From: **Richard Fetzer/R3/USEPA/US**
Sent: 9/6/2012 8:10:09 AM

To: "Gerald Heston" <Heston.Gerald@epamail.epa.gov>
CC: "Kelley Chase" <Chase.Kelley@epamail.epa.gov>; "Rupert Richard" <Rupert.Richard@epamail.epa.>
Subject: Re: Fw: Dimock follow

I just looked at the web page and also confirmed with Rupert's memory that we analyzed for Radium 226 and Radium 228. They should look at the compilation spreadsheet.

Rich

Here's the pdf

Richard M. Fetzer
Federal On-Scene Coordinator
100 Gypsum Road
Stroudsburg, PA 18360
(215) 341-6307

From: Gerald Heston/R3/USEPA/US
To: Richard Fetzer/R3/USEPA/US, "Rupert Richard" <Rupert.Richard@epamail.epa.>, Kelley Chase/R3/USEPA/US
Date: 09/06/2012 07:45 AM
Subject: Fw: Dimock follow

Sent by EPA Wireless E-Mail Services

----- Original Message -----
From: Dennis Carney
Sent: 09/06/2012 07:23 AM EDT
To: Gerald Heston
Subject: Fw: Dimock follow
Jerry, can you see what the guys may have to offer in terms of an answer to this question..... Thanks, den.

----- Forwarded by Dennis Carney/R3/USEPA/US on 09/06/2012 07:22 AM -----

From: Terri-A White/R3/USEPA/US
To: "Dennis Carney" <carney.dennis@epa.gov>
Date: 09/05/2012 06:01 PM
Subject: Fw: Dimock follow

Hi Dennis,

I can't recall if the QandA doc discusses radium. Did we sample for it? See question below. Thnx. -- Terri

From: Tom Wilber [wilberwrites@hotmail.com]
Sent: 09/05/2012 05:09 PM AST
To: Terri-A White

 DIM0267953

Subject: RE: Dimock follow

Hi Terri

I have this question from a reader:

It appears that the analytical results that the EPA did not test for radium in Dimock. Is there a reason for this?

I am not on a deadline, but I would like to address the reader's comments on my post when you can provide an answer.

(See full quesion below)

Thanks.

Tom

Tom---I have a question for you:

Re the EPA study: I read through the results when the EPA study came out and I was surprised that there were no levels listed for radium-226 or radium-228. It would appear (?) that the EPA did not test for radium, even though: 1) testing for radium seems to be a fairly standard thing to do (as I recall, radium levels are included in the routine testing done for our municipal water system here in Windsor, NY); and 2) radium is a possible contaminant at drilling sites because it can return to the surface via flowback from the gas well.

Perhaps there is a valid reason for this omission--I was wondering if you knew anything about this?

Subject: RE: Dimock follow
From: White.Terri-A@epamail.epa.gov
To: wilberwrites@hotmail.com
Date: Wed, 5 Sep 2012 13:13:16 -0500

Hi Tom,
Sorry I couldn't get these responses to you sooner. -- Terri
Hi Terri,

I have questions re: EPA's investigation of Dimock groundwater.

EPA s sampling of Dimock wells shows hazardous levels of methane in six instances.

HW03z (28,000 ug/l)
HW12 (52,000)
HW25 (65,000)
HW26-P (38,000)
HW29 (77,000)
HW29z (62,000)

What steps have been taken to correct this?

EPA Response: It should be noted that five of the wells sampled, not six, presented a level of methane above the federal Office of Surface Mining s screening level of 28 parts per million. In the list of wells you've provided, HW29z is the same well as HW29. At the time of EPA s sampling, two of these homes were receiving alternate sources of drinking water from Cabot. All of these residents were advised of the methane results and the results were also shared with PADEP and the Susquehanna County Emergency Management Agency. All of these residents were already aware that their water contained levels of methane. Overall, we have found that the homeowners are aware

of the existence of methane in their private wells and generally have installed vents to reduce the potential build-up of methane in their wells.

Pennsylvania DEP is continuing to address the issue of methane in Dimock wells under a consent order and agreement.

ATSDR Record of Activity/Technical Assist (UJD #: IBD7 Date: 12/28/2011) advises the EPA that Additional characterization of the groundwater quality and a thorough review of any changes in concentration over time are indicated.

Has this been done?

EPA Response: Throughout EPA's sampling of residential well water in Dimock, which now has included five separate data releases, EPA has reviewed analytical results, and the particular circumstances at each residence, to make determinations on whether the situations presented a health concern, and if a further EPA action was warranted. The cumulative result from those efforts is a review which has shown that with only a few exceptions we did not find levels of hazardous substances in well water that could present a health concern. In those cases where the levels could present a health concern, we found that the residents have now or will have their own treatment systems that can reduce concentrations of contaminants to acceptable levels at the tap. No further characterization of groundwater is planned by EPA.

In the same document, the ATSDR has also recommended that A full public health evaluation should be conducted on the data from the site area and evaluating the mixture for public health impacts using computational techniques or other suitable methods to evaluate the potential for synergistic actions and The cumulative concentration of all dissolved combustible gases should be considered to protect against the buildup of explosive atmospheres in all wells in the area.

Has this been done?

EPA Response: EPA s goal was to provide the Dimock community with complete, reliable information about the presence of contaminants in their drinking water and determine whether further action was warranted to protect public health. This sampling and evaluation did not demonstrate situations that present a health concern or give EPA a reason to take further action.

As for potential follow-up by ATSDR, please contact : Lora Werner at werner.lora@epa.gov

-----Tom Wilber <wilberwrites@hotmail.com> wrote: -----
To: Terri-A White/R3/USEPA/US@EPA
From: Tom Wilber <wilberwrites@hotmail.com>
Date: 09/04/2012 05:51PM
Subject: RE: Dimock follow

Thanks Terri.

Subject: FW: Dimock follow
From: White.Terri-A@epamail.epa.gov
To: wilberwrites@hotmail.com
Date: Tue, 4 Sep 2012 14:12:10 -0500

Hi Tom,
Will get answers to you today, for sure. -- Terri

-----Tom Wilber <wilberwrites@hotmail.com> wrote: -----
To: Terri-A White/R3/USEPA/US@EPA, Terri-A White/R3/USEPA/US@EPA
From: Tom Wilber <wilberwrites@hotmail.com>
Date: 09/04/2012 01:59PM
Subject: FW: Dimock follow

Hi Terri

Do you expect a response today? I plan on posting tomorrow a.m.

Regards

Tom
607-372-4323

From: wilberwrites@hotmail.com
To: white.terri-a@epamail.epa.gov
Subject: RE: Dimock follow
Date: Wed, 29 Aug 2012 12:08:56 -0400

Thanks Terri,

Note that my original email did not have a link to the ATSDR document that I cited. I have added that link (below).

Tom

To: wilberwrites@hotmail.com
Subject: Re: FW: Dimock follow
From: White.Terri-A@epamail.epa.gov
Date: Wed, 29 Aug 2012 12:00:03 -0400

Tom,

Got it! Will get back to you. -- Terri

From: Tom Wilber <wilberwrites@hotmail.com>
To: Terri-A White/R3/USEPA/US@EPA
Date: 08/29/2012 11:59 AM
Subject: FW: Dimock follow

From: wilberwrites@hotmail.com
To: white.terri-a@epamail.epa.gov
Subject: RE: Dimock follow
Date: Mon, 27 Aug 2012 12:05:19 -0400

Hi Terri,

I have questions re: EPA's investigation of Dimock groundwater.

EPA s sampling of Dimock wells shows hazardous levels of methane in six instances.

HW03z (28,000 ug/l)
HW12 (52,000)
HW25 (65,000)
HW26-P (38,000)
HW29 (77,000)
HW29z (62,000)

What steps have been taken to correct this?

ATSDR Record of Activity/Technical Assist (UJD #: IBD7 Date: 12/28/2011) advises the EPA that Additional characterization of the groundwater quality and a thorough review of any changes in concentration over time are indicated.

Has this been done?

In the same document, the ATSDR has also recommended that A full public health evaluation should be conducted on the data from the site area and evaluating the mixture for public health impacts using computational techniques or other suitable methods to evaluate the potential for synergistic actions and The cumulative concentration of all dissolved combustible gases should be considered to protect against the buildup of explosive atmospheres in all wells in the area.

Has this been done?

As always, much thanks for your help.

Tom Wilber
Shale Gas Review
Under the Surface, Fracking, Fortunes and the Fate of the Marcellus Shale
607-372-4323

To: wilberwrites@hotmail.com
CC: seneca.roy@epa.gov
Subject: Re: Dimock follow
From: White.Terri-A@epamail.epa.gov
Date: Wed, 25 Jul 2012 16:35:11 -0400

Tom,

I cut and pasted your questions here and provided EPA's responses below each one. -- Terri

1. I know aresenic barium and manganese are naturally occuring. They can also be associated with drilling that creates pathways for them to move into water supples. Barium is also a common constituent of drilling mud. Given the concern and questions over the impact of shale gas development on water supplies, does the EPA plan to evaluate the source of elevated contaminated levels in the five wells?

EPA Response: EPA s goal was to provide the Dimock community with complete, reliable information about the presence of contaminants in their drinking water and determine whether further action was warranted to protect public health. We have now completed sampling and an evaluation of the particular circumstances at each of the 64 homes included in our assessment. This sampling and evaluation did not demonstrate situations that present a health concern or give EPA a reason to take further action. In the few instances where we found levels of arsenic, barium or manganese that could potentially present a health concern, residents have or will have treatment systems capable of reduced levels at the tap.

2. Given that water systems are dynamic and changing, and drilling operations move around, is there any chance that other water supplies might be affected in the future? Does the possibility of this make it necessary to isolate a cause?
EPA Response: EPA s goal was to provide the Dimock community with reliable information about the presence of contaminants in their drinking water and determine whether further action by EPA was warranted to protect public health. At this time, EPA is not looking to identify potential trends regarding drinking water quality in Dimock.

3. Will the Dimock results be taken into account in the EPA's national re-revaluation of the safety on fracking on groundwater, due out at the end of the year? If so, is there further analysis that has to be done with the Dimock case? In addition to Pavillion Wyoming, What other communities are part of this evaluation?
EPA Response: In late January and early February 2012, EPA collected well water samples from 12 homes for isotopic methane analysis. EPA s initial approach to sampling at Dimock was to model our sampling plan after

the sampling plan being used by EPA s Office of Research and Development (ORD) for their national study on hydraulic fracturing. The samples collected for this analysis were collected concurrently with those for other analyses.

The isotopic methane data is used to help determine the various locations in the substrata where methane originated. Having such information available for evaluation and interpretation should help the Agency determine whether methane found in drinking water aquifers is native to those aquifers or has possibly migrated to those locations from the deeper subsurface. EPA has no plans to conduct additional isotopic methane analyses in Dimock. Interpretation of these results is complex and beyond the scope of Region III efforts in Dimock. EPA Region III has provided all of the data to EPA s Office of Research and Development (ORD) for incorporation into the national hydraulic fracturing study. For more information about the national hydraulic fracturing study http://www.epa.gov/hfstudy/

From: Tom Wilber <wilberwrites@hotmail.com>
To: Terri-A White/R3/USEPA/US@EPA
Date: 07/25/2012 02:57 PM
Subject: Dimock follow

Hi Terri,

Thanks for sending me the press release on the Dimock water investigation.

A few questions.

I know aresenic barium and manganese are naturally occuring. They can also be associated with drilling that creates pathways for them to move into water supples. Barium is also a common constituent of drilling mud. Given the concern and questions over the impact of shale gas development on water supplies, does the EPA plan to evaluate the source of elevated contaminated levels in the five wells?

Given that water systems are dynamic and changing, and drilling operations move around, is there any chance that other water supplies might be affected in the future? Does the possibility of this make it necessary to isolate a cause?

Will the Dimock results be taken into account in the EPA's national re-revaluation of the safety on fracking on groundwater, due out at the end of the year? If so, is there further analysis that has to be done with the Dimock case? In addition to Pavillion Wyoming, What other communities are part of this evaluation?

Many thanks

Tom Wilber
Shale Gas Review