.

(6) A description of the type and age, if known, of the water supply, and water supply treatment, if any.

(7) The name of the permittee, name and number of the oil or gas well, and API number of the oil or gas well.

(8) The complete results of the required analysis, in hard copy as well as in pdf, which shall clearly indicate any exceedance of applicable Maximum Contaminant Levels ("MCLs") for public drinking water, as set forth in 15A NCAC 18C.

History Note: *Authority 113-391(a)(1); 113-391(a)(5)k*
Eff.

15A NCAC 05H .0XX6 RECORD KEEPING AND REPORTING

(a) The Department shall maintain baseline and subsequent analytical data and reports required pursuant to this Section, which will be available to the public through the Department's website.

History Note: *Authority113-391(a)(7); 113-391(a)(5)k*
Eff.

15A NCAC 05H .0XX7 TRACER TECHNOLOGY

(a) The Department shall only approve the use tracer technology for the purposes described in this rule if the tracer technology is effective in tracing hydraulic fracturing fluid back to the well where the fluid was injected and can be used without chemical or radiological impacts to groundwater supplies or other adverse impacts to human health or the environment.

(b) If the permittee uses a tracer technology that the Department has approved under this rule, the tracer technology may be used for the following purposes:

(1) As evidence that hydraulic fracturing fluid from a particular well caused or contributed to an exceedance of the standards set out in 15A NCAC 02L.0202 or 15A NCAC 02B.0200 that is detected as a result of water supply testing required under Rule 5H.0XX3;

(2) To identify hydraulic fracturing fluid from a particular well as the source of contamination detected as a result of an investigation of water supply conducted under Rule 5H.0XX4.

History Note: *Authority113-423(f); 113-391(a)(5)b; 113-391(a)(4)*
Eff.