

9/25/14 Response to

Public Health Report on Marcellus Shale

by the

Maryland Institute for Applied Environmental Health

Responses Developed by:

- **Maryland Environmental Health Network**
- **Physicians for Social Responsibility, Chesapeake Chapter**
- **Ann Bristow, Governor's Marcellus Shale Advisory Commission**

: Hazard Evaluation Summary

Topic	Likelihood of Negative Public Health Impact
Air Quality	High
Healthcare Infrastructure	High
Occupational Health	High
Social Determinants of Health	High
Cumulative Exposures/Risks	Moderately High
Flowback and Production Water-Related	Moderately High
Noise	Moderately High
Earthquakes	Low

High = high likelihood of negative health impacts, Moderately High = moderately high likelihood of negative health impacts, Low = low likelihood of negative health impacts

MIAEH Hazard Evaluation Summary:

7 of 8 hazard areas assessed were ranked as High or Moderately High Likelihood of Negative Public Health Impacts (Table 6-1, Hazard Evaluation Summary, p. xx).

studies of health outcomes are recent (2013 and 2014);

industry non-disclosure agreements block health research

providers are prioritizing direct patient care in drilling states

key studies released after the MIAEH report

Best Management Practices not based on Research on Health Impacts:

Health effects will be observed even if proposed Best Practices are implemented: e.g., air contamination from truck traffic

Setbacks: not supported by research – safe distances from wells and compressor stations have not been demonstrated

Chemical Disclosure: MIAEH proposed full chemical disclosure

This exceeds MDE's recommended Best Practice.

Telling people what they've been exposed to is not the same as preventing exposure.

LOCAL COSTS: Many MIAEH recommendations involve local citizens, health care providers and/or county health departments to insure the health and safety of citizens and workers; **funding mechanisms or leadership for implementation not specified.**

Did not quantify the **costs to local government and health institutions** of:

- traffic accidents
- pipeline leaks
- chemical spills
- explosions
- worker injuries
- resident health problems
- domestic violence
- increased sexually transmitted diseases

The **state-funded economic study** also did not address these costs.

MIAEH did not address Garrett County's capacity for **EMERGENCY RESPONSE** (all volunteer fire departments, relies on Allegany County's HAZMAT team).

MIAEH Recommendations

CITIZEN ENGAGEMENT:

R1
to
R7

Citizens participate in public hearings

R13

public access to disclosed chemicals (HB 1030)

R18

community & industry panel to address odor complaints

R19

air quality monitoring with active input from community

R29

community & industry panel to address noise complaints

R34

empower local communities to control truck speed & traffic patterns

R38

empower local communities to ensure adequate setbacks

R39

develop user friendly mapping tool of buffer zones for community

R41

local health care forum re: healthcare infrastructure

R44

early ID of impacts to healthcare infrastructure (committee to include citizens)

R51

establish community outreach program to help transient workers

MIAEH Recommendations

	HEALTH CARE PROFESSIONALS AND ENVIRONMENTAL HEALTH:
R7, R16, R17	waste & fracking fluids storage; very little is specified about storage (e.g., how long fluids may be stored on site); local monitoring of fluid storage and leaks may be necessary to insure public health
R8 to R13	disclosure of well stimulation materials, in line with HB 1030, requiring a state database available to medical professionals, emergency responders, poison control centers, local officials, scientists and the public.
R40	monitor whether UNGDP companies provide adequate health care coverage? (who will monitor this?); uncertainty about ACA non-emergency, out-of-state coverage of migrant workers
R41	organize local health care forum to assess health care services and anticipated needs related to UNGDP
R42	inform and train emergency and medical personnel on specific medical needs of UNGDP workforce
R43	prioritize county-level tax revenues for health care infrastructure
R44	early ID of impacts to healthcare infrastructure (committee to include local providers)
R45	economic analysis of medical and healthcare costs (who will do?)
R46	initiate birth outcomes surveillance system
R47	Initiate longitudinal epidemiologic study of dermal, mucosal, and respiratory irritation
R48	develop funding mechanism for public health studies

MAPPING FOR CITIZENS NOT COMPLETED

R39: “Create mapping tool for community members using **buffer zones** (setback distance) around homes, churches, schools, hospitals, daycare centers, public parks and recreational water bodies.”

FOOD SUPPLY NOT STUDIED

“The primary stakeholders in our foodsheds are farmers, who must cope with changes in water levels, soil contamination, farmland fragmentation, impacts on crop yields, livestock poisoning and falling reproductive rates. At the other end of the food chain is the public which must rely on food safety inspectors who are not trained to look for microscopic changes in animal organs.”

Royte, E. (2012). “Fracking our Food Supply.” *The Nation*. Retrieved from: <http://www.thenation.com/article/171504/fracking-our-food-supply>

WATER CONTAMINATION: Air contamination ranked higher hazard than water contamination due to lack of research on water.

PA-DEP found residential well contamination of VOCs, ethylene glycol and 2-butoxyethanol among **243 cases of contaminated residential water wells**; PA-DEP records released 8/28/14 after MIAEH report

Pennsylvania data:

- unconventional wells show a 6x higher incidence of cement and/or casing failures compared to conventional wells
- unconventional wells drilled in the NE PA region since 2009 (2,714 wells) show a high failure rate – 9.18%. Rates go up over time as wells age (Ingraffea et al, 2014).



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DISTRICT OIL AND GAS OPERATIONS

May 14, 2014

CERTIFIED MAIL NO. [REDACTED]

[REDACTED]

Re: 58 Pa.C.S § 3218 Determination
Complaint No. 303704
Springville Township, Susquehanna County

Dear [REDACTED]

The Department has investigated the possible degradation of your water supply well located at the address above in Springville Township, Susquehanna County in response to a report of foaming and odors in your water supply. On 4/8/2014, the Department collected samples from your home water supply. The samples were submitted to the Department's laboratory in Harrisburg for analysis. The analytical reports for the samples are included.

The sample results showed methylene chloride was present at 1.66 micrograms per Liter (ug/L) and tetrachloroethene (PCB) was present at 2.28 ug/L. Acetone and t-Butyl alcohol (TBA) were present at 4.31 ug/L and 16.7 ug/L, respectively. Acetone and TBA were also detected in the field blank submitted to the laboratory. The sample results showed ethylene glycol was present at 320 ug/L and 2-butoxyethanol was present at 200 ug/L. The detections of VOCs, 2-Butoxyethanol and ethyl glycol in your water supply and the consistency of these detections with the chemical composition of Air Foam is indicative of an impact related to the use of the surfactant (Air Foam) during the drilling of the Chief Kupacznk B pad.

Because drilling activities occurred at a gas well within two thousand five hundred feet of your water supply, and the pollution occurred and was reported within one year after completion of the well, under Section 3218 of the Oil and Gas Act (58 Pa C.S. §3218), the gas well operator is presumed to be responsible for the degradation of your water supply.

The Department is continuing to work to permanently resolve this issue. Should you have any questions concerning this matter, please feel free to contact Eric Rooney, P.G. at 570-346-5543.

Sincerely,

Jennifer Means
Environmental Program Manager
Oil and Gas Management

The following recommendations are drawn from the
Southwest Pennsylvania Environmental Health Project.

This non-profit organization provides access to public health information and health services for PA citizens affected by natural gas extraction. www.environmentalhealthproject.org

SWPA-EHP Helping Citizens:

Real time air and water monitors

Devices to remove particulate and gases from home air

Provide an air model to determine periods of high risk

Management guidance for cleaning homes

Warning signs of health effects

Worry and anxiety support systems

Access to immediate safe locations

Need to know conditions that make citizens susceptible to injury

Clear understanding of the limitations of government to assist citizens

Other concerns for citizens to consider:

Test residential wells/springs BEFORE drilling operations

No Surface Owners Protection Act

Nighttime lodging for citizens who can't sleep due to noise, bright lights, odors/fumes

Protection/evacuation of livestock & pets; safety of eating wild game

Medical Resources

[Air](#)

[Water](#)

[Noise & Light](#)

[Stress](#)

[Health Diary](#)

[3 Steps You Can
Take Now](#)

[Medical Toolkit](#)

[FAQ](#)

Medical Toolkit

1. Screening and Assessment Forms

- [EHP Individual Exposure Health Assessment](#)
- [EHP Home Exposure Assessment](#)
- [EHP Residential Environmental Screening Tool](#)

2. Information for Providers

- [CDC/ATSDR Guidance on the Interpretation and Blood Laboratory Analyses for VOC's](#)
- [American College of Medical Toxicology Position Statement on Post Chelator Testing](#)
- [Professional Resource List, Organizational and Online Resources](#)

3. Information for Patients

- [**“3 Good Things You Can Do to Protect Your Health from Gas Drilling”**](#)
- [**Summary of Well Water Testing report**](#)
- EPA: [**Asthma & Outdoor Air Pollution, Heart Disease & Outdoor Air Pollution**](#)
- [**American College of Medical Toxicology Press Release**](#)

4. Useful Reference Materials

- [**Well Water Testing Report**](#)
- [**OSHA/NIOSH Hazard Alert**](#)
- [**EPA Guide to Air Cleaners in the Home**](#)
- [**Human Exposure to Environmental Chemicals**](#)
- [**Comprehensive Data Base of Peer Reviewed Literature Related to Oil and Gas Activity**](#)

Public comments on

“Potential Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland”

will be accepted through close of business on **Friday, October 3, 2014**

The final report can be found at:

www.marcellushealth.org/final-report.html

Comments on the report can be made directly to

dhmh.envhealth@maryland.gov or sent to

Environmental Health Bureau, Marcellus Shale Comments,
Maryland Department of Health and Mental Hygiene,
201 W. Preston Street, Rom 327, Baltimore, MD 21201

Another helpful resource for citizens:

Maryland Environmental Health Network: www.mdehn.org

Issues for consideration for public comment will be posted here:

<http://mdehn.org/resources/public-health-study-of-fracking/>

Thank you!

Your voice is important.

Please submit your comments to the
Public Health Study by October 3.