
This message was secured by ZixCorp^(R).

Denison, Eric

From: Stevenson, Laurie <laurie.stevenson@epa.state.oh.us>
Sent: Monday, October 03, 2011 3:03 PM
To: 'Chris.Perry@dnr.state.oh.us'; 'Heidi Hetzel-Evans'; 'mike.hallfrisch@dnr.state.oh.us'; 'mike.mccormac@dnr.state.oh.us'; 'rick.simmers@dnr.state.oh.us'; 'ted.lozier@dnr.state.oh.us'; 'thomas.tugend@dnr.state.oh.us'; 'tom.tomastik@dnr.state.oh.us'; Shear, Aaron; Cirker, Benjamin; Hall, Brian; Lowe, Chuck; Nygaard, Eric; Goicochea, Joe; Weiss, Kristopher; Burkleca, Lee; Taliaferro, Lindsay; Baker, Mike; Eggert, Michael; Parsons, Misty; Settles, Mike; Laake, Ryan; Freeman, Tracy; Harcarik, Tom; Nickel, Brian; Kniss, Donna; Underwood, Dan; Adams, Eric; Gomes, Erm; Snell, Fred; Rice, Nancy; Blasick, Rich; DiFranco, Stivo; Saines, Steve; Williams, Steve; Wilson, Virginia; Chuck McCracken; Michael Snee; Rebecca Fugitt; Stephen Helmer; David Lipp; Hopkins, Mike; Getz, Eric; Nabors, Shannon; Buthker, Bonnie; Robinson, Isaac; Eric Denison
Subject: Draft agenda for 10/5/11 meeting
Attachments: Marcellus Shale10-5-11AgendaFinal.DOC

Hi everyone. Attached is a final agenda for the meeting Wednesday, October 5th from 1:30-4:00 at ODNR (building H-2).

For anyone dialing in, the bridge line number is 614-387-7405 (no passcode).

Thanks.

Laurie

This message was secured by ZixCorp^(R).

Denison, Eric

From: David Lipp
Sent: Tuesday, October 04, 2011 10:29 AM
To: Simmers, Rick
Cc: Stephen Helmer; Eric Denison; Shear, Aaron
Subject: Fracking Study

Rick,

I need to find the status of the shale gas well sampling project and getting access to a fracking site. I have taken a new job as a Health Physics Supervisor and am assigning a new person to the project. His name is Eric Denison, a Senior Health Physicist in the Bureau that has been involved with Bureau's radiological emergency response. He will be attending the Wednesday meeting to meet the different parties and will take over the sampling study at that time. Please let me know if you have any questions.

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

Denison, Eric

From: Eric Denison
Sent: Tuesday, October 04, 2011 11:20 AM
To: David Lipp
Subject: Accepted: TENORM Turnover

Denison, Eric

From: Shear, Aaron <aaron.shear@epa.state.oh.us>
Sent: Tuesday, October 04, 2011 1:12 PM
To: David Lipp
Cc: Eric Denison
Subject: RE: Fracking Study

Thanks for the update David. Congratulation and best of luck at your new position. I'll introduce myself to Eric at the meeting tomorrow and see if we can pin Rick down with a date/time for another site visit.

Aaron Shear
Environmental Specialist



Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Direct 614-728-5350 · Fax 614-728-5315

 Please consider the environment before printing this email.

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Tuesday, October 04, 2011 10:29 AM
To: Simmers, Rick
Cc: Stephen Helmer; Eric Denison; Shear, Aaron
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Denison, Eric

From: David Lipp
Sent: Wednesday, October 05, 2011 8:02 AM
To: Stephen Helmer; Eric Denison
Subject: FW: Fracking Study

FYI

From: Simmers, Rick [mailto:Rick.Simmers@dnr.state.oh.us]
Sent: Wednesday, October 05, 2011 8:00 AM
To: David Lipp
Subject: RE: Fracking Study

David, it has been difficult to find frac jobs in the flowback stage. There are currently 2 shale wells in Carroll Co that are flowing back. We are asking for permission for you or your coworkers to collect samples. I hope to have an answer before the meeting.

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Tuesday, October 04, 2011 10:29 AM
To: Simmers, Rick
Cc: Stephen Helmer; Eric Denison; Shear, Aaron
Subject: Fracking Study

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Denison, Eric

From: Eric Denison
Sent: Wednesday, October 05, 2011 9:45 AM
To: Steve York
Subject: Sample Containers

Importance: High

Steve-

Don't know if anyone has already talked to you about this, but wanted to double-check before making a purchase.

We will be sampling water (actually more of an aqueous solution/suspension), sludge, and drill cuttings to be analyzed for Pb-210, Po-211, Ra-224/226/228, Th-232, and U-238.

Do you have suggestions or requirements for sample containers and additives or preservatives? I want to be sure that we don't have issues that will adversely affect the analysis (nuclides plating out on container walls, etc.).

Thanks!

+++++

J. Eric Denison
Health Physicist, Technical Support Section
Ohio Department of Health
Bureau of Radiation Protection
246 North High Street
Columbus, OH 43215
Tel: (614) 644-6362
Fax: (614) 466-0381

Denison, Eric

From: David Lipp
Sent: Friday, October 07, 2011 10:21 AM
To: Eric Denison
Subject: FW: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING
Attachments: Fracking _ State Legislation.docx

FYI - See the Ohio reference. They didn't mention that on Wednesday.

From: Stephen Helmer
Sent: Friday, October 07, 2011 10:02 AM
To: David Lipp
Cc: Nickel, Brian
Subject: FW: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING

fyi

From: Ramon Bonzon [mailto:rbonzon@astho.org]
Sent: Friday, October 07, 2011 9:30 AM
To: Ted Wymyslo; Gus Birkhead Dr; Chris Curtis, MPH; Catherine Slemple, MD, MPH; Debra L Pellerin; Maryellen Jacobson; 'Avila, Eli'; Lisa Ellis; Chris Mathews; Fran Phillips; Howard A Freed; Robert L Chinery; 'David Patton'; Tom Forslund (Tom.Forslund@health.wyo.gov); Wha Lee Strohecker (wleestrohe@state.pa.us); Fran Phillips; Gene Phillips; Will McHugh; Catherine Slemple, MD, MPH; Maryellen Jacobson; Rebecca Fugitt; 'tom forslund'; Stephen Helmer
Subject: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING

Dear ASTHO Members,

As a follow-up to our initial discussion concerning Fracking and environmental health in September, I have attached a State Legislative Update concerning hydraulic fracturing. ASTHO continually tracks state and federal legislation on topics that our members are concerned with. We look forward to your continued engagement with this issue and we hope to provide or support any technical assistance that you may need. Together we can assist in assuring that the public's health is protected.

If you have any questions about the attached document or if you have any suggestions of how ASTHO can better serve you, please let me know.

Ramon L. Bonzon, MPH, CPH
Senior Director, Member Engagement & Development
Association of State & Territorial Health Officials
2231 Crystal Drive, Suite 450 | Arlington, VA 22202
Phone: (202) 371-9090 | Direct: (571) 527-3158
Email: rbonzon@astho.org
Cell: (571) 306-3168 | www.astho.org

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Denison, Eric

From: Eric Denison
Sent: Friday, October 07, 2011 3:14 PM
To: David Lipp
Subject: RE: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING

Thought that they mentioned it, but said it had no traction and probably wouldn't go anywhere.

From: David Lipp
Sent: Friday, October 07, 2011 10:21 AM
To: Eric Denison
Subject: FW: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING

FYI - See the Ohio reference. They didn't mention that on Wednesday.

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Ramon L. Bonzon, MPH, CPH
Senior Director, Member Engagement & Development
Association of State & Territorial Health Officials
2231 Crystal Drive, Suite 450 | Arlington, VA 22202
Phone: (202) 371-9090 | Direct: (571) 527-3158
Email: rbonzon@astho.org
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Denison, Eric

From: Chini, Eugene <Eugene.Chini@dnr.state.oh.us>
Sent: Friday, October 14, 2011 3:08 PM
To: Eric Denison
Subject: Frac flowback collection

Eric:

Stephanie Timmermeyer of Chesapeake Energy would like you to contact her with regard to the collection of Frac flowback fluids.

Her email is : stephanie.timmermeyer@chk.com

Her phone #'s are:

304-353-5216 (Office)
304-941-9879 (Cell)

If you have any questions, let me know. Thanks.

Gene Chini

This message was secured by [ZixCorp](#)^(R).

Denison, Eric

From: Eric Denison
Sent: Friday, October 14, 2011 5:24 PM
To: stephanie.timmermeyer@chk.com
Subject: FW: Frac flowback collection

Hi, Stephanie-

I'll be out of the office next week, but will be checking e-mails and phone messages. Please let me know what information you need and I'll do my best to make sure you get it as soon as possible.

+++++

J. Eric Denison
Health Physicist, Technical Support Section
Ohio Department of Health
Bureau of Radiation Protection
246 North High Street
Columbus, OH 43215
Tel: (614) 644-6362
Fax: (614) 466-0381

From: Chini, Eugene [mailto:Eugene.Chini@dnr.state.oh.us]
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Gene Chini

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Denison, Eric

From: Stephanie Timmermeyer <stephanie.timmermeyer@chk.com>
Sent: Monday, October 17, 2011 12:07 PM
To: Eric Denison
Subject: RE: Frac flowback collection

Eric:

I just need a full understanding of what you are requesting to do at our site. Gene mentioned actual water collection but last time you guys just tested on-site with your monitors.

Thanks

Steph

From: Eric Denison [mailto:Eric.Denison@odh.ohio.gov]
Sent: Friday, October 14, 2011 5:24 PM
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Denison, Eric

From: Eric Denison
Sent: Wednesday, October 19, 2011 12:10 AM
To: Stephanie Timmermeyer
Cc: David Lipp
Subject: RE: Frac flowback collection

Stephanie-

We are looking for permission to collect samples of flowback water and cuttings from both vertical and horizontal drilling evolutions. These samples would be sent to the ODH radiological lab and tested for levels of various natural radioactive isotopes.

It is my understanding that the earlier surveys using hand-held radiation meters did not show any readings above background. The laboratory analysis will be significantly more sensitive than any field survey could be.

I don't have all of the project notes with me, so I'm copying my supervisor on this. David, please let us know if I'm missing anything here.

Eric

From: Stephanie Timmermeyer [stephanie.timmermeyer@chk.com]
Sent: Monday, October 17, 2011 12:06 PM
To: Eric Denison
Subject: RE: Frac flowback collection

Eric:

I just need a full understanding of what you are requesting to do at our site. Gene mentioned actual water collection but last time you guys just tested on-site with your monitors.

Thanks

Steph

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Sent: Friday, October 14, 2011 5:24 PM
To: Stephanie Timmermeyer
Subject: FW: Frac flowback collection

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Denison, Eric

From: David Lipp
Sent: Wednesday, October 19, 2011 10:42 AM
To: stephanie.timmermeyer@chk.com
Cc: Eric Denison; Stephen Helmer
Subject: Marcellus and Utica Shale Sampling

Stephanie,

This past spring, the Ohio Department of Natural Resources (ODNR) asked us to conduct a study of the naturally occurring radioactive material (NORM)/ technologically enhanced NORM (TENORM) that would be associated with the drilling for gas in the Utica and Marcellus shale. Our task for this is to characterize the relative concentrations of uranium-238 (U-238), thorium-232 (Th-232), radium -228 (Ra-228), radium 226, polonium-210, and lead-210 in the vertical cuttings, horizontal cuttings, and the backflow fracking water.

A seventh radionuclide, radon-222 (Rn-222), is a radioactive gas and will follow the gas and becomes more of an issue later in the process at a separation plant.

The build-up in the tubulars of mineral scale that includes the radium will also be an issue that the Department of Health (ODH) will address later, but will involve primarily the radiological decontamination service providers and pipe farms.

Therefore, this current study will involve:

- Traveling to drilling locations during the vertical drilling phase and collect approximately a one liter sample of the cuttings at specified depths and send them to the ODH's radioanalytical laboratory for analysis;
- Traveling to drilling locations during the horizontal drilling phase and collect a sample of the cuttings at specified distances and send for analysis;
- Traveling to drilling locations during the hydraulic fracturing process to collect approximately a one gallon sample of the frack water flowback and send for analysis; and
- While we are there to collect the sample, a quick, "immediate work area" survey of radiation exposure rates using hand-held radiological instrumentation.

The conditions that we understand are:

- ODH has no regulatory authority over the industry or on your site;
- We are only performing a radiological characterization of the NORM/TENORM in cuttings and flowback - no chemical analysis other than separation for radiological sample prep would be performed;
- We will be working through ODNR to gain access and permission to sample from the various gas drilling companies;
- We will comply with any and all company/site environmental, safety, health, and security requirements;
- We will need multiple access to sites depending on the process (vertical, horizontal, fracking) being performed.

Eric Denison, an ODH health physicist will be heading up the sampling along with other individuals from our Bureau to work with scheduling conflicts. If you have additional questions or will be needing more information please feel free to contact either Eric Denison or myself.

Sincerely,

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

Denison, Eric

From: Stephanie Timmermeyer <stephanie.timmermeyer@chk.com>
Sent: Wednesday, October 19, 2011 10:46 AM
To: David Lipp
Cc: Eric Denison; Stephen Helmer
Subject: Re: Marcellus and Utica Shale Sampling

Thank you - I am working on the request now and will circle back you guys early next week. This description of the work plans helps.

Stephanie R. Timmermeyer
Chesapeake Energy
Director, Regulatory Affairs - Eastern Division
304.941.9879

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, October 19, 2011 09:42 AM
To: Stephanie Timmermeyer
Cc: Eric Denison <Eric.Denison@odh.ohio.gov>; Stephen Helmer <Stephen.Helmer@odh.ohio.gov>
Subject: Marcellus and Utica Shale Sampling

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Denison, Eric

From: Stephen Helmer
Sent: Thursday, October 20, 2011 10:45 AM
To: David Lipp; Eric Denison
Subject: FW: Draft General Permit for the Oil and Gas Well Sites Issued for Comment.
Attachments: Michael E Hopkins P E .vcf

fyi

From: Hopkins, Mike [mailto:Mike.Hopkins@epa.state.oh.us]
Sent: Thursday, October 20, 2011 10:43 AM
To: Hopkins, Mike
Cc: Tom Tomastik (tom.tomastik@dnr.state.oh.us); Stephen Helmer; Blasick, Rich; Settles, Mike; Baker, Mike; Robert Owen (robert.owen@odh.ohio.gov); Angelbeck.Richard@epamail.epa.gov; Stanfield, Matthew (Matthew.Stanfield@toledo.oh.gov); Saines, Steve; Eggert, Michael; Rice, Nancy; Mike McCormac (mike.mccormac@dnr.state.oh.us); Rick Simmers (rick.simmers@dnr.state.oh.us); Rebecca Fugitt; Williams, Steve; Tomas Tugend (thomas.tugend@dnr.state.oh.us); DiFranco, Stivo; Fischer, Tim; Scott Zody (scott.zody@dnr.state.oh.us); Freeman, Tracy; Shear, Aaron; Mike Hallfrisch (mike.hallfrisch@dnr.state.oh.us); Harcarik, Tom; Adams, Eric; Wilson, Virginia; Thorp, Jed; Chris Perry (Chris.Perry@dnr.state.oh.us); Michael Snee; Snell, Fred; Hester, Carol; Nickel, Brian; Husted, John F.; Nygaard, Eric; Weiss, Kristopher; Gomes, Erm; Ted Lozier (ted.lozier@dnr.state.oh.us); Hall, Brian; Hodanbosi, Bob; Abbruzzese, Chris; Parsons, Misty; Hall, Andrew; Suttman, Cheryl; Cirker, Benjamin; Stevenson, Laurie; Nally, Scott; Powell, Laura
Subject: Draft General Permit for the Oil and Gas Well Sites Issued for Comment.

Good Morning:

Today the Ohio EPA has issued and posted the draft air pollution oil and gas well site general permit for its official 30-day comment period. This general permit is designed to cover the equipment installed for use during the production phase of a Marcellus or Utica/Point Pleasant shale oil and gas well. It covers the following pieces of equipment/operations at an oil and gas well site:

- Glycol dehydration units with flash separators,
- Natural gas-fired spark ignition internal combustion engines,
- Diesel-fired compression ignition internal combustion engines,
- Natural gas-fired micro turbines,
- Water and/or petroleum liquid storage tanks,
- Combustor/flare,
- Ancillary equipment leaks (designed to control leaks), and
- Unpaved roadways.

Included for review is the qualifying criteria document and the Model General Permit terms. The qualifying criteria document is a document that must be filled out when applying for a oil and gas well-site general permit. All qualifying criteria must be met in order to qualify for the general permit. Ohio EPA is accepting comments on this document in addition to accepting comments on the Model General Permit terms.

Please see the bottom of the web page: <http://www.epa.ohio.gov/dapc/genpermit/genpermits.aspx> for links to the documents.

Questions or comments on this GP must be directed to Cheryl Suttman at (614) 644-3617, cheryl.suttman@epa.state.oh.us or mailed to Cheryl Suttman, Attn: General Permits, Ohio EPA - DAPC, P.O. Box 1049, Columbus, Ohio 43216-1049.

Comments are due by November 28, 2011.

Please let Cheryl or myself know if you have any questions.

Mike

Michael E. Hopkins, P.E.
Assistant Chief, Permitting
Ohio EPA, DAPC
50 W. Town Street, Suite 700
Columbus, Ohio 43215
614-644-3611 (w)
614-644-3681 (Fax)
Mike.hopkins@epa.state.oh.us



**Environmental
Protection Agency**



Michael E. Hopkins, P.E.

Ohio EPA, DAPC
Assistant Chief, Permitting

(614) 644-3611 Work
Mike.Hopkins@epa.state.oh.us
50 West Town Street, Suite 700
Columbus, Ohio 43215
<http://www.epa.ohio.gov/>

This message was secured by ZixCorp^(R).

Denison, Eric

From: Eric Denison
Sent: Wednesday, October 26, 2011 1:54 PM
To: Steve York
Subject: FW: Sample Containers for Fracking Study

Importance: High

Hi, Steve-

Talked to some folks from the lab later in the day after I sent the e-mail below. Wanted to be sure I had captured the conversation correctly.

- Po-210 analysis of water will require preservation with HCl to pH of about 2.
- Water for other nuclides needs preservation with Nitric to pH of about 2.
- No real problems with using either glass or plastic containers as long as they're clean.
- You can do gross alpha, gross beta and gamma spec on water.
- You can do gamma spec on solids and semi-solids.

Also need clarification on a couple of points before making a final choice of products.

- How large a water sample do you need for the Po-210 analysis?
- How large a water sample do you need for the other 5 isotopes?
- How long a period can there be between sample collection and addition of preservative? (I'm assuming you have the acids and proper handling equipment there at the lab. Since we have neither the facilities or equipment here, I'd like to minimize the storage, transportation and handling of acids on our end.)
- How much solid material do you need for the gamma spec?
- Is it necessary for the containers to be EPA Certified?
- If certification is not strictly necessary, is it helpful or beneficial?

Sorry to be a pain, but to avoid embarrassment and invalid results, I want to be sure we do this right the first time.

Eric

From: Eric Denison
Sent: Wednesday, October 05, 2011 9:45 AM
To: Steve York
Subject: Sample Containers
Importance: High

Steve-

Don't know if anyone has already talked to you about this, but wanted to double-check before making a purchase.

We will be sampling water (actually more of an aqueous solution/suspension), sludge, and drill cuttings to be analyzed for Pb-210, Po-211 (SHOULD BE Po-210), Ra-224/226/228, Th-232, and U-238.

Do you have suggestions or requirements for sample containers and additives or preservatives? I want to be sure that we don't have issues that will adversely affect the analysis (nuclides plating out on container walls, etc.).

Thanks!

+++++

J. Eric Denison
Health Physicist, Technical Support Section
Ohio Department of Health
Bureau of Radiation Protection
246 North High Street
Columbus, OH 43215
Tel: (614) 644-6362
Fax: (614) 466-0381

Denison, Eric

From: Steve York
Sent: Wednesday, October 26, 2011 2:37 PM
To: Larry King; Ram Chandrasekar; Donald Kenny; Rashmi Gaur; Katherine Grandfield; Jason Bean
Cc: Eric Denison
Subject: FW: Sample Containers for Fracking Study
Importance: High

Please respond to Eric concerning his questions below.

You all are the experts.

Thanks.

Steve

Steve York
Supervisor, QA and Compliance/Laboratory Safety
Ohio Department of Health Laboratory
Building 4
8995 East Main Street
Reynoldsburg, Ohio 43068
Telephone: 614-728-0393
Email: steve.york@odh.ohio.gov

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Ohio Department of Health
Bureau of Radiation Protection
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Tel: (614) 644-6362
Fax: (614) 466-0381

Denison, Eric

From: Larry King
Sent: Wednesday, October 26, 2011 2:43 PM
To: Eric Denison
Cc: Steve York; Ram Chandrasekar; Donald Kenny; Rashmi Gaur; Katherine Grandfield; Jason Bean
Subject: RE: Sample Containers for Fracking Study

Hi Eric, what's your time frame for having the answers to your questions? Ilk

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Sent: Wednesday, October 26, 2011 2:37 PM
To: Larry King; Ram Chandrasekar; Donald Kenny; Rashmi Gaur; Katherine Grandfield; Jason Bean
Cc: Eric Denison
Subject: FW: Sample Containers for Fracking Study
Importance: High

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Steve York
Supervisor, QA and Compliance/Laboratory Safety
Ohio Department of Health Laboratory
Building 4
8995 East Main Street
Reynoldsburg, Ohio 43068
Telephone: 614-728-0393
Email: steve.york@odh.ohio.gov

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+++++

J. Eric Denison

Health Physicist, Technical Support Section

Ohio Department of Health

Bureau of Radiation Protection

246 North High Street

Columbus, OH 43215

Tel: (614) 644-6362

Fax: (614) 466-0381

Denison, Eric

From: Ram Chandrasekar
Sent: Wednesday, October 26, 2011 2:49 PM
To: Eric Denison
Cc: Larry King
Subject: FW: Sample Containers for Fracking Study

Hi Eric

Larry King is the supervisor for the Radiation Chemistry area and is the direct supervisor for Rashmi and Don who work in the area. Please correspond with him on any enquiries on the radiation chemistry program with copy to me.

Steve York is our Quality Assurance supervisor.

Thanks

*Ram Chandrasekar, Ph.D.,
Manager, Lab Operations
Ohio Department of Health Laboratory
8995 East Main Street, Bldg 22
Reynoldsburg OH 43068
Telephone: 614-466-5600
Fax: 614-644-4648
ram.chandrasekar@odh.ohio.gov*

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Importance: High

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Thanks.

Steve

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Ohio Department of Health Laboratory
Building 4
8995 East Main Street
Reynoldsburg, Ohio 43068
Telephone: 614-728-0393
Email: steve.york@odh.ohio.gov

From: Eric Denison
Sent: Wednesday, October 26, 2011 1:54 PM
To: Steve York

Lipp, David

From: Jody Jones (OPER - Regulatory) <jody.c.jones@chk.com>
Sent: Thursday, December 22, 2011 2:31 PM
To: Lipp, David
Cc: Denison, Eric
Subject: Sampling Postponed

Mr. Lipp,

As we discussed on the phone, it will be too difficult to conduct the Utica sampling on 12/27. As I understand right now, our next flowback will be in a few weeks. I'm in the process of finding out more now, and once I get a date, I will let you know immediately.

I would also like to setup a meeting for sometime in early January to discuss sampling protocols, etc., sometime in early January. Could you and Mr. Denison provide me with some tentative dates so I can begin setting that up as well.

Whenever ODH is ready to provide us with the sampling protocol, we look forward to reviewing.

I look forward to working with you.

Jody C. Jones
Manager, Regulatory Affairs
Chesapeake Energy Corporation
Cell: 304-767-4057

This email (and attachments if any) is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by return email and destroy all copies of the email (and attachments if any)

Lipp, David

From: Jody Jones (OPER - Regulatory) <jody.c.jones@chk.com>
Sent: Tuesday, December 20, 2011 2:13 PM
To: Lipp, David
Cc: Denison, Eric; Debby McElreath
Subject: Utica Sampling

Mr. Lipp,

Below is my contact information. I have also cc'd Eric Denison, as your original email said he would be heading up the sampling.

Again, I'm attempting to confirm 12/27 as the flowback sample date, but wanted to check ODH's availability.

Jody C. Jones
Manager, Regulatory Affairs
Chesapeake Energy Corporation
Cell: 304-767-4057

This email (and attachments if any) is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by return email and destroy all copies of the email (and attachments if any).

Lipp, David

From: Shear, Aaron
Sent: Wednesday, December 14, 2011 8:53 AM
To: Helmer, Stephen; Lipp, David
Cc: Goicochea, Joe
Subject: FW: Revised Compliance Guide for Shale Gas Drilling Operators
Attachments: ODNR-OEPADrillerGuideDec2011V.1.doc

Good Morning David and Steve,

Coincidentally, a revised compliance guide for drillers was circulated yesterday for internal Ohio EPA review. The section discussing Managing Drill Cuttings can be found on page 12. There are a few slight tweaks and formatting in the language, however the content remains unchanged from the draft version that was circulated amongst the inter-agency work group back in early May.

Similarly, as we discussed last week, the following Answer Place Q&A is located on the Ohio EPA webpage - [Cuttings resulting from drilling in the Marcellus and Utica Shale formations.](#)

Once again, here is the bridge line number for this afternoon's 3:00 Conference Call - **(614) 752-7418**

Aaron Shear
Environmental Specialist



Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049
Direct 614-728-5350 • Fax 614-728-5315

 Please consider the environment before printing this email.

From: Stevenson, Laurie
Sent: Tuesday, December 13, 2011 11:36 AM
To: Shear, Aaron; Cirker, Benjamin; Hall, Brian; Lowe, Chuck; Nygaard, Eric; Goicochea, Joe; Weiss, Kristopher; Burkleca, Lee; Taliaferro, Lindsay; Baker, Mike; Eggert, Michael; Parsons, Misty; Settles, Mike; Laake, Ryan; Freeman, Tracy; Harcarik, Tom; Nickel, Brian; Kniss, Donna; Underwood, Dan; Adams, Eric; Gomes, Erm; Snell, Fred; Rice, Nancy; Blasick, Rich; DiFranco, Stivo; Saines, Steve; Williams, Steve; Wilson, Virginia; Hopkins, Mike; Getz, Eric; Buthker, Bonnie; Princic, Kurt; Sferra, Jim
Subject: Revised Compliance Guide for Shale Gas Drilling Operators

Hi everyone. Quite some time ago, I sent around a draft fact sheet for shale drilling companies for your review which outlined the basic OEPA-related compliance requirements for these operations.

I've had the document on hold for some time, primarily because I was waiting for us to get a little farther along with the development of general permits for 401 and air.

Since we are making good progress in each of these areas, I've taken the opportunity to revise the document and am sending around the draft again for an internal review. It's now a short guidebook. I am also proposing that it be a joint publication, outlining the basic compliance requirements for both OEPA and ODNR. I've submitted this to Rick Simmers, Oil & Gas Chief, ODNR for review and to get ODNR's thoughts on a joint publication.

For now, I need a final review internally on the OEPA-related content of the attached and would appreciate your comments/feedback. Comments by January 9, 2012 would be appreciated.

I'm attaching the guidebook. I think the easiest approach to collecting comments, however, is for everyone to access this file through our Shale/Sharepoint site. If you pull the file for comment, you'll want to check it out and check it back in when you're done. This way, everyone can see comments that have been made already and it will hopefully save me from getting multiple documents back. If, however, you have any problems with Sharepoint and want to just shoot me an electronic copy with comments, that's fine as well. If you need any refresher info. on accessing Sharepoint, let me know. You get to the main site at <https://epaportal.sp.ohio.gov>. Your login is your e-mail and password is the same as your Outlook password. You should find the Marcellus Shale site under the Director's Office tab.

Thanks!

Laurie

Lipp, David

From: Shear, Aaron
Sent: Monday, December 12, 2011 2:44 PM
To: Lipp, David
Cc: Helmer, Stephen; Snee, Michael; Goicochea, Joe
Subject: RE: TENORM and Management of Drill Cuttings

Hello David,

Wednesday (12/14) should work, so that we can include Steve Helmer in the discussion. I will not be available from 9:30 until noon, but will be around earlier in the morning or all afternoon. Joe may be out for another meeting, however he has indicated that he can possibly conference in remotely for our conversation.

Let me know what time on Wednesday works best for everyone at ODH.

Thanks,

Aaron

From: Lipp, David
Sent: Monday, December 12, 2011 12:55 PM
To: Shear, Aaron
Cc: Helmer, Stephen; Snee, Michael
Subject: RE: TENORM and Management of Drill Cuttings

Aaron,

Steve Helmer will be out of the office until Wednesday morning. If at all possible, I would like to wait until he's back in the office. If you have a more immediate need, I can answer some questions now.

Our Bureau has received comments and questions from Mr. Lincoln in the past, primarily dealing with the brine being treated at the Warren WWTF. In looking at the current questions, I will try to get a copy the journal article that is referenced and see what it has to say.

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

From: Shear, Aaron
Sent: Monday, December 12, 2011 12:07 PM
To: Lipp, David; Helmer, Stephen
Cc: Goicochea, Joe
Subject: TENORM and Management of Drill Cuttings

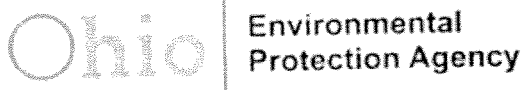
Good Morning David and Stephen,

I wanted to follow up with the two of you from our conversation last week pertaining to Management of Drill Cuttings, mainly the TENORM aspect. Within the past week we've received inquiries from newspapers and concerned citizens pertaining to waste derived from drilling activities and possible radioactive waste.

My supervisor, Joe Goicochea, and I would like to have a conference call with the two of you to discuss this topic further. We're both available at 1:00 or 4:00 today (Mon 12/12) or anytime between 9am-noon tomorrow (Tue 12/13). Please let me know if any of these times are convenient.

Below is an e-mail that was forwarded to me from Stark County. It's a good example of the type of inquiries that the Agency is receiving.

Aaron Shear
Environmental Specialist



Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049
Direct 614-728-5350 • Fax 614-728-5315



Please consider the environment before printing this email.

Stark County Health Department
Health Commissioner
William J. Franks, MPH

Hello Mr. Franks,

American Landfill in Waynesburg has started receiving drilling waste from Chesapeake Energy. American Landfill denies any responsibility or requirement to measure the radioactivity levels of the drilling waste they are accepting. Instead they rely on Chesapeake Energy to "fill out a profile and explain what they are delivering". The landfill technical center handles evaluations and inspects the wastes. They can accept no man-made radioactive wastes. It has also been reported that the Stark County Health Board is doing weekly checks.

Could you please answer a few questions regarding this issue?

It's fairly common knowledge that black shale (including the Marcellus & Utica), and the flowback fluid still remaining in the drill cuttings is radioactive. "Drill cuttings from the Marcellus may be enriched in radium radionuclides and off-gas the radioelement radon. Also, the activity levels and/or availability of naturally occurring radionuclides can be significantly altered by processes in the oil, gas and mineral mining industries (B. Heaton and J. Lambley, 2000)."

- 1) What radioactivity measurement requirements are being invoked and performed in regards to these drill cuttings?
- 2) Are the measurement methods used and measurement data taken public record?
- 3) Could you please clarify the apparent acceptance made for non-"man made radioactive waste"?
- 4) Does the "profile" completed by Chesapeake (or other driller) require radioactivity measurements of drilling waste they are delivering to a landfill?
- 5) Does the Landfill technical center evaluation and inspection require radioactivity measurements of drilling waste?
- 6) What is the purpose of, and does the Stark County Health Board weekly check include procedures related to American Landfill accepting potentially radioactive waste?

Thank you,
Concerned Citizen

• Dan Lincoln
• Magnolia, OH
•

Lipp, David

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Sent: Monday, December 12, 2011 12:07 PM
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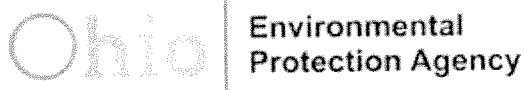
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Thank you,
Concerned Citizen
Dan Lincoln
Magnolia, OH

Lipp, David

From: Milburn, Scott
Sent: Friday, December 09, 2011 5:31 PM
To: Jennings, Robert
Cc: Ware, Andy; Hetzel-Evans, Heidi (Heidi.Evans@dnr.state.oh.us); Abbruzzese, Chris; Wehrkamp, Connie; Libby, Shannon; Wymyslo, Ted; Snee, Michael; Lipp, David; McHugh, Will
Subject: Re: AKBJ Fracking Call

Thx much for heads up

Sent from my iPhone

On Dec 9, 2011, at 5:27 PM, "Jennings, Robert" <Robert.Jennings@odh.ohio.gov> wrote:

All,

AKBJ reporter Bob Downing called with questions about the practice of drill cuttings from fracking going to Ohio landfills. We shared with him that the ODH Bureau of Radiation Protection has been working for approximately two years on a task force with ODNR and OEPA in a proactive approach to ensure fracking operations and procedures are carried out in a safe manner. We also noted that ODH has been in touch with its counterparts in Pennsylvania and other states to get their input on issues that would need to be studied.

The reporter was specifically interested in knowing if the drill cuttings posed any environmental or health hazard. It was explained that the kind of radiation that occurs in drill cuttings is naturally occurring and contains very low background levels. ODH has completed a number of landfill site-surveys and we have no concerns about harmful levels of radiation. It was explained that the waste would have to be artificially enhanced to make it a health or environmental hazard but that naturally occurring radiation was not a concern by itself. We confirmed that approximately 10 percent of Ohio's 80 landfills have radiation monitors. The landfill in Mahoning County, which will dispose of some of the waste in question, is one that does have a monitor. Others do not. We explained that monitors are set up to detect radiation and can be set off by such things as medical waste. When a monitor does go off, a licensed professional is brought in to analyze the situation and take remediation steps, if necessary. If the radiation can be easily disposed of by proper means, the licensed professional takes care of it. ODH is called in if the situation is more complicated.

The reporter then asked questions about rules regarding solid waste in landfills and how that relates to drill cutting and we referred him to Ohio EPA.

Robert

Lipp, David

From: Denison, Eric
Sent: Thursday, December 08, 2011 12:02 PM
To: Lipp, David
Cc: Helmer, Stephen
Subject: Contact re: Shale Cutting Disposal

David-

As you requested this morning, I called Dr. Julie Weatherington-Rice at her home a little while ago.

Dr. Rice is an adjunct professor at Ohio State in the area of Food, Agricultural and Biological Engineering. She is a geologist and soil scientist, and does consulting work for Bennett & Williams. I knew of Dr. Rice before the call because several years ago, she wrote a consulting report regarding the Uniontown Industrial Excess Landfill.

Dr. Rice is currently working with the Ohio Environmental Council, OSU College of Public Health, and other groups on a sole-source aquifer protection project related to shale gas drilling. She indicated that Chesapeake Energy is shipping well cuttings to Waste Management's American Landfill, which does not have a permit to accept hazardous waste.

She asked if anyone is regulating this disposal, if anyone is checking the RAM concentrations in the disposed materials, and what regulations are in place regarding these materials.

We discussed the fact that ODNR regulates the drillers and the disposal of their wastes, and that OEPA regulates the landfills. We briefly discussed the ODH rules for NORM in 3701-39 and the pending TENORM rules in 3701:1-43. I directed her to the ODH web site and told her where to find both of these rules. She said that she and the groups she is working with will review those rules and may make comments or ask additional questions.

Please let me know if you have any questions or need any additional information about the call.

+++++

J. Eric Denison
Health Physicist, Technical Support Section
Ohio Department of Health
Bureau of Radiation Protection
246 North High Street
Columbus, OH 43215
Tel: (614) 644-6362
Fax: (614) 466-0381

Lipp, David

From: Helmer, Stephen
Sent: Wednesday, December 07, 2011 3:08 PM
To: Snee, Michael
Cc: Lipp, David; McCracken, Chuck
Subject: RE: Disposal of Oil & Gas "cuttings" in Municipal Waste Landfills
Attachments: RE: Regarding Your Request to ODH Bureau of Radiation Protection

Importance: High

Mike,

Attached are Waste Management's facilities in Ohio that Jerry Ross (cell #330-340-4714) is representing.

One of these facilities has a radiation alarm.

Mr. Ross is requesting clarification and guidance on how to handle "cuttings" from the Oil & Gas industry.

He indicated today that they have experienced a load being rejected by alarm and DOT exemption returning it to its origin.

There are a number of issues involved and this is my understanding to date.

Ohio EPA (Aaron Shear) indicated that ODNR is less inclined for the Oil & Gas drilling locations to bury "cuttings" on-site. The sites are directing the "cuttings" be disposed at municipal landfills. I have a call in to confirm with ODNR.

OEPA draft on agency guidance intended for industry is expected to be published within the next few months. OEPA is requesting ODH comment.

OEPA discussed the guidance with Chuck McCracken a number of months ago, but I recommend we take another look at it.

OEPA indicates: On-site burial of cuttings are regulated by ODNR, but Off-site disposal of "cuttings" (solid waste) are regulated by OEPA.

OEPA indicates Oil & Gas drill "cuttings" and associated muds are among several of the industry wastes that are exempted under Subtitle C of RCRA.

However, this does not preclude wastes from control under other state or federal regulations, including Subtitle D of RCRA or OEPA solid waste regulations.

I called PA to get some perspective on how often "cuttings" alarm and how they handle their process into municipal landfills.

PA apparently can only think of one case where "cuttings" alarmed. Apparently they are not experiencing much of a problem with alarms.

Ohio EPA indicated they have been calling other states and finding similar results.

I indicated to Jerry Ross that we are early on in this process and we will need to work together as we move forward.

Jerry indicated that he understood that we are early in this process.

I indicated the he is to maintain their current protocol for alarms (call their 3rd party contractor) for a couple of reasons.

One, we don't expect there to be many alarms.

Two, Ohio Administrative Code 3701:1-43 is not final yet.

He is to take a look at how many trucks are alarming.

Determine if shipping paperwork indicates that they are only hauling "cuttings" and not other wastes.

The radiological exemption for cuttings is expected to allow for disposal.

I indicated that it is likely we will come up with a workable path forward to allow exempt "cuttings" into the landfill.

As for BRP, we will likely be looking at municipal landfills with radiation alarms that may alarm on Oil & Gas "cuttings".

BRP will need to consider guidance/protocols to both the landfill and our licensee's contracted with these landfills.

I'm sure there will be more to come on this.

Steve

From: McCracken, Chuck
Sent: Friday, December 02, 2011 8:32 AM
To: Lipp, David
Cc: Light, Mark; Helmer, Stephen
Subject: FW: NORM wastes

David:

This is Mr. Ross's 2nd follow-up inquiry since we sent him the "we'll get back to you" response. As you can read, he is becoming impatient.

Have you heard anything from OEPA or ODNR on this issue yet?

Chuck

From: Ross, Jerry [mailto:JRoss8@wm.com]
Sent: Thursday, December 01, 2011 4:03 PM
To: McCracken, Chuck
Cc: Trent, Kathy
Subject: RE: NORM wastes

Mr. McCracken

I know I have opened a can of worm with the NORM waste question, however, as a manager of several Ohio landfills, the issue is becoming more and more pressing and I really need to know how to handle this issue. Each time one of our radiation detection devices goes off in one of our landfills, under our current reaction procedures we must notify your office and request direction. It would be useful to know in advance, what our SOP for this material will be so we can amend our policies and to inform our customers what to expect.

Thank you.

From: Chuck McCracken [mailto:Chuck.McCracken@odh.ohio.gov]
Sent: Monday, November 07, 2011 10:36 AM
To: Ross, Jerry
Cc: David Lipp; Jim Colleli; Mark Light
Subject: FW: NORM wastes

Dear Jerry Ross:

Bureau management discussed this issue this morning and we will be getting back with you within the week with a more precise answer to your question on disposal of oil & gas TENORM in municipal waste landfills. Thank you for your patience.

Sincerely,

Chuck McCracken, Supervisor
Bureau of Radiation Protection
Ohio Department of Health
246 N. High Street - 7th Floor 35 Bldg.
Columbus, OH 43215
(ph) 614.466.5136
(fx) 614.466.0381

From: Ross, Jerry [mailto:]
Sent: Tuesday, November 01, 2011 11:49 AM
To: Jim Colleli
Subject: Re: NORM wastes

Thanks Jim, for your response. However, since Mahoning County mandates their landfills monitor for radiation, many of the drill cuttings will set off the radiation alarms, then our waste exclusion rules kick the problem back to your office. Even if the material is exempt waste under oil and gas exploration rules, the resultant NORM material creates disposal issues unless an exemption or acceptable safe level is given for the radiation properties of the material.

If someone at ODNR has the authority to issue these levels, would you please give me a contact name.

From: Jim Colleli [mailto:Jim.Colleli@odh.ohio.gov]
Sent: Tuesday, November 01, 2011 09:29 AM
To: Ross, Jerry
Cc: Chuck McCracken <Chuck.McCracken@odh.ohio.gov>
Subject: NORM wastes

Jerry,

Thanks for your inquiry yesterday in regard to NORM wastes from OIL and Gas operations in Ohio.

The Ohio Department of Natural Resources are the prime regulator for wastes resultant from oil and gas drilling in Ohio. I would contact them for what the accepted practices are for these types of wastes going forward.

Jim Colleli
Ohio Department of Health
Bureau of Radiation Protection
614-728-0882 direct
Jim.Colleli@odh.ohio.gov

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Lipp, David

From: Ross, Jerry <JRoss8@wm.com>
Sent: Sunday, December 04, 2011 6:45 PM
To: Helmer, Stephen
Cc: Trent, Kathy
Subject: RE: Regarding Your Request to ODH Bureau of Radiation Protection
Attachments: Waste Management Facilities in Ohio.doc

Stephen,
Attached are Waste Management's facilities in Ohio.

From: Helmer, Stephen [mailto:Stephen.Helmer@odh.ohio.gov]
Sent: Friday, December 02, 2011 2:35 PM
To: Ross, Jerry
Cc: Lipp, David; McCracken, Chuck; Colleli, Jim
Subject: RE: Regarding Your Request to ODH Bureau of Radiation Protection
Importance: High

Jerry,

I believe once I have a discussion with Ohio EPA (your industry regulatory) this will work itself out.

The new ODH rule regarding TENORM is in the process of being approved. It is still several months away from being approved.

TENORM: Technically Enhance Naturally Occurring Radioactive Material

It was put out for public comment and none were received. The process did include a number of meetings with ODH, ODNR and OEPA.

See draft: O.A.C. Rules 3701:1-43 <http://www.odh.ohio.gov/rules/drafts/drafts.aspx>

Specifically take a look at: 3701:1-43-07 Exemptions (I) and (J).

Our bureau just now realizes both from your email and now a draft document from OEPA that "cuttings" will likely go to Municipal Solid Waste Landfills and not necessarily to Hazardous Waste facilities. This will likely impact those landfills currently using radiation monitors.

The bureau is considering what guidance to provide for trucks manifested with "cuttings" from oil and gas exploration and production wastes that may cause an alarm.

I will look to see what can be done to help resolve your concern of possible alarms for what is to be "exempt" material.

As discussed on the phone please provide a list of the Waste Management facilities you are representing and an estimate of expected volume.

It was good talking with you.

Respectfully,

Stephen Helmer
Program Administrator
Ohio Department of Health
Bureau of Radiation Protection
Office: 614-728-3611
Cell: 614-477-5203

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Lipp, David

From: Eric Denison
Sent: Wednesday, October 19, 2011 12:10 AM
To: Stephanie Timmermeyer
Cc: David Lipp
Subject: RE: Frac flowback collection

Stephanie-

We are looking for permission to collect samples of flowback water and cuttings from both vertical and horizontal drilling evolutions. These samples would be sent to the ODH radiological lab and tested for levels of various natural radioactive isotopes.

It is my understanding that the earlier surveys using hand-held radiation meters did not show any readings above background. The laboratory analysis will be significantly more sensitive than any field survey could be.

I don't have all of the project notes with me, so I'm copying my supervisor on this. David, please let us know if I'm missing anything here.

Eric

From: Stephanie Timmermeyer [stephanie.timmermeyer@chk.com]
Sent: Monday, October 17, 2011 12:06 PM
To: Eric Denison
Subject: RE: Frac flowback collection

Eric:

I just need a full understanding of what you are requesting to do at our site. Gene mentioned actual water collection but last time you guys just tested on-site with your monitors.

Thanks

Steph

From: Eric Denison [mailto:Eric.Denison@odh.ohio.gov]
Sent: Friday, October 14, 2011 5:24 PM
To: Stephanie Timmermeyer
Subject: FW: Frac flowback collection

Hi, Stephanie-

I'll be out of the office next week, but will be checking e-mails and phone messages. Please let me know what information you need and I'll do my best to make sure you get it as soon as possible.

+++++

J. Eric Denison
Health Physicist, Technical Support Section
Ohio Department of Health
Bureau of Radiation Protection
246 North High Street
Columbus, OH 43215
Tel: (614) 644-6362
Fax: (614) 466-0381

From: Chini, Eugene [mailto:Eugene.Chini@dnr.state.oh.us]
Sent: Friday, October 14, 2011 3:08 PM
To: Eric Denison
Subject: Frac flowback collection

Eric:

Stephanie Timmermeyer of Chesapeake Energy would like you to contact her with regard to the collection of Frac flowback fluids.

Her email is : stephanie.timmermeyer@chk.com

Her phone #'s are:

304-353-5216 (Office)
304-941-9879 (Cell)

If you have any questions, let me know. Thanks.

Gene Chini

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Lipp, David

From: Stephanie Timmermeyer <stephanie.timmermeyer@chk.com>
Sent: Wednesday, October 19, 2011 10:46 AM
To: David Lipp
Cc: Eric Denison; Stephen Helmer
Subject: Re: Marcellus and Utica Shale Sampling

Thank you - I am working on the request now and will circle back you guys early next week. This description of the work plans helps.

Stephanie R. Timmermeyer
Chesapeake Energy
Director, Regulatory Affairs - Eastern Division
304.941.9879

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, October 19, 2011 09:42 AM
To: Stephanie Timmermeyer
Cc: Eric Denison <Eric.Denison@odh.ohio.gov>; Stephen Helmer <Stephen.Helmer@odh.ohio.gov>
Subject: Marcellus and Utica Shale Sampling

Stephanie,

This past spring, the Ohio Department of Natural Resources (ODNR) asked us to conduct a study of the naturally occurring radioactive material (NORM)/ technologically enhanced NORM (TENORM) that would be associated with the drilling for gas in the Utica and Marcellus shale. Our task for this is to characterize the relative concentrations of uranium-238 (U-238), thorium-232 (Th-232), radium -228 (Ra-228), radium 226, polonium-210, and lead-210 in the vertical cuttings, horizontal cuttings, and the backflow fracking water.

A seventh radionuclide, radon-222 (Rn-222), is a radioactive gas and will follow the gas and becomes more of an issue later in the process at a separation plant.

The build-up in the tubulars of mineral scale that includes the radium will also be an issue that the Department of Health (ODH) will address later, but will involve primarily the radiological decontamination service providers and pipe farms.

Therefore, this current study will involve:

- Traveling to drilling locations during the vertical drilling phase and collect approximately a one liter sample of the cuttings at specified depths and send them to the ODH's radioanalytical laboratory for analysis;
- Traveling to drilling locations during the horizontal drilling phase and collect a sample of the cuttings at specified distances and send for analysis;
- Traveling to drilling locations during the hydraulic fracturing process to collect approximately a one gallon sample of the frack water flowback and send for analysis; and
- While we are there to collect the sample, a quick, "immediate work area" survey of radiation exposure rates using hand-held radiological instrumentation.

The conditions that we understand are:

- ODH has no regulatory authority over the industry or on your site;

- We are only performing a radiological characterization of the NORM/TENORM in cuttings and flowback - no chemical analysis other than separation for radiological sample prep would be performed;
- We will be working through ODNr to gain access and permission to sample from the various gas drilling companies;
- We will comply with any and all company/site environmental, safety, health, and security requirements;
- We will need multiple access to sites depending on the process (vertical, horizontal, fracking) being performed.

Eric Denison, an ODH health physicist will be heading up the sampling along with other individuals from our Bureau to work with scheduling conflicts. If you have additional questions or will be needing more information please feel free to contact either Eric Denison or myself.

Sincerely,

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: Stephen Helmer
Sent: Friday, October 07, 2011 10:02 AM
To: David Lipp
Cc: Nickel, Brian
Subject: FW: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING
Attachments: Fracking _ State Legislation.docx

fyi

From: Ramon Bonzon [mailto:rbonzon@astho.org]
Sent: Friday, October 07, 2011 9:30 AM
To: Ted Wymyslo; Gus Birkhead Dr; Chris Curtis, MPH; Catherine Slemp, MD, MPH; Debra L Pellerin; Maryellen Jacobson; 'Avila, Eli'; Lisa Ellis; Chris Mathews; Fran Phillips; Howard A Freed; Robert L Chinery; 'David Patton'; Tom Forslund (Tom.Forslund@health.wyo.gov); Wha Lee Strohecker (wleestrohe@state.pa.us); Fran Phillips; Gene Phillips; Will McHugh; Catherine Slemp, MD, MPH; Maryellen Jacobson; Rebecca Fugitt; 'tom forslund'; Stephen Helmer
Subject: 2011 STATE LEGISLATIVE UPDATE: HYDRAULIC FRACTURING

Dear ASTHO Members,

As a follow-up to our initial discussion concerning Fracking and environmental health in September, I have attached a State Legislative Update concerning hydraulic fracturing. ASTHO continually tracks state and federal legislation on topics that our members are concerned with. We look forward to your continued engagement with this issue and we hope to provide or support any technical assistance that you may need. Together we can assist in assuring that the public's health is protected.

If you have any questions about the attached document or if you have any suggestions of how ASTHO can better serve you, please let me know.

Ramon L. Bonzon, MPH, CPH
Senior Director, Member Engagement & Development
Association of State & Territorial Health Officials
2231 Crystal Drive, Suite 450 | Arlington, VA 22202
Phone: (202) 371-9090 | Direct: (571) 527-3158
Email: rbonzon@astho.org
Cell: (571) 306-3168 | www.astho.org

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Lipp, David

From: Simmers, Rick <Rick.Simmers@dnr.state.oh.us>
Sent: Wednesday, October 05, 2011 8:00 AM
To: David Lipp
Subject: RE: Fracking Study

David, it has been difficult to find frac jobs in the flowback stage. There are currently 2 shale wells in Carroll Co that are flowing back. We are asking for permission for you or your coworkers to collect samples. I hope to have an answer before the meeting.

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Tuesday, October 04, 2011 10:29 AM
To: Simmers, Rick
Cc: Stephen Helmer; Eric Denison; Shear, Aaron
Subject: Fracking Study

Rick,

I need to find the status of the shale gas well sampling project and getting access to a fracking site. I have taken a new job as a Health Physics Supervisor and am assigning a new person to the project. His name is Eric Denison, a Senior Health Physicist in the Bureau that has been involved with Bureau's radiological emergency response. He will be attending the Wednesday meeting to meet the different parties and will take over the sampling study at that time. Please let me know if you have any questions.

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Marcellus Shale Meeting
OEPA/ODNR/ODH
Wednesday October 5, 2011
1:30 – 4:00 p.m.
Ohio DNR Fountain Square, Building H
2nd floor conference room
AGENDA

Welcome/Introductions	B. Hall
Drilling Activity/Updates	
<ul style="list-style-type: none">Ohio Drilling activity in the Marcellus/Utica – permit and drilling activity update	M. McCormac
September Energy Summit	T. Tugend
Permit conditions to protect GW and other sensitive environments/update	OEPA/ODNR
401/404	
<ul style="list-style-type: none">Development of General Permit/401 authorization	T. Harcarik
Wastewater/Brine Management	
<ul style="list-style-type: none">POTW wastewater management/updateUIC disposal/capacity update	B. Hall T. Tomastik
Air	
<ul style="list-style-type: none">General Permit for natural gas drilling/production	M. Hopkins
Waste/TENORM Update	
<ul style="list-style-type: none">Drill cuttings/solids sampling update OEPA-ODH coordination	ODH, OEPA
Outreach/Education/Meetings	
<ul style="list-style-type: none">Media Relations UpdateStatewide regional shale meetingsFact sheets/update	OEPA/ODNR ODNR OEPA/ODNR
Next Meeting/Agenda Items	OEPA/ODNR
<ul style="list-style-type: none">Set schedule for future meetings/frequency	

Lipp, David

From: Shear, Aaron <aaron.shear@epa.state.oh.us>
Sent: Tuesday, October 04, 2011 1:12 PM
To: David Lipp
Cc: Eric Denison
Subject: RE: Fracking Study

Thanks for the update David. Congratulation and best of luck at your new position. I'll introduce myself to Eric at the meeting tomorrow and see if we can pin Rick down with a date/time for another site visit.

Aaron Shear
Environmental Specialist



Environmental
Protection Agency

Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Direct 614-728-5350 • Fax 614-728-5315



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From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Tuesday, October 04, 2011 10:29 AM
To: Simmers, Rick
Cc: Stephen Helmer; Eric Denison; Shear, Aaron
Subject: Fracking Study

Rick,

I need to find the status of the shale gas well sampling project and getting access to a fracking site. I have taken a new job as a Health Physics Supervisor and am assigning a new person to the project. His name is Eric Denison, a Senior Health Physicist in the Bureau that has been involved with Bureau's radiological emergency response. He will be attending the Wednesday meeting to meet the different parties and will take over the sampling study at that time. Please let me know if you have any questions.

David R. Lipp
Health Physicist Supervisor
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: Shear, Aaron <aaron.shear@epa.state.oh.us>
Sent: Monday, October 03, 2011 9:54 AM
To: David Lipp
Subject: RE: Frack Water Site Visit for ODH

Good Morning David,

Has there been any further discussion on dates/times pertaining to shale gas drilling site visits?

I just reviewed the draft agenda for Wednesday's multi-agency Shale Meeting at ODNR and see that there is currently a placeholder for "Waste/TENORM Update – ODH, OEPA".

Will you be attending the meeting on Wednesday?

Best regards,

Aaron Shear
Environmental Specialist



Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Direct 614-728-5350 • Fax 614-728-5315



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From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, September 07, 2011 2:44 PM
To: Rick.Simmers@dnr.state.oh.us; Thomas.Tugend@dnr.state.oh.us
Cc: Shear, Aaron; Eric Denison; Shannon Dettmer
Subject: Frack Water Site Visit for ODH

Just a quick email to check on the status of arranging a site visit for ODH to a shale gas well undergoing fracking. I think there will be 3 from ODH and Aaron Shear from Ohio EPA.

Thanks,

David R. Lipp
Senior Health Physicist
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: Simmers, Rick <Rick.Simmers@dnr.state.oh.us>
Sent: Friday, September 09, 2011 10:43 AM
To: David Lipp
Cc: Hetzel-Evans, Heidi
Subject: RE: Public Request for POC

David, please direct public inquiries through Heidi. Thanks

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Thursday, September 08, 2011 12:20 PM
To: Simmers, Rick; Tugend, Thomas
Cc: Stephen Helmer; Eric Denison
Subject: Public Request for POC

Rick,

I have received a request from a member of the public for an ODNR contact on the Marcellus Shale cuttings, frack water sample project that is going to be performed by ODH. Who would you like designated as your lead on public inquiries?

Thanks,

David R. Lipp
Senior Health Physicist
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: Simmers, Rick <Rick.Simmers@dnr.state.oh.us>
Sent: Friday, September 09, 2011 10:36 AM
To: David Lipp
Subject: RE: Frack Water Site Visit for ODH

David, we are still trying to coordinate this for you

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, September 07, 2011 2:44 PM
To: Simmers, Rick; Tugend, Thomas
Cc: Shear, Aaron; Eric Denison; Shannon Dettmer
Subject: Frack Water Site Visit for ODH

Just a quick email to check on the status of arranging a site visit for ODH to a shale gas well undergoing fracking. I think there will be 3 from ODH and Aaron Shear from Ohio EPA.

Thanks,

David R. Lipp
Senior Health Physicist
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: keith sadler <k_b_sadler@yahoo.com>
Sent: Saturday, September 03, 2011 6:53 PM
To: David Lipp
Subject: Re: Radiation in hydraulic fracturing fluids?

It was good speaking with you this past Thursday. I want to recap part of the conversation. ODH is only conducting a study for ODNR concerning NORMs in the processing or extraction of O&G within the deep shales within Oh. As we discussed I and many others are interested in your findings along the way as well as any reports, interim and/or final. The possibility of an "interested party" email or other notification process is an avenue we would like to see. As we also discussed it is not your call so I would like the name of the person in charge of this study at ODH and who at ODNR is the contact and/or initiator of this study. It is okay with me if ODH wants me to be in contact with you on this issue. I await your reply on this matter.
Thank You Very Much

Keith b. Sadler

From: David Lipp <David.Lipp@odh.ohio.gov>
To: "k_b_sadler@yahoo.com" <k_b_sadler@yahoo.com>
Sent: Thursday, September 1, 2011 10:40 AM
Subject: FW: Radiation in hydraulic fracturing fluids?

Mr. Sadler,

The Ohio Department of Natural Resources (ODNR) has asked the Ohio Department of Health, Bureau of Radiation Protection (ODH/BRP), to perform a study of the levels of naturally occurring radioactive material (NORM) that are present in the soil and rock drill cuttings and the frack water / flowback water / produced water that result from drilling for shale gas in the Marcellus and Utica shale in eastern Ohio. We have not been asked to take over monitoring or making policy for these operations. Both of these tasks, by Ohio law, are the sole jurisdiction of ODNR ([section 1509.02 of the Ohio Revised Code](#)).

Some confusion may have been created because ODH/BRP has developed and placed on the ODH web site for public comment, a proposed set of draft rules (Ohio Administrative Code) for the licensing and control of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). These draft rules specifically exempt the oil and gas industry from ODH/BRP oversight and refer to above mentioned state statute which designates ODNR as the regulatory oversight agency.

For the radiological study ODH/BRP has been asked to perform, our goal is to roughly characterize the levels of the radioactive material in the drill cuttings and fracking water / flowback water / produced water in Ohio. We will compare the levels that we find in Ohio samples to the results from other states' sampling projects. This study is expected to be a longer term study in order to get enough data points from enough areas in Ohio. In the study:

- We will be obtaining samples of the "cuttings" from both the vertical and horizontal phases of the during the drilling of the Marcellus and Utica shale gas wells. Because the drilling operation is spread out over time, we will obtain a vertical sample one day and have to return perhaps a couple of weeks later to collect a horizontal sample from the same well. Also, because a well is drilled only once, we will not be able to obtain samples for existing wells.
- We will be obtaining samples of the frack water / flowback water / produced water during that phase of the operation. Again, since this is a phased operation, we will be scheduling with ODNR for a third, later visit to the well site during the hydraulic fracturing process to obtain a sample of that material.

- We will have the ODH Public Health Laboratory perform the radioactive analysis of each of the samples.

The radionuclides of concern will be uranium-238 (U-238) and thorium-232 (Th-232), both of which are radionuclides that occur naturally throughout the earth's crust.

We will also be looking at the naturally occurring radioactive decay products from the U-238 and Th-232 decay chains that have a longer radioactive half-life. These include:

From the U-238 chain: radium-226 (Ra-226), polonium-210 (Po-210), and lead-210 (Pb-210).

From the Th-232 chain: radium-228 (Ra-228)

Another radionuclide of concern, more related to the production or "pumping gas" phase of the wells operational life, will be radon-222 (Rn-222). This radon-222 is the same naturally occurring radioactive gas that people test for in their homes. The radon gas is a naturally occurring radioactive decay product of the radium-226 which, again comes from the uranium-238 in the soil.

The current status of the study is we are in the process of gearing up to begin the sampling project. Again, because of the creation of the well is a phased process, and because of the still limited, but ramping up, amount of drilling in Ohio, the study or sample collection is expected to last for many months. A simple report of the sampled material's naturally occurring radioactive material data will be generated and should include a simple comparison of Ohio results to the other states' results. This radiological characterization study and the project report is currently all that the Ohio Department of Health has been tasked with, or asked to perform by the Ohio Department of Natural Resources.

However, even though radioactive material from the shale gas exploration and production operations is outside the jurisdiction of the Ohio Department of Health, one process that interacts with the gas drilling industry and that will be under the jurisdiction of ODH involves "service provider" companies that perform radiological decontamination services or that cleanout and recondition pipe, removing mineral scale that has built up during the normal well operation.

The mineral scale is typically made of barium sulfate, strontium sulfate, or calcium carbonate. These materials are naturally occurring non-radioactive minerals that move with the produced water. Radioactive radium is chemically similar to barium, strontium, and calcium so it will also move with the other minerals in the produced water and deposits in the pipes, valves, and pumps (tubulars) as part of the mineral scale. Just as water pipes in your home build up calcium and lime deposits (hard water) and eventually pinch off water flow from a shower to a trickle, the production flow through gas and oil pipe can be drastically restricted, resulting in the need to replace the pipe or component. A "service provider" company is then used to cleanout the scale and recondition the pipe or component for reuse.

These "service providers" will be subject to regulatory oversight of the Ohio Department of Health and be required to comply with the radioactive material licensure requirements of Chapter 3748. of the Ohio Revised Code, the radiological protection rules in Chapter 3701:1-38 of the Ohio Administrative Code, and the requirements in our proposed Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) draft rules in Chapter 3701:1-43 of the Ohio Administrative Code (currently – 8/26/11 - on the ODH website for public comment). These rules contain radiation exposure limits, radiological dose monitoring requirements, material handling and posting requirements, radioactive waste disposal requirements, record keeping requirements, etc.

I hope this answers your questions, but if you need more information, or think of additional questions, please feel free to contact me at David.Lipp@odh.ohio.gov or at (614) 644-2727.

David Lipp
Senior Health Physicist
Technical Support
Ohio Department of Health / Bureau of Radiation Protection
David.Lipp@odh.ohio.gov
(614) 644-2727

From: BRadiation
Sent: Monday, August 22, 2011 2:58 PM
To: David Lipp
Cc: Stephen Helmer
Subject: FW: Radiation in hydraulic fracturing fluids?

From: keith sadler [k_b_sadler@yahoo.com]
Sent: Monday, August 22, 2011 11:17 AM
To: BRadiation
Subject: Radiation in hydraulic fracturing fluids?

Have I got the right dept? I know the ODNR has asked you to take over monitoring and making policy regarding radioactive materials in oil & gas produced wastewater and would like to get an update on the status of this project and results of any and all testing you've done. I'd prefer this to be in electronic format if possible. If any explanation of the results like what the bsafe limits are please include that as well as a guide to any acronyms or abbreviations You may call me at 419-345-6937 if you need any clarification.
Thank you for your assistance

Keith b. Sadler

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Lipp, David

From: Stevenson, Laurie <laurie.stevenson@epa.state.oh.us>
Sent: Wednesday, August 24, 2011 11:19 AM
To: 'Chris.Perry@dnr.state.oh.us'; 'Heidi Hetzel-Evans'; 'mike.hallfrisch@dnr.state.oh.us'; 'mike.mccormac@dnr.state.oh.us'; 'rick.simmers@dnr.state.oh.us'; 'ted.lozier@dnr.state.oh.us'; 'thomas.tugend@dnr.state.oh.us'; 'tom.tomastik@dnr.state.oh.us'; Shear, Aaron; Cirker, Benjamin; Hall, Brian; Lowe, Chuck; Nygaard, Eric; Goicochea, Joe; Weiss, Kristopher; Burkleca, Lee; Taliaferro, Lindsay; Baker, Mike; Eggert, Michael; Parsons, Misty; Settles, Mike; Laake, Ryan; Freeman, Tracy; Harcarik, Tom; Nickel, Brian; Kniss, Donna; Underwood, Dan; Adams, Eric; Gomes, Erm; Snell, Fred; Rice, Nancy; Blasick, Rich; DiFranco, Stivo; Saines, Steve; Williams, Steve; Wilson, Virginia; Chuck McCracken; Michael Snee; Rebecca Fugitt; Stephen Helmer; David Lipp; Hopkins, Mike
Subject: Draft notes from 7/12 meeting and final fact sheet
Attachments: ShaleTeamMeetingNotes7-12-11.docx; July2011GeneralShale-FactSheetFinal.pdf

Hi everyone. I'm sending out the draft notes from our 7/12 meeting. If you have additions/edits, please give them to me by the end of next week and I'll get the notes finalized.

I'm also passing along the final version of the revised general fact sheet on shale drilling. Many of you have received this electronically, but I wanted to make sure everyone was aware that it's done.

Also, I have not forgotten about the general fact sheet for drillers. As you may recall, we haven't finalized this one yet. Given some significant progress with the development of general permits here (air and 401) I am in the process of another revision to the draft fact sheet to include information on this. I also received ODNR's comments on the past draft that I will be addressing. Given these changes, I will likely send this around to the team again as a revised draft for one last quick review before we go final with it. I just wanted to update folks on where we're at with this one, as several people have asked about it.

As a final note, we're scheduled for our next meeting on Weds., October 5th from 1:30-4:00 at ODNR.

Thanks.
Laurie

Lipp, David

From: Chuck McCracken
Sent: Wednesday, August 24, 2011 9:40 AM
To: David Lipp
Subject: Marcellus Shale Reserve Update

Dave:

In the spirit of interagency communication, maybe you should you share this article with your POC's at ODNR & OEPA, in the off-chance that they didn't see it.?

Shale reserve estimate slashed

Chuck

Lipp, David

From: Ferguson, Chad <chad.ferguson@epa.state.oh.us>
Sent: Monday, August 15, 2011 12:57 PM
To: David Lipp
Subject: FW: radionuclides

Hello, sir. Please see the email below for my question, and thank you for your time.

CF

Chad Ferguson, Ph.D.
Environmental Specialist
Ohio Environmental Protection Agency
Division of Materials and Waste Management
Environmental Research and Information Services Unit
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049
Office: (614) 728-5371
Fax: (614) 728-5315
chad.ferguson@epa.ohio.gov

From: Clayton, Zack
Sent: Friday, August 12, 2011 10:38 AM
To: Ferguson, Chad
Cc: McGinnis, Ralph; Sarvis, Harry; Lipp, David R.
Subject: RE: radionuclides

I got hold of Department of Health and the person you want that does TENORM is David Lipp,
david.lipp@odh.ohio.gov 614.728.0884

Zack A. Clayton
Sr Health Physicist
Ohio EPA DERR
Voice 614.644.3066
FAX 614.644.3250

From: Ferguson, Chad
Sent: Tuesday, August 09, 2011 9:20 AM
To: Clayton, Zack
Cc: McGinnis, Ralph; Sarvis, Harry
Subject: radionuclides

Hello, sir. We have been approached by an entity that would like to explore beneficial use opportunities for drinking water treatment residuals (WTR). A quick scan of the literature indicates that the potential for WTR radionuclide accumulation should be considered before any beneficial use (Ippolito et al. 2011; see attached), but I have no experience in assessing this type of risk. Would you please recommend what radiological testing we should require of this entity in order to make sure that we do not allow a beneficial use, e.g., putting WTR on cropland or along waterways for phosphorus sorption, that exceeds appropriate standards (and, indeed, what and where are these, please?). If it is a

useful point of reference, DMWM has been using U.S. EPA Regional Screening Levels (RSLs) for other chemicals of concern in materials under consideration for beneficial use. Please advise, and thank you for your time.

CF

Chad Ferguson, Ph.D.
Environmental Specialist
Ohio Environmental Protection Agency
Division of Materials and Waste Management
Environmental Research and Information Services Unit
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049
Office: (614) 728-5371
Fax: (614) 728-5315
chad.ferguson@epa.ohio.gov

This message was secured by ZixCorp^(R).

Lipp, David

From: Michael Snee
Sent: Friday, August 12, 2011 9:32 AM
To: Stephen Helmer; Mark Light; Chuck McCracken; David Lipp
Subject: FW: Army Corp. concerned about fracking near dams - what about near Superfund Sites?
Attachments: PTTC_shale_horizontal_fracturing.pdf; aogr_article-_data_prove_safety_of_frac.pdf

From: crborello@aol.com [mailto:crborello@aol.com]

Sent: Friday, August 12, 2011 9:25 AM

To: tom.tomastik@dnr.state.oh.us; thomas.tugend@dnr.state.oh.us; larry.antonelli@epa.state.oh.us; rod.beals@epa.state.oh.us; steve.love@epa.state.oh.us; michael.julian@mail.house.gov; jonathan_mccracken@brown.senate.gov; kristin_vennekotter@brown.senate.gov; beth_thames@brown.senate.gov; holly.nagle@ohr.state.oh.us; sd18@senate.state.oh.us; Michael Snee; yonce.stacey@epamail.epa.gov
Cc: dusty@ewg.org; fredrossetti@sbcglobal.net; ccwits@sbcglobal.net; njboldt@att.net; scribman33@yahoo.com; GColeridge@afsc.org; warnermendenhall@hotmail.com; vpesec@roadrunner.com; millstb@aol.com; k_marx1@yahoo.com; tjldodge50@yahoo.com; cdvolz.drph@gmail.com; fight11@verizon.net; glassart@dishmail.net; lrg904@yahoo.com; jeannecebulla25@sbcglobal.net; tvoneida@neoucom.edu; elisayoung1@yahoo.com; ellen@theoec.org; jack@theoec.org; m.baughman@att.net; tramols@att.net; lougiavasis1@hotmail.com; marycirelli@neo.rr.com; hnilges@morrowmeyer.com; jdavies3@sbcglobal.net; bdowning@thebeaconjournal.com; kevin.kampman@cantonrep.com; jeff.gauger@cantonrep.com; joe.martuccio@cantonohio.gov; tyler.converse@cantonohio.gov; warren.price@cantonohio.gov; mbaughm2@kent.edu; lfuquen@kent.edu; thiggins@kent.edu

Subject: Fwd: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

Ohio Dept. of Natural Resources, Oil & Gas Division
Mr. Tom Tomastik

cc: Tugend, Antonelli, Beals, Love, Snee, Yonce

Dear Tom:

Nowhere in my memo yesterday did I refer to **earthquakes and the IEL toxic dumpsite**, though we are, in fact, aware of a fault line not far from the site, according to the Stark Emergency Planning Report issued recently, along the Stark Summit border, as well as one in nearby Suffield near IEL's sister site, Wingfoot Lake, a former top secret DOE facility for gaseous diffusion and the precursor to DOE's Portsmouth site, according to what we were told by the NRC Region 3, formerly run by Goodyear Atomic, NRC said. We believe CHK is planning a drilling pad near there.

Rather, I was referring to merely **disturbing what is buried within the Uniontown IEL landfill**, which were were told by an expert witness who was turned lose on files in PRPs' Cleveland law office prior to deposition taking for the Blanton Beltz wrongful death case, that the IEL contains quote: ... **"top secret Army nuclear weapons waste materials; it's a small Rocky Flats, a plutonium dump."** (Blanton Beltz, a former first grade student of mine, died of bone cancer living on the south side of the dump.) . The Federal Judge overseeing IEL, Judge Manos, reportedly told two Canton Rep reporters during an interview in response to the question posed by the one reporter, asking the Judge whether the children were safe living near the site: **The children are not safe (living in Uniontown), - they all know it's there, but if they dig and mess up, they may have to evacuate up to 20 miles, proceeding to ask these reporters how far IEL is from Akron; Canton...** suggesting the dump should not be disturbed, as Rep. Snitchler had said just last fall he had been advised.

Indeed, we all are well aware of reports out of Arkansas about injection wells and earthquake swarms, as well as the earthquakes linked to the injection well here in Ashtabula, Ohio. However, in this instance yesterday, I again was simply questioning the safety of hydrofracking conducted near IEL, based upon the news report provided regarding the Army Corp.'s concerns and dams. In other words, if **the Army Corp. is concerned enough about structures like massive dams potentially cracking/being affected by hydrofracking, to seek significant set backs, formally or informally on the QT, we certainly believe we have every right to be duly concerned and seek such zones when deadly contaminants in our Superfund Site could be disturbed!** Perhaps the dump wouldn't blow up, per se, but it is the

insidious leakage into our area's aquifer that continues to remain unmonitored today, despite EPA being aware of US EPA's validated Plutonium evidence including in the area west, where one driller has sought mandatory pooling to force the issue, with CHK reportedly acquiring leases in close proximity in other directions around the site. It is easy for you and others to claim there's "no evidence" of migration - but we all know that if you don't look, you don't find. That DOES NOT mean it isn't occurring.

Regards,

Chris Borello, for CCLT, Uniontown IEL Superfund Site, Ohio

& Stark Concerned Citizens

-----Original Message-----

From: Tomastik, Tom <Tom.Tomastik@dnr.state.oh.us>

To: crborello <crborello@aol.com>

Sent: Fri, Aug 12, 2011 6:53 am

Subject: RE: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

Chris:

Seismicity can be caused by a number of things in our world including such events as trains running down the tracks or basting done for highways or in mining operations. These types of events, which can be recorded on seismic equipment, are called "microseismicity" as they are very low frequency events that are barely detected on the Richter Scale. They do not cause earthquakes, in fact microseismicity is used to map the horizontal and vertical extent of hydraulic fracturing jobs. I have attached one paper that has been published and a presentation that clearly demonstrates that hydraulic fracturing does not communicate back to the surface. This data demonstrates with factual evidence that dispels the myths that continue to circulate in the Media and on the Internet about hydraulic fracturing.

Tom Tomastik, Geologist 4
Division of Mineral Resources Management
2045 Morse Road, H-3
Columbus, Ohio 43229-6693
(614) 265-1032

From: crborello@aol.com [mailto:crborello@aol.com]

Sent: Thursday, August 11, 2011 5:29 PM

To: larry.antonelli@epa.state.oh.us; rod.beals@epa.state.oh.us; steve.love@epa.state.oh.us

Cc: Tugend, Thomas; Tomastik, Tom; jeff.gauger@cantonrep.com; bdowning@thebeaconjournal.com; scribman33@yahoo.com; tjlodge50@yahoo.com; dusty@ewg.org; levans@earthjustice.org; jeffreystant@sbcglobal.net; edjulier@aol.com; rsahli@columbus.rr.com; millstb@aol.com; vpesec@roadrunner.com; damsel16@aol.com; linc20@yahoo.com; tommysgirl1863@yahoo.com; ccwits@sbcglobal.net; njboldt@att.net; tramols@att.net; brkkatz09@sbcglobal.net; cdvolz.drph@gmail.com; fight11@verizon.net; glassart@dishmail.net; loughiavasis1@hotmail.com; joe.martuccio@cantonohio.gov; jdavies3@sbcglobal.net; hnilges@morrowmeyer.com; chuckosborne@neo.rr.com; m.baughman@att.net; webmaster@northcanton.com; k.marx1@yahoo.com; elisayoung1@yahoo.com; jonathan.mccracken@brown.senate.gov; kristin.vennekotter@brown.senate.gov; beth.thames@brown.senate.gov; holly.nagle@ohr.state.oh.us; jrb87@bluemarble.net

Subject: Fwd: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

Ohio EPA NEDO - Twinsburg, Ohio cc:ODNR, US EPA Region 5

Att: Larry Antonelli, Rod Beals, Steve Love

Gentlemen:

Please find the below article regarding Army Corp.'s concerns about hydrofracking near dams apparently due to seismic activity created. Citizens remain deeply concerned about all the leasing right up to the Uniontown IEL Superfund Site boundaries. A mere 300 foot "buffer" is clearly inadequate that Ohio EPA has cited to us. As you

well know, US EPA declared rounds of Plutonium testing "valid" conducted by the PRPs in 2000/01. Plutonium experts review of said data indicated levels in the groundwater around IEL compares to the groundwater at the Nevada Test Site, after the detonation of over 800 nuclear devices. Experts estimated that based upon that validated data, up to 1/2 ton of Plutonium may be buried within IEL. Former landfill owner/operator, Charles Kittinger broke a 30 + year silence (he said his life had been threatened to keep quiet all those years) - and testified before the Federal Judge in Cleveland, Ohio that the US Army buried large containers of Plutonium at the site. EPA "MRI's, found under the "docs" link on CCLT's website, indeed showed dark purple "egg shapes" where Mr. Kittinger had told the Federal EPA the Army's containers were buried and covered with fly ash...These are the facts, despite EPA's attempts to subsequently discredit those validated data sets. They could have chosen to "invalidate" them, but they did not. EPA officials told residents at a public hearing that IF data is in fact deemed valid, it is "good and usable in court."

IF Mr. Kittinger and independent Plutonium experts are right, and EPA is wrong, and "fracking" commences near the IEL, what could result? State Rep. Todd Snitcher (Gov. Kasic's point person for fracking under the PUCO heading) said he had been advised that the dumpsite would be ok, "as long as it wasn't disturbed"....

Could seismic activity occur and disturb IEL? US EPA Region 5 infact brought seismic equipment TO IEL in the mid 1980's when the community experienced strange groundshaking, loud explosions. Please contact Uniontown's former police chief, Steve Wolfe to confirm this. Steve was interviewed by a Cleveland TV station on this.

Concerned Citizens of Lake Twp./ Uniontown IEL Superfund Site..

The Dallas News. July 31, 2011. The U.S. Army Corps of Engineers is concerned that hydraulic fracturing of natural-gas wells near its dams — such as the one at Joe Pool Lake in southwestern Dallas County — could threaten dam safety. <http://www.dallasnews.com/news/community-news/grand-prairie/headlines/20110731-corps-worries-that-fracking-gas-wells-might-hurt-dams.ece>

Lipp, David

From: Michael Snee
Sent: Friday, August 12, 2011 8:33 AM
To: Stephen Helmer; Mark Light; Chuck McCracken; David Lipp
Subject: FW: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

From: crborello@aol.com [mailto:crborello@aol.com]
Sent: Thursday, August 11, 2011 5:31 PM
To: yonce.stacey@epamail.epa.gov; nirsnet@nirs.org
Subject: Fwd: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

-----Original Message-----

From: crborello <crborello@aol.com>
To: larry.antonelli <larry.antonelli@epa.state.oh.us>; rod.beals <rod.beals@epa.state.oh.us>; steve.love <steve.love@epa.state.oh.us>
Cc: thomas.tugend <thomas.tugend@dnr.state.oh.us>; tom.tomastik <tom.tomastik@dnr.state.oh.us>; jeff.gauger <jeff.gauger@cantonrep.com>; bdowning <bdowning@thebeaconjournal.com>; scribman33 <scribman33@yahoo.com>; tjlodge50 <tjlodge50@yahoo.com>; dusty <dusty@ewg.org>; levans <levans@earthjustice.org>; jeffreystant <jeffreystant@sbcglobal.net>; edjulier <edjulier@aol.com>; rsahli <rsahli@columbus.rr.com>; millstb <millstb@aol.com>; vpesec <vpesec@roadrunner.com>; damsel16 <damsel16@aol.com>; linc20 <linc20@yahoo.com>; tommysgirl1863 <tommysgirl1863@yahoo.com>; ccwits <ccwits@sbcglobal.net>; njboldt <njboldt@att.net>; tramols <tramols@att.net>; brkkatz09 <brkkatz09@sbcglobal.net>; cdvolz.drph <cdvolz.drph@gmail.com>; fight11 <fight11@verizon.net>; glassart <glassart@dishmail.net>; lougiavasis1 <lougiavasis1@hotmail.com>; joe.martuccio <joe.martuccio@cantonohio.gov>; jdavies3 <jdavies3@sbcglobal.net>; hnilges <hnilges@morrowmeyer.com>; chuckosborne <chuckosborne@neo.rr.com>; m.baughman <m.baughman@att.net>; webmaster <webmaster@northcanton.com>; k_marx1 <k_marx1@yahoo.com>; elisayoung1 <elisayoung1@yahoo.com>; jonathan_mccracken <jonathan_mccracken@brown.senate.gov>; kristin_vennekotter <kristin_vennekotter@brown.senate.gov>; beth_thames <beth_thames@brown.senate.gov>; holly.nagle <holly.nagle@ohr.state.oh.us>; jrb87 <jrb87@bluemarble.net>
Sent: Thu, Aug 11, 2011 5:29 pm
Subject: Fwd: Army Corp. concerned about fracking near dams - what about near Superfund Sites?

Ohio EPA NEDO - Twinsburg, Ohio cc:ODNR, US EPA Region 5

Att: Larry Antonelli, Rod Beals, Steve Love

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<http://www.dallasnews.com/news/community-news/grand-prairie/headlines/20110731-corps-worries-that-fracking-gas-wells-might-hurt-dams.ece>

Lipp, David

From: Shear, Aaron <aaron.shear@epa.state.oh.us>
Sent: Monday, August 08, 2011 11:55 AM
To: David Lipp
Subject: RE: Marcellus and Utica Shale Site Visit

Hello David,

Any word on when and where this site visit will take place? I'll be out of the office the next two Friday's but should otherwise be able to open up my schedule to attend.

Thanks,
Aaron

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, July 20, 2011 2:52 PM
To: Shear, Aaron
Subject: RE: Marcellus and Utica Shale Site Visit

Aaron,

Tom Tomastik mentioned that he had someone that could collect a sample of the shale for us and give it to me at the visit. I still am finalizing the analysis with the ODH lab since they will have to send the sample out for thorium analysis. I am really wanting to see the site physical layout first and see what the material looks like before I start sampling. I have been told by a contractor that did sampling in Pennsylvania that the frack water was not the easiest material to analyze.

We will have a hand held survey meter and will take dose rate measurements around the equipment.

As far as a camera, we were allowed limited use of our camera. They have proprietary equipment that they do not want photographed so we had to ask about each specific shot.

The site allowed no cell phones and collected all before we did our walk-around.

PPE consisted of safety shoes, safety glasses, hard hat, and they provided paper coveralls (essentially Level D).

Then entire visit - safety briefing/tour/questions lasted about ~ 45 minutes.

Let me know if you have any other questions.

David

From: Shear, Aaron [mailto:aaron.shear@epa.state.oh.us]
Sent: Wednesday, July 20, 2011 1:30 PM
To: David Lipp
Cc: Goicochea, Joe
Subject: RE: Marcellus and Utica Shale Site Visit

David,

My schedule is fairly open next week and, if possible, I would like to join ODH and ODNR on the site visits. Are you planning on collecting soil samples for laboratory analysis, or will you only be using field instrumentation to collect real time data measurements? Also, do you know if we'll be allowed to take photos during the site visits?

Thanks for the update,

Aaron Shear
Environmental Specialist



Environmental
Protection Agency

Division of Materials and Waste Management
Solid Waste Compliance and Inspection Support Unit
50 West Town Street, Suite 700
P.O. Box 1049
Direct 614-728-5350 · Fax 614-728-5315



Please consider the environment before printing this email.

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, July 20, 2011 9:06 AM
To: Shear, Aaron
Cc: Stephen Helmer; Shannon Dettmer
Subject: Marcellus and Utica Shale Site Visit

Aaron,

I spoke with Tom Tomastik yesterday afternoon about setting up a site visit to get a look at the fracking process. He mentioned there is both a site performing horizontal boring through Utica shale and a second site, not too far from the first, that is about to start the hydraulic fracturing process. He indicated that in about a week to 10 days they would be done and the flowback water would begin coming out. Currently, the site has transitioned from the drill rig to a manifold and about 40 frack tanks lined up.

I don't have a date or time yet, but will keep you informed as soon as I hear anything. I will be out the first full week of August so hopefully it will be next week.

Thanks,

David R. Lipp
Senior Health Physicist
Bureau of Radiation Protection, Technical Support
Ohio Department of Health
(614) 728-0884
david.lipp@odh.ohio.gov

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Lipp, David

From: Shear, Aaron <aaron.shear@epa.state.oh.us>
Sent: Wednesday, July 20, 2011 4:33 PM
To: David Lipp
Subject: RE: Marcellus and Utica Shale Site Visit

David,

The logistics sound very similar to the site visit we made several months ago. I look forward to hopefully being able to attend.

Let me know when you get more date/time/location specifics.

Thanks,
Aaron

From: David Lipp [mailto:David.Lipp@odh.ohio.gov]
Sent: Wednesday, July 20, 2011 2:52 PM
To: Shear, Aaron
Subject: RE: Marcellus and Utica Shale Site Visit

Aaron,

Tom Tomastik mentioned that he had someone that could collect a sample of the shale for us and give it to me at the visit. I still am finalizing the analysis with the ODH lab since they will have to send the sample out for thorium analysis. I am really wanting to see the site physical layout first and see what the material looks like before I start sampling. I have been told by a contractor that did sampling in Pennsylvania that the frack water was not the easiest material to analyze.

We will have a hand held survey meter and will take dose rate measurements around the equipment.

As far as a camera, we were allowed limited use of our camera. They have proprietary equipment that they do not want photographed so we had to ask about each specific shot.

The site allowed no cell phones and collected all before we did our walk-around.

PPE consisted of safety shoes, safety glasses, hard hat, and they provided paper coveralls (essentially Level D).

Then entire visit - safety briefing/tour/questions lasted about ~ 45 minutes.

Let me know if you have any other questions.

David

From: Shear, Aaron [mailto:aaron.shear@epa.state.oh.us]
Sent: Wednesday, July 20, 2011 1:30 PM
To: David Lipp
Cc: Goicochea, Joe
Subject: RE: Marcellus and Utica Shale Site Visit

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Ohio EPA/ODNR/ODH Shale Team Meeting
July 12, 2011 Notes
DRAFT

ODNR UPDATES

ODNR's tracking system is now for horizontal permits. Companies drilling vertical well (stratigraphic testing) – now removed from their tracking system. Status fields: permitted, drilling, completion, production, expired (never drilled). This should be more helpful/accurate information for interested parties wanting to know about current activity. Could be moving to a GIS based system down the road.

Utica: Buel well is actually producing for Ohio Buckeye Energy. Companies are required to submit an annual statement of activity to ODNR by March 31st. Do not know if it's oil or nat gas predominantly now.

ODNR's Technical Team – Geologic Survey

Technical information will be compiled by the team. Goal of understanding all technical issues related to hydraulic fracturing: chemicals, design, perforations, flowback volumes, production capability, etc. There's a need to get more scientific information out to the public regarding hydraulic fracturing.

UIC Disposal

- 178 permitted wells (6 not drilled yet, 172 active)
- 8 new applications since May (5 permits issued) 3 applications under review.
- Out of state wastes to UICs in Ohio – approximately - Oct-Dec 39% coming from PA. Jan-March 59%.

Permit Conditions (OEPA/ODNR), M. Baker, T. Tugend

In final stages of agreeing upon language that will go into future permits regarding protecting sensitive gw areas. Next steps include letter from OEPA to ODNR. T. Tugend indicates ODNR will follow-up on this.

OEPA UPDATES

401 General Permit, T. Harcarik

OEPA has drafted a 401 general permit which is under internal review in OEPA. Comments came in around 4th. Will be distributed to ODNR for review. Less than .5 acre wetland and less than 1,500 linear ft of stream – qualify for nationwide permit. OEPA is developing a GP which will get through OEPA. If you exceed thresholds, not eligible. Still may need to deal with Army Corps for individual 404 permit.

Once finished internally at OEPA, will submit to ODNR/USACE for review. Also, OEPA is planning outreach to industry and other interested parties. There will also be a public comment/review period.

Warren/Patriot (B. Hall)

No new developments following issuance of the Director's letter from OEPA to ODNR.

Air Permit Update (M. Hopkins)

Air general permit is being developed for natural gas drilling. Construction/installation sources – most of these are exempt from air permitting because either they are temporary in nature, are exempt by rule or would be classified as de minimis sources. Once completion is done and the site goes into production, these units are regulated – not exempt unless de minimis. GP sent out: several units identified. Met with OOGA and industry reps. They are preparing additional comments for OEPA.

Next steps: Will get comments, another review to more interested parties. Official 30 day comment period when the draft is issued.

Waste/Solid Waste (D. Lipp, ODH and A. Shear, OEPA)

David Lipp provided an update on ODH's recent site visit to drill site. They did some monitoring via. low level rad meter (nothing found above background). Could not find any evidence of llrw or exposure concerns.

TENORM, D. Lipp

TENORM rules approved to go out for public comment. By Weds or Fri of next week, should go on the ODH Website.

MEDIA/OUTREACH (OEPA/ODNR/ODH)

- ODNR receiving many Class II injection well inquiries.
- The group discussed an additional water sampling fact sheet – companion to initial fact sheet. This would focus on the question: What do the results mean? Water sampling factsheet sent out to the local HDs.
- General fact sheet update – ODNR wants to get this out to make available at the State Fair.
- ODNR has completed first line of general fact sheets (5 total). The next ones will focus on Class II injection wells and FAQs.
- OEPA – drillers fact sheet forthcoming.

NEXT MEETING

October 5th (Weds.), 1:30-4:00 at ODNR.

Marcellus Shale Meeting
OEPA/ODNR/ODH
Tuesday, July 12, 2011
1:30 – 4:00 p.m.
Ohio EPA, Center for Excellence
AGENDA

Welcome/Introductions	All
Drilling Activity/Updates	
<ul style="list-style-type: none">Ohio Drilling activity in the Marcellus/Utica – permit and drilling activity update	M. McCormac
New ODNR technical team to look at all the issues surrounding hydraulic fracturing	ODNR
Permit conditions to protect GW and other sensitive environments/update 401/404	OEPA/ODNR
<ul style="list-style-type: none">Development of General Permit/401 authorization	T. Harcarik
Wastewater/Brine Management	
<ul style="list-style-type: none">POTW wastewater management/updateUIC disposal/capacity update	L. Stevenson/NEDO T. Tomastik
Air	
<ul style="list-style-type: none">General Permit for natural gas drilling/production	M. Hopkins
Waste	
<ul style="list-style-type: none">Drill cuttings/solids sampling update OEPA-ODH coordination	J. Goicochea, A. Shear ODH
Outreach/Education/Meetings	
<ul style="list-style-type: none">Media Relations UpdateLegislative outreach/community meetingsOEPA/Sierra Club MeetingFact sheets/update	OEPA/ODNR OEPA/ODNR B. Hall/NEDO OEPA/ODNR
Next Meeting/Agenda Items	All

Lipp, David

From: Stevenson, Laurie <laurie.stevenson@epa.state.oh.us>
Sent: Thursday, July 07, 2011 5:00 PM
To: 'Chris.Perry@dnr.state.oh.us'; 'Heidi Hetzel-Evans'; 'mike.hallfrisch@dnr.state.oh.us';
'mike.mccormac@dnr.state.oh.us'; 'rick.simmers@dnr.state.oh.us';
'ted.lozier@dnr.state.oh.us'; 'thomas.tugend@dnr.state.oh.us';
'tom.tomastik@dnr.state.oh.us'; Shear, Aaron; Cirkner, Benjamin; Hall, Brian; Lowe, Chuck;
Nygaard, Eric; Goicochea, Joe; Weiss, Kristopher; Burkleca, Lee; Taliaferro, Lindsay; Baker,
Mike; Eggert, Michael; Parsons, Misty; Settles, Mike; Laake, Ryan; Freeman, Tracy; Harcarik,
Tom; Nickel, Brian; Kniss, Donna; Underwood, Dan; Adams, Eric; Gomes, Erm; Snell, Fred;
Riley, Keith; Rice, Nancy; Blasick, Rich; DiFranco, Stivo; Saines, Steve; Williams, Steve;
Wilson, Virginia; Chuck McCracken; Michael Snee; Rebecca Fugitt; Stephen Helmer; David
Lipp; Hopkins, Mike
Subject: FINAL Agenda for Inter-Agency Shale Team meeting on 7/12
Attachments: Marcellus Shale7-12-11Agenda.DOC

Hi everyone. Here's the final agenda for our meeting next Tuesday the 12th from 1:30-4:00 here at Ohio EPA.

For the OEPA district offices, we are testing video conferencing equipment tomorrow and I will let you know if this will be an option for Tuesday. If it isn't, I will get a bridge line so that everyone can at least call in. I'll provide the bridge line number tomorrow.

Thanks.
Laurie