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

This Section establishes the general and specific requirements for the ~~collection of water supply samples,~~pre-drilling testing of water ~~supply samples~~~~samples~~~~water~~ supplies, for the testing of water supplies after production has commenced, for the~~samples,~~ reporting ~~water supply analytical test~~~~test~~of~~test~~ data collected from the testing, and for air quality ~~source~~ testing ~~where oil and gas drilling, completion, workover or stimulation of wells takes place~~. The provisions of this Rule shall apply to all new oil and gas wells for which an initial drilling permit is issued on or after the effective date of this Rule and in accordance with § 113-391.

15A NCAC 05H .0XX2 WATER SUPPLY ~~SAMPLING AND~~ TESTING

(a) A ~~well~~ developer or operator shall provide written notice to all surface owners or owners of a water supply, as defined in §113-389, within the presumptive liability distance established pursuant to §113-420(a) and 113-421(a). The written notice shall include the following:

(1) The ~~well~~ developer's or operator's intent to perform ~~baseline sampling and~~ testing of water supplies prior to drilling an oil or gas well~~.~~;~~.~~

(2) The ~~well~~ developer or operator may rebut the presumption established pursuant to §113-421(a) if the surface owner or owner of the water supply refuses the ~~well~~ developer or operator or a representative of ~~the well operator~~~~operator~~same~~operator~~ access to conduct pre-drilling ~~sampling and~~ testing of a water supply; and

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

(b) A well operator shall provide written notice to the Department when refusal ~~to rebut the presumption outlined in §113-421(a)~~. The written notice must include the following:

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

(2) The desire to conduct pre-drilling ~~sampling and~~ testing of the water supply;

(3) The name of the person or firm who requested and was refused access to conduct the ~~sampling and~~ testing, the date of the request, and a copy of all documentation proving 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) 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 well operator at the request of the Department shall ~~obtain water~~conduct a test of the water supply ~~supply samples~~ and provide the analytical ~~test~~ results to the Department; and

(2) The Department may require the well operator to replace the water supply or provide an equivalent water supply and shall require the well operator to replace the water supply or provide an equivalent water supply if the investigation analytical results indicate that the water supply well is contaminated due to the activities of the developer or operator.

Comment [CM1]: Is it appropriate to use the term "baseline" as 113-423(f) requires subsequent testing (and the rule requires subsequent testing)

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Comment [CM2]: The reference to the permit should be consistent with the permit rule. What is an "initial" permit?

Comment [CM3]: Statue refers to "testing" not "sampling." Why is reference to "sampling" necessary here? My understanding is that testing involves both sampling and analyzing.

Comment [CM4]: The rule should be consistent with other rules in use of the term "operator" and/or "developer". This comment applies throughout the rule. See NCGS 113-421(a)

Comment [CM5]: The rule should be clear that pre-drilling and subsequent testing is required

Comment [CM6]: What is the intent of this subsection? I do not support the subsection as currently drafted.

Comment [CM7]: This needs clarification. NCGS 113-421(a4) requires the provision of a replacement water supply if contamination occurs.

Comment [CM8]: This needs clarification. NCGS 113-421(a4) requires the provision of a replacement water supply if contamination occurs.

(d) All water supplies located within the presumptive liability distance, established pursuant to §113-421(a), of the proposed oil or gas wellhead shall be ~~sampled and~~ tested prior to ~~commencement of~~~~of~~initial~~of~~ drilling activities as well as after production has commenced.

(1) Initial water supply ~~sampling and~~ 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 ~~sampling and~~ testing shall be conducted at all initial sample locations between 6 and 12 months, and between 18 and 24 months after completion of all permitted oil or gas wells at a well pad;

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

(i) ~~Interim sampling and~~ Additional testing ~~must~~ shall be completed every two years, in accordance with Paragraph (g) of this Rule, if all oil or gas well construction is not completed within 4 years of the installation of the initial oil or gas well~~;~~.~~;~~

(4) The Commission incorporates by reference, including subsequent amendments and editions, "U.S. Environmental Protection Agency (EPA), Operating Procedure for Groundwater Sampling, document number SESDPROC-301-R3" published by the U.S. EPA. This document may be obtained online at no charge at http://www.epa.gov/region4/sesd/fbqstp/Groundwater-Sampling.pdf or by mail at U.S. EPA, Region 4, Sam Nunn Atlanta Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303. The Commission incorporates by reference, including subsequent amendments and editions, "U.S. EPA Region IV SESD Operating Procedure for Surface Water Sampling, document number SESDPROC-201-R3" published by the U.S. EPA. This document may be obtained online at no charge at http://www.epa.gov/region4/sesd/fbqstp/Surfacewater-Sampling.pdf or by mail at U.S. EPA, Region 4, Sam Nunn Atlanta Federal Center, 61 Forsyth Street SW, Atlanta, GA 30303. Water supply ~~sampling~~ testing required hereunder shall be conducted in accordance with the U.S. EPA Region IV SESD "Operating Procedure for Groundwater Sampling," document number SESDPROC-301-R3 and "Operating Procedure for Surface Water Sampling," document number SESDPROC-201-R3.

(5) If a well operator 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 ~~sampling and~~ testing if the most recent ~~analytical results~~~~results~~data collected~~results~~ show an increase in concentration from the previous ~~analytical~~

Comment [CM9]: Are "well" and "wellhead" used interchangeably? If so, then one term should be used consistently throughout.

Comment [CM10]: See NCGS 113-423(f)

Comment [CM11]: I recall that we agreed on 60 months.

Comment [CM12]: What does "completion" mean – cessation of production? Completion of installation?

~~results~~~~results~~data~~results~~ for any water supply within the presumptive liability distance established pursuant to §113-421(a).

(e) ~~A well operator electing to preserve a defense pursuant to~~~~to~~To be adequate for use in rebutting the presumption that arises pursuant to §113-~~423~~421(~~f~~a) any analytical determinations required hereunder shall be made by a laboratory certified in accordance with 15A NCAC 2H .0800~~shall~~~~to §113-423(f) shall retain a laboratory, certified by the state, to analyze all initial and subsequent water supply samples. Laboratory certification shall be in accordance with 15A NCAC 2H .0800 and~~ and pursuant to laboratory analytical procedures ~~shall be pursuant to~~~~to~~that comply with~~to~~ 15A NCAC 02L .0112 and 15A NCAC 02B .0103.

(f) The ~~initial~~ baseline ~~sampling and testing~~ samples collected in accordance with **15A NCAC 05H .0XX2(d)(1)** shall ~~include~~ 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~~,~~.

(g) ~~Subsequent~~~~Subsequent~~The first series of subsequent ~~sampling and testing shall includ~~Seamples collected include all parameters listed in accordance with paragraph (f) of this section.

(h) If the results from the first series of subsequent sampling and testing, listed in paragraph (f) of this section, did not exceed the permissible concentrations outlined in 15A NCAC **05H .0XX2(d)(2)** shall be analyzed for 02L .0202 and 15A NCAC 02B .0200 then the well operator may sample and test for pH, specific conductance, TDS, chloride, divalent cations, and dissolved methane, chloride, and divalent cations~~.~~. to complete the second series of subsequent sampling and testing.

(~~hh~~i) If there is an increase in the concentration or the occurrence of any ~~constituents~~ analytes ~~listed~~ set forth in Paragraph (~~gg~~h) the well operator shall ~~sample and~~ test for ~~all constituents~~~~constituents~~those analytes set forth in~~constituents~~ ~~outlined in~~ Paragraph (~~ff~~g) of this Rule.

(~~i) If~~i) If testing conducted hereunder reveals a concentration of dissolved methane ~~is found to be~~ greater than 1.0 milligram per liter (mg/l) ~~in a water supply sample~~, then a ~~well operator shall direct a certified laboratory to conduct~~ 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**.~~.~~

15A NCAC 05H .0XX3 AIR QUALITY TESTING

(a) All well operators conducting oil and gas exploration, drilling, completion, workover or stimulation of a well shall conduct source testing in accordance with 15A NCAC 02D .2600 if required in a permit issued under 15A NCAC 02Q or as requested by the Director of the Division of Air Quality ~~to determine the compliance status of the source~~.

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Comment [CM13]: To my knowledge, the Committee has not been provided with information requested by Cmr. Pickle that confirms that this is an adequate subset.

Comment [CM14]: This is overly broad. The focus of this rule is baselining water quality. Is the intent to baseline air quality and address on going requirements elsewhere? I support baselining air quality in addition to on going testing, and want to hear from DAQ on this issue.

15A NCAC 05H .0XX4 REPORTING OF TEST RESULTS

(a) ~~A well operator electing to preserve its defenses pursuant to §113-423(f) shall provide~~ To be eligible to to rebut the presumption that arises pursuant to §113-421(a) by relying upon the option set forth in §113-421(a)(1)a, an oil or gas developer ~~a written copy of~~ shall provide a report related to the testing of the water supply ~~all analytical test results~~ to the Department, local health department, surface owner(s),~~owners,~~ and owner(s)~~owners~~ of ~~water supplies~~~~supplies~~the water supply~~supplies~~ within 30 business days of receipt-of analytical determinations required hereunder~~of the results~~. The report ~~describing the results of the water supply sampling and testing~~ ~~must~~~~must~~shall~~must~~ be sealed by either a Licensed Geologist or Professional Engineer and ~~contain~~ shall include the following information:

(1) The surveyed location of the water supply~~,~~ as well as name, address, and telephone number of the surface owner or owner of the water supply.

(2) ~~The~~ Identification of the certified laboratory at which analyses required hereunder are conducted; the date(s) on which the ~~of the test~~~~test~~analyses were conducted~~test~~, ~~the name of the certified laboratory,~~ and ~~the name~~~~name~~identification~~name~~ of the ~~person who conducted the analytical testing~~technical personnel who conducted such analyses.

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

(4) Field observations to include odor, water color, sediment, bubbles, ~~&~~ and effervescence.

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

(6) The name of the well operator, name and number of the oil or gas well, and API number of the oil or gas well.

(7) ~~A complete packet of all laboratory~~~~laboratory~~The~~laboratory~~ ~~analytical test results~~complete results of the analyses required hereunder, ~~to include one paper copy and one electronic copy in PDF format.~~ in hard copy as well as in pdf, which shall clearly indicate any exceedences of applicable Maximum Contaminant Levels ("MCLs") for public drinking water, as set forth in 15A NCAC 18C.

(8) ~~Specific notation showing analytical test results where chemical or biological contaminants are detected above the Maximum Contaminant Levels (MCLs) for public drinking water, as defined in 15A NCAC 18C.~~

(f) All well operators shall ~~keep records of air pollution emissions and reports covering their discharge into the outdoor atmosphere of the state pursuant to 15A NCAC 02D .0600. All well operators shall~~ report source testing results in accordance with 15A NCAC 02D .2600 if required in a permit issued under 15A NCAC 02Q or as requested by the Director of the Division of Air Quality ~~to determine the compliance status of the source~~.

15A NCAC 05H .0XX5 RECORD KEEPING AND REPORTING

(a) The Department shall maintain baseline and subsequent ~~water supply analytical test results~~~~results~~analytical data~~results~~ and reports required hereunder, which will be available to the public through the Department's website.

Comment [CM15]: The lab technician or lab supervisor?

Comment [CM16]: Treatment that occurs before or after the point of sample collection?

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Comment [CM17]: Same comment as above.