
From: Reeder, Tom
Sent: Monday, February 16, 2015 4:03 PM
To: Massengale, Susan; Young, Sarah
Cc: Elliot, Drew; Kritzer, Jamie; Vandervaart, Donald; Evans, John; Reid, Dianne; Brower, Connie; Godreau, Jessica; bob.midgette@ncdenr.gov
Subject: Chrom VI HRE Issue

Importance: High

Susan & Sarah - Sec. van der Vaart spoke with Sec. Wos this afternoon. Afterwards I received a call from Dr. Davies, who is Dr. Shehee's boss. Dr. Davies said that they would be happy to put some language in their communications plan and their HRE regarding the fact that although their "IMAC" for Chrom 6 is 0.07 ppb, that the MCL for total chrom under the Safe Drinking Water Act is 100 ppb and that the customers of many major water systems in NC, including Raleigh and Charlotte, are safely served water where the total chromium level is allowed to be as high as 100 ppb, under federal guidelines and risk equations.

Haven't you already put together some language along those lines? Is so, please send it to me as soon as possible, so I can send it on to Dr. Davies. She wants the language this evening. Also, since I am working from home, send me the language in the body of an e-mail, because this laptop I have doesn't really open up attachments, or at least it doesn't open them the way I try to.

Thanks. My new cell # is 919-630-9241, if you have any questions.

From: Young, Sarah
Sent: Wednesday, March 11, 2015 12:53 PM
o: Zimmerman, Jay; Watts, Debra; Smith, Eric
Subject: FW: Modified language re chromium MCL

From: Young, Sarah
Sent: Tuesday, March 10, 2015 4:56 PM
To: Elliot, Drew
Subject: FW: Modified language re chromium MCL

This is it I believe.

From: Reeder, Tom
Sent: Wednesday, February 18, 2015 1:40 PM
To: Young, Sarah; Massengale, Susan; Kritzer, Jamie
Subject: FW: Modified language re chromium MCL



Tom Reeder
Assistant Secretary for Environment
NC Department of Environment and Natural Resources
919-707-8619
tom.reeder@ncdenr.gov

From: Davies, Megan
Sent: Wednesday, February 18, 2015 1:25 PM
To: Reeder, Tom
Cc: Gerlach, Kendra; Shehee, Mina; Elliot, Drew
Subject: Modified language re chromium MCL

Tom,
I made some adjustments to your suggested language. I took the phrases about the MCL out of EPA factsheets on the SDWA website. I thought it would be good to stick with standard language. Will the following work for you?

"The federal Safe Drinking Water Act approved maximum contaminant level (MCL) for total chromium of 100 micrograms per liter in finished drinking water. The MCL for total chromium was calculated considering the contribution of different forms of chromium including hexavalent chromium. The maximum contaminant levels (MCLs) are the enforceable national drinking water standards. Drinking water that meets these national standards is generally considered safe."

Do you have time this afternoon for a quick call? I want to be sure I understand in which document you envision this wording. Is it the Health Risk Evaluation Form that OEEB will be using to send their HREs to DENR?

I will also forward you a brief communication we plan to send to the local health directors and the local environmental health directors of the counties that have wells that will be tested. That communication is basically a brief "heads up" in case the local health authorities were not aware that Session Law 2014-122 (S729) would affect residents in their jurisdictions.

Let me know when you are free. My only commitment is a meeting from 2 to 2:45.

Thanks,

Megan

Megan Davies, MD
N.C. Department of Health and Human Services
Chief, Epidemiology Section, Division of Public Health
225 North McDowell Street
Raleigh, NC 27699-1902
(Office) 919-733-3421
(Fax) 919-733-0195
Megan.Davies@dhhs.nc.gov
<http://publichealth.nc.gov/>

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From: Shehee, Mina
To: Budo, Ken
Subject: HREs
Date: Friday, March 13, 2015 4:52:19 PM

The MCL chromium statement must be placed on the HRE form before sending out to DENR. If you have not sent them out today, wait to do so until we place the statement on the form. We can send them out to DWR on Monday. If you have already sent them out, send an email to Eric that the corrected HRE forms will be sent on Monday. Please call me at 919.837.5148 or 919.260.2211.

Thanks,
Mina

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From: [Sebes, Mina](#)
To: [Smith, Eric](#); [Watts, Debra](#)
Cc: [Zimmerman, Jay](#); [Davies, Megan](#); [Ruch, Kent](#)
Subject: HRE form
Date: Friday, March 13, 2015 9:14:07 PM

Dear Eric and Debra,

An additional statement about chromium will be added to the HRE form. If I en has already sent some results today, please disregard them. We will resend them on Monday with the appropriate total chromium statement (below). I apologize for the inconvenience. We have been working hard to find the best place to put this statement. It has been determined that the statement would be placed on the HRE form itself. As a reminder the statement is:

"The federal Safe Drinking Water Act approved maximum contaminant level (MCL) for total chromium of 100 micrograms per liter in finished drinking water. The MCL for total chromium was calculated considering the contribution of different forms of chromium including hexavalent chromium. The MCLs are enforceable national drinking water standards. Drinking water that meets these national standards is generally considered safe."

Please contact me for any questions or comments.

Respectfully,

Mina

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From: Sheehan, Mina
To: Zimmerman, Jay
Cc: Davies, Megan; Michael, Larry; Doal, Nancy; Rudo, Ken; Mort, Samsy; Reeder, Tom
Subject: HRE Form with Statement
Date: Saturday, March 14, 2015 6:20:52 PM
Attachments: Final HRC Form Inorganic Analysis Coal Ash 031415.doc

Dear Jay,

Attached is the HRE form with the statement added at the end. To be able to keep the statement on the front page, I had to reduce the font size and manipulate the margins. I am asking that this form be reviewed. Please let me know of any changes. We appreciate your time and effort with this process.

Thank you,
Mina

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Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name: Sample ID #: Address: Reviewer: Sample Date:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ Your well water meets the North Carolina 2L NCAC- Groundwater Standards, or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering.

2. ☐ The following substance(s) exceeded the North Carolina 2L NCAC - Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.

3. ☐ The following substance(s) exceeded the North Carolina 2L NCAC - Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The N.C. Division of Public Health recommends that your well water not be used for drinking and cooking. It is also recommended that bathing and shower times be kept under 10 minutes. The water can be used for washing clothes and dishes.

4. ☐ a. Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory level for sodium of 20 mg/l. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.

5. ☐ Re-sampling is recommended in _____ months.

6. ☐ Re-sample for lead and /or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-122S (Senate Bill 729) 130A-309.209

For further information, please contact Dr. Kenneth Rudo, Environmental/Public Health Toxicologist, in the Occupational and Environmental Epidemiology Branch at 919-707-5900

The Federal Safe Drinking Water Act approved maximum contaminant level (MCL) for total chromium is 100 micrograms per liter in finished drinking water. The MCL for total chromium was calculated considering the contribution of different forms of chromium including hexavalent chromium. The MCLs are enforceable national drinking water standards. Drinking water that meets these national standards is generally considered safe.

Shehee, Mina

From: Shehee, Mina
Sent: Saturday, March 14, 2015 6:22 PM
To: Gerlach, Kendra
Cc: Davies, Megan
Subject: Fw: HRE Form with Statement
Attachments: Final HRE Form Inorganic Analysis Coal Ash 031415.doc

FYI - Health Risk Evaluation Form with the DENR statement added to the end.

From: Shehee, Mina
Sent: Saturday, March 14, 2015 6:20 PM
To: Zimmerman, Jay
Cc: Davies, Megan; Michael, Larry; Deal, Nancy; Rudo, Ken; Mort, Sandy; Reeder, Tom
Subject: HRE Form with Statement

Dear Jay,

Attached is the HRE form with the statement added at the end. To be able to keep the statement on the front page, I had to reduce the font size and manipulate the margins. I am asking that this form be reviewed. Please let me know of any changes. We appreciate your time and effort with this process.

Thank you,

Mina



Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name: Sample ID #: Address: Reviewer: Sample Date:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ Your well water meets the North Carolina 2L NCAC- Groundwater Standards, or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering.

2. ☐ The following substance(s) exceeded the North Carolina 2L NCAC - Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.

3. ☐ The following substance(s) exceeded the North Carolina 2L NCAC – Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The N.C. Division of Public Health recommends that your well water not be used for drinking and cooking. It is also recommended that bathing and shower times be kept under 10 minutes. The water can be used for washing clothes and dishes.

4. ☐ a. Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory level for sodium of 20 mg/l. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.

5. ☐ Re-sampling is recommended in _____ months.

6. ☐ Re-sample for lead and/or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

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2 version of same

To: Shehee, Mina
Subject: FW: HRE Form
Date: Sunday, March 15, 2015 3:01:14 PM
Attachments: Final HRE Form Inorganic Analysis Coal Ash 03152015 - Draft.doc

Mina One last thought. Since we have a statement on our HRE form about MCLs that now seems to contradict the previous statement on our HRE form for the legislation for coal ash well testing that requires 2L standards, you may want to run this by Chris Hoke for legal advice for our branch when we do these HREs before we finalize the form and start performing these HREs. Ken Rudo

From: Rudo, Ken
Sent: Sunday, March 15, 2015 2:33 PM
To: Shehee, Mina
Cc: Mort, Sandy
Subject: FW: HRE Form

Mina This is the HRE version that I am recommending. Since we now have an absolutely scientifically untrue human health statement insofar as it pertains to chromium on the bottom front of our HRE form, I am removing my name from the HRE form, and as an initialed reviewer. I have attached my recommended version of the HRE form. It still has the OEEB contact information, but I cannot from an ethical and moral standpoint put my name on a form with this absolutely untrue human health statement, insofar as it pertains to chromium. If you want me to, I will still do the HREs and give risk communication information to NC residents for these well sample results, but I do not want my name on this form. Sincerely Kenneth Rudo, Ph.D, Toxicologist, North Carolina Division of Public Health

Kenneth Rudo, Ph.D.
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Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name:

Sample ID #: Address:

Sample Date: City:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ Your well water meets the North Carolina 2L NCAC- Groundwater Standards, or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering.
2. ☐ The following substance(s) exceeded the North Carolina 2L NCAC - Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.
3. ☐ The following substance(s) exceeded the North Carolina 2L NCAC - Groundwater Standard(s), or in the absence of a 2L Groundwater Standard, a calculated Health Effect Level (HEL). The N.C. Division of Public Health recommends that your well water not be used for drinking and cooking. It is also recommended that bathing and shower times be kept under 10 minutes. The water can be used for washing clothes and dishes.
4. ☐ a. Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory level for sodium of 20 mg/l. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.
5. ☐ Re-sampling is recommended in _____ months.
6. ☐ Re-sample for lead and /or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-122S (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-5900

The Federal Safe Drinking Water Act approved maximum contaminant level (MCL) for total chromium is 100 micrograms per liter in finished drinking water. The MCL for total chromium was calculated considering the contribution of different forms of chromium including hexavalent chromium. The MCLs are enforceable national drinking water standards. Drinking water that meets these national standards is generally considered safe.

3. Health Risk Evaluation Form:

a. For exceedances

N O R T H C A R O L I N A	
 Well Water Information and Use Recommendations <i>For Inorganic Chemical Contaminants</i>	
County:	Name:
Sample ID #:	Address:
Sample Date:	City:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ The following substance(s) exceeded the North Carolina Health Screening Level, and may result in an increased health risk. * In order to reduce or eliminate this increased health risk, the North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.

2. ☐ Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory Level for sodium of 20 mg/L. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.
3. ☐ Re-sampling is recommended in _____ months.
4. ☐ Re-sample for lead and or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-1225 (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-3900

*As 0.05 mg/L of hexavalent chromium in drinking water, the lifetime cancer risk for an adult is one-in-one million. At this level of risk, one additional case of cancer is projected in a population of one million people exposed to hexavalent chromium over their lifetime. A daily lifetime exposure to chromium that exceeds 0.3 mg/L may result in an increased non-cancer health risk.

3. Health Risk Evaluation Form:

a. For exceedances

N O R T H C A R O L I N A



Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name:
 Sample ID #: Address:
 Sample Date: City:

TEST RESULTS AND USE RECOMMENDATIONS

- 1 ☐ The following substance(s) exceeded the North Carolina Health Screening Level, and may result in an increased health risk.* In order to reduce or eliminate this increased health risk, the North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.

- 2 ☐ Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory Level for sodium of 20 mg/L. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.

- 3 ☐ Re-sampling is recommended in _____ months

- 4 ☐ Re-sample for lead and/or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-1225 (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-5900

*At 0.2 mg/L of hexavalent chromium in drinking water, the lifetime cancer risk for an adult is one-in-one million. At this level of risk, one additional case of cancer is projected in a population of one million people exposed to hexavalent chromium over their lifetime. A daily lifetime exposure to vanadium that exceeds 0.3 mg/L may result in an increased non-cancer health risk.

From: Kendra Gerlach
To: Rick D
Subject: Information
Date: Wednesday, April 01, 2015 12:26:20 PM
Attachments: ###Rules and Regulations 032015.doc
###Treatment Options 032015.doc
#HRE Form Inorganic Analysis Coal Ash 03192015 - Form 1 Draft.doc
#HRE Form Inorganic Analysis Coal Ash 03192015 - Form 2 Draft.doc

Rick,

The HRE Form 1 and 2 will include the results. The other two attachments are supplemental information.

Kendra

Kendra Gerlach

Director, Office of Communications & Public Affairs
N.C. Department of Health & Human Services
Adams Building, 101 Blair Drive, Raleigh, NC 27699-2001
Phone: 919-855-4840
Kendra.Gerlach@dhhs.nc.gov
www.ncdhhs.gov

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Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name: Sample ID #: Address: Sample Date: City:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ The following substance(s) exceeded the North Carolina Health Screening Level, and may result in an increased health risk. In order to reduce or eliminate this increased health risk, the North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering.

2. ☐ Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory Level for sodium of 20 mg/L. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.
3. ☐ Re-sampling is recommended in _____ months.
4. ☐ Re-sample for lead and /or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-122S (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-5900



Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Name: Sample ID #: Address: Sample Date: City:

TEST RESULTS AND USE RECOMMENDATIONS

1. ☐ Your well water meets the North Carolina Health Screening Levels. Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-122S (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-5900



Well Water Information and Use Recommendations

For Inorganic Chemical Contaminants

County: Rowan

Name: Timmie Sr. Julia Goodnight

Sample ID #: B77-Well2

Address: 625 Leona Rd.

Sample Date: 6-1-15

City: Salisbury

TEST RESULTS AND USE RECOMMENDATIONS

1. ☒ The following substance(s) exceeded the North Carolina Health Screening Level, and may result in an increased health risk.* In order to reduce or eliminate this increased health risk, the North Carolina Division of Public Health recommends that your well water not be used for drinking and cooking. However, it may be used for washing, cleaning, bathing and showering. While this recommendation represents the maximum in health protection, your well would still meet all the criteria of the federal Safe Drinking Water Act for public drinking water sources.

RECEIVED/DENR/DWR

Vanadium, hexavalent chromium

JUN 17 2015

Water Quality Regional
Operations Section

2. ☐ Sodium levels exceed the U.S. Environmental Protection Agency's (USEPA) Health Advisory Level for sodium of 20 mg/L. The North Carolina Division of Public Health recommends that only individuals on no or low sodium restricted diets not use this water for drinking or cooking. It may be used for washing, cleaning, bathing, and showering.
3. ☐ Re-sampling is recommended in _____ months.
4. ☐ Re-sample for lead and /or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

This form is applicable only to drinking water wells tested as specified by Session Law 2014-122S (Senate Bill 729) 130A-309.209

For further information, please contact the Occupational and Environmental Epidemiology Branch at 919-707-5900

* At 0.07 µg/L of hexavalent chromium in drinking water, the lifetime cancer risk for an adult is one in one million. At this level of risk, one additional case of cancer is projected in a population of one million people exposed to hexavalent chromium over their lifetime. Daily lifetime exposure to vanadium that exceeds 0.3 µg/L may result in an increased non-cancer health risk.

A - data for HRE

North Carolina Division of Public Health
Occupational and Environmental Epidemiology Branch, Epidemiology Section
INORGANIC CHEMICAL ANALYSIS REPORT
Private well water information and recommendations

County: Rowan Name: 620 Leonard Rd. Sample Id Number: 23281-5
Location: _____ Reviewer: KMR

ANALYSIS REPORT

Your well water was tested for 15 metals, plus nitrates, nitrites, and pH. The results were evaluated using the federal drinking water standards. The pH is a measure of the acidity of the water. Drinking water may contain substances that can occur naturally in water or can be introduced into the water from manmade sources.

TEST RESULTS AND USE RECOMMENDATIONS

☒ Your well water meets federal drinking water standards. Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering.

____ The following substance(s) exceeded federal drinking water standards. Your water can be used for drinking, cooking, washing, cleaning, bathing, and showering, but aesthetic problems such as bad taste, odor, staining of porcelain, etc. may occur. You may want to install a household water treatment system to address aesthetic problems.

Barium	Cadmium	Chromium	Fluoride	Iron	Magnesium
Manganese	Selenium	Silver	Sodium	Zinc	pH

____ The following substance(s) exceeded federal drinking water standards. We recommend that your well water not be used for drinking and cooking, unless you install a water treatment system to remove the circled substance(s). However, it may be used for washing, cleaning, bathing and showering.

Arsenic	Barium	Cadmium	Chromium	Copper	Fluoride	Lead	Iron	Magnesium
Manganese	Mercury	Nitrate/Nitrite	Selenium	Silver	Sodium	Zinc	pH	

____ Re-sampling is recommended in _____ months.

____ Re-sample for lead and/or copper. Take a first draw, 5 minute, and 15 minute sample inside the house (preferably the kitchen) and if possible a first draw, 5 minute and a 15 minute sample at the well head to determine the source of the lead and/or copper.

OTHER CONSIDERATIONS

Routine well water sampling for the above substances is recommended every two to three years. Sample your well water when there is a known problem or contamination in your area, after repairs or replacement of your well, or after a flooding event. Contact your local health department for sampling instructions.

For further information please contact your county health department or the Occupational and Environmental Epidemiology Branch at 919-707-5910.