

An aerial photograph of a large reservoir with a drilling rig in the foreground. The rig is a tall, dark structure with a red top, situated on a sandy area. The reservoir is surrounded by green fields and some buildings in the distance. The sky is blue with some clouds.

**Updates on ODNR O&G Accident & Release Tracking as they relate to Public Water Supplies: 2014 Monroe Co & 2016 Barnesville Reservoir**

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Ohio State U.  
Food, Ag & Bio Eng.**

**An Ohio Fracture Flow  
Working Group Presentation**

**March 8, 2017**

# The Statoil Eisenbarth in Monroe Co Explosion & Fire - June, 2014

## **Facts we know:**

**Fire burned for 5 days**

**There were two 30,000 gal Propane tanks. These tanks were not reported anywhere that they were on site.**

**50,000 gal chemicals for fracking, The MSDS binders were located in trailer which caught on fire.**

**No verification of what was burning for five hours**

**Unsecured explosives that kept detonating**

**Three cesium gamma loggers loose on site**

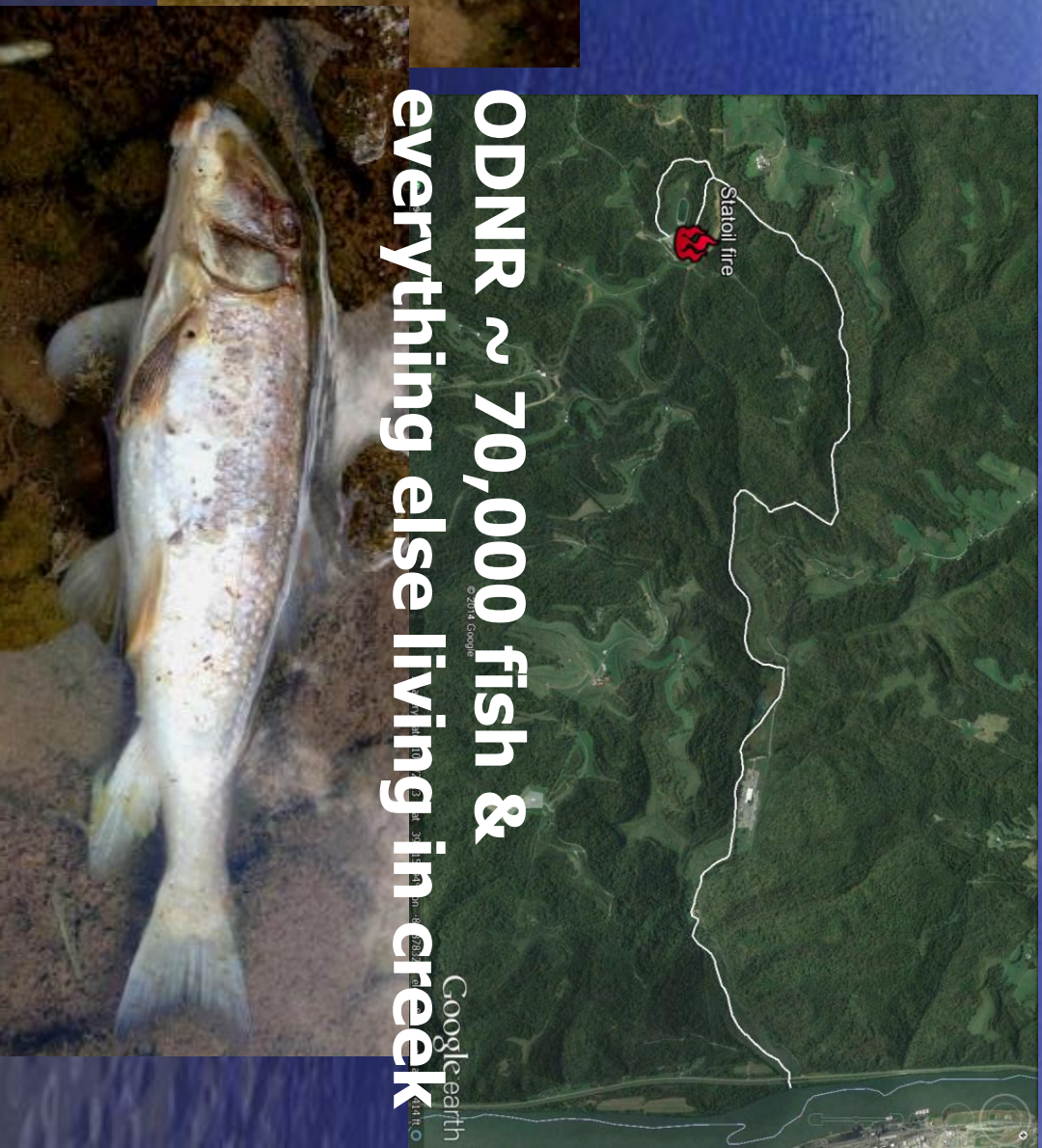
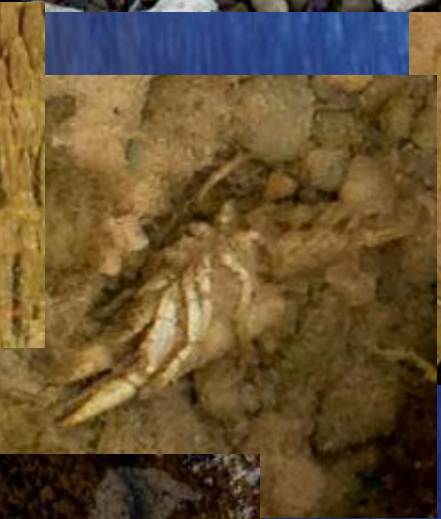
**There was a flowing fracked well**



# The Fire



# All life in Opossum Creek down to Ohio River killed



ODNR ~ 70,000 fish & everything else living in creek

# **Uncoordinated Response from Everywhere**

- **14 Fire departments from two states**
- **Two County Emergency Planning Commissions (LEPC)**
- **Ohio and US EPA involved in clean-up**
- **ODNR Wildlife present**
- **ODNR O&G seldom showed their faces during the whole clean up**

# Issues Following The Fire

**ODNR obtained list of Trade Secret chemicals 2 days after the fire but they did not share with other agencies or local emergency response teams.**

**US EPA & Ohio EPA finally received list of chemicals 5 days after the fire.**

**Public Water intake on Ohio River, West Virginia side (New Martinsville, WV), 1.7 miles down from mouth of Opossum Creek -- Not notified of situation-first responder**

**Plume was days past when full list of chemicals was finally released -- no water tests were administered for some of the chemicals released into the creek because they did not have access to the list of chemicals being used &/or no tests available.**

# "Fracking Fire Points Out Failings" Columbus Dispatch, August 31, 2014

- One firefighter injured on the job
- 25 people who live near the fire were evacuated
- Firefighters equipment wouldn't work without a communication truck - which Monroe county does not have - they waited 7 hrs for one to arrive
- Statoil employees kicked firefighters off well pad numerous times



Monroe County EMA



***No one followed the smoke to monitor the air quality of the area.***

- Came in as a ground cloud two ridges down wind – for five days
- Smelled like bleach and burned plastic – left black residue on everything
- Rural area, farms, livestock, gardens, etc.
- Small animals and birds died
- Hogs butchered that fall had tumors



# **Human Health Impacts 2.5**

## **Years later**

- **Health impairments typical of high levels of chemical exposures**
- **Whole families now have asthma**
- **Tumors growing in throats, lungs and stomachs**
- **Burned esophagus, stomach and lungs are common**
- **Expected to be a terminal exposure for some residents in the community**

# The 2015-16 Budget Bill

## "Fix"

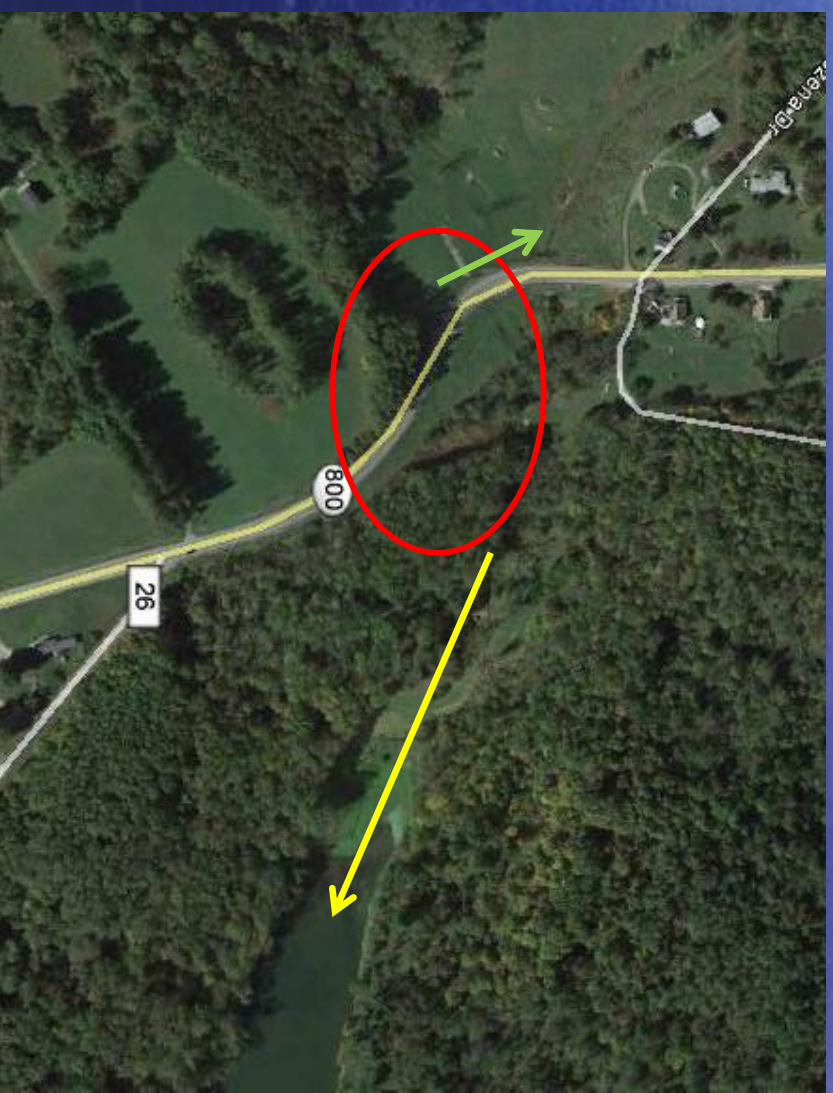
- Governor / Ohio EPA added language that permitted ODNR to share trade secret chemical information with Ohio EPA & Public Water Suppliers
- House removed language (O&G industry lobby)
- Senate put the language back in
- Removed again in Conference committee
- Currently against the law to pass this information on to Ohio EPA & Public Water Suppliers

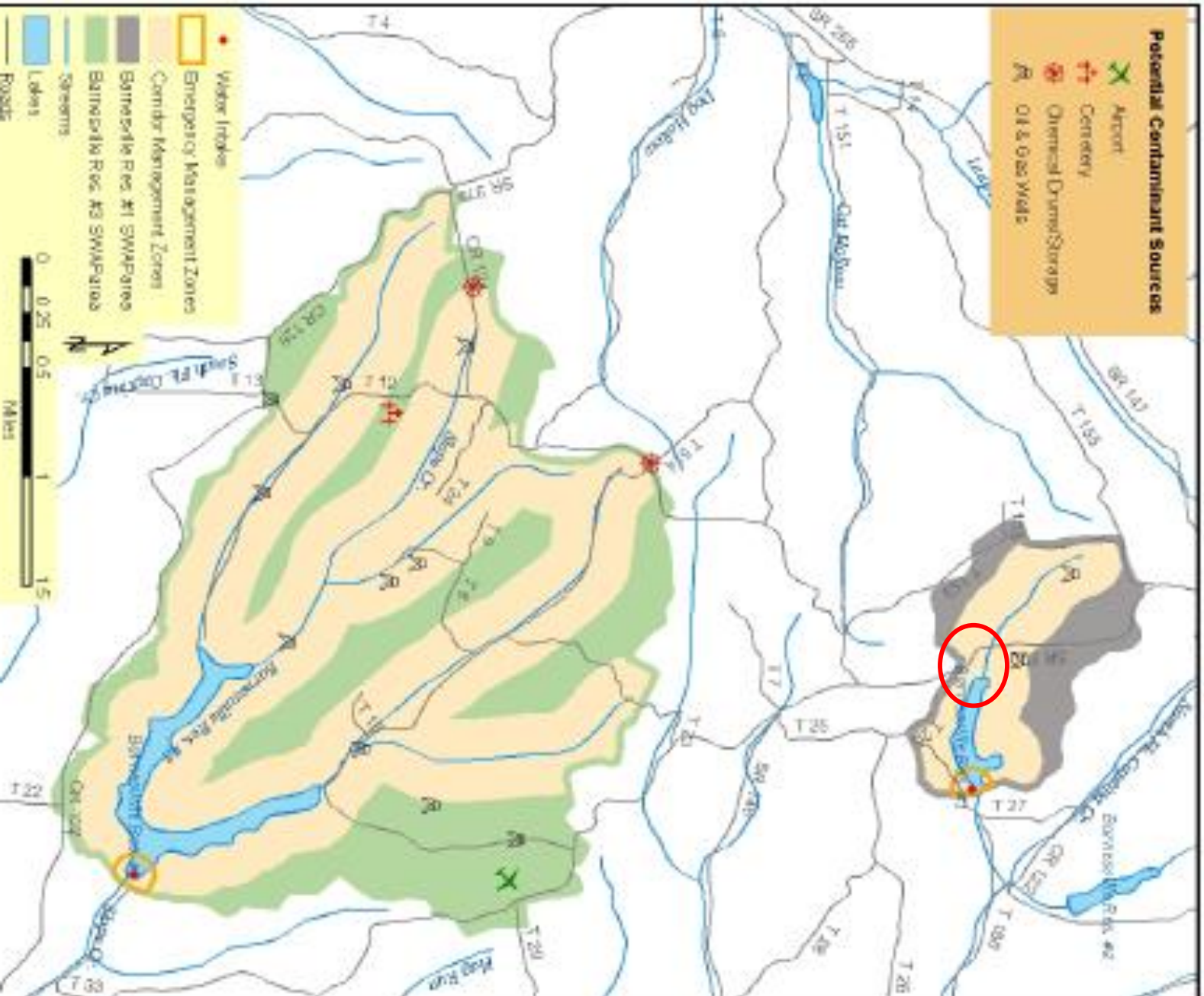
# 2016 Barnesville Public Water Supply Shut Down from Tanker Spill



# 3-9-16 ~3:00 AM Brine Truck Overturns on Curve – Barnesville Reservoir

- ~4,300 gallons of drilling wastewater spilled into field
- Thousands of gallons into creek and contaminates 1 of 3 Barnesville reservoirs
- Columbus Dispatch, 3/9/16





# Designated OEPA SWPA

- Why was the truck there at 3:00 AM?
- What was in the truck?
- What got dumped into the reservoir?

# Source of the Brine

- Gulfport Energy's Routh Well # 3411124544000, Monroe County
- Brine trucks often travel at night
- St. Rt. 800 very hilly and curvy during daylight in good weather



# Gulfport Safety Data Sheet

## – Produced Water, Sweet

**5/1/15 Oklahoma**

### Reported

- Water 80-90 %
- Sodium chloride < 16 %
- Calcium chloride < 16 %
- Crude oil < 1 %
- Benzene < 1 %

### No mention of

- Heavy Metals
- Radioactive Metals
- Contamination from Drilling muds if any
- Contamination from Fracking chemicals if any
- Source of fluids

# OEPA tested for Radium in Reservoir (not on SD Sheet)

- OEPA sampled for Barnesville # 1 Res
- Radium 226 & 228, Gross Alpha, Gross Beta, Combined radium
- VOCs, SVOCs, TDS
- Metals, phthalates (plastic softeners)
- 3/9 noon 3.2 pCi/L radium in reservoir
- 24.7 acres in area
- Holds 140 million gallons water
- Truck held up to 5,000 gallons
- 1 acre-foot holds 325,851 gallons or ~65 tankers per acre-foot – 32559:1 ratio



# The Clean-up by Gulfport Energy

- **Spill to the southwest, no spill protection that side of curve**
- **Soils are Westmoreland-Lowell-Morristown Assoc.**
- **Relatively fine-grained, probably fractured, fractured bedrock at 50 inches – dips to reservoir**
- **Gulfport does not begin site cleanup until March 11<sup>th</sup>, two days later**
- **By then, no standing liquids, all have flowed into the stream or recharged the bedrock which provides base flow to the reservoir**

# Barnesville Reservoir still not back on line 2 months later



- Ohio EPA Emergency Response completed their report May 20<sup>th</sup>
- Rigorous testing protocol was required by Ohio EPA DDGW before the reservoir came back on line.
- Barnesville has 3 reservoirs, regional supplier to parts of 4 counties, no interconnections to other suppliers
- Cost 10's to 100's of millions to replace public water supplies

# Governor's & ODNR's 2015-16 Work Around to Protect Ohio

- **General Information**
- **The Division of Oil & Gas Resources Management launched the Emergency Operations and Response section in 2015. This team is specially trained and focused on oil and gas emergencies and is able and ready to respond 24 hours a day, 7 days a week. A vital part of their mission is work with local first responders so that they too can be prepared and safely respond to any oil and gas incident.**

# Governor's & ODNR's 2015-16

## Work Around to Protect Ohio

- Rule Development
- Executive Order 2016-04K, signed on August 9, 2016, created a one-call emergency notification system for oil and natural gas emergencies and allowed ODNR to immediate adopt administrative rules necessary to implement the system.
- The rules became effective within the Ohio Administrative Code on December 8, 2016:
  - 1501:9-8-01 Definitions
  - 1501:9-8-02 Incident Notifications

# http://oilandgas.ohiodnr.gov/regulatory-sections/emergency-response



## ODNR Division of OIL & GAS RESOURCES

OHIO DNR > I WANT TO... > RECREATION > REGULATION > LANDOWNERS > PROGRAMS > MEDIA & NEWS > CONTACT >

Regulatory Sections > Emergency Response

Oil & Gas Home

Well Information

Electronic Forms

Oil & Gas FAQ

Laws & Regulations

Regulatory Sections

Permitting, Bonding, &

Hydrology

Field Inspectors

Regulatory Enforcement

Engineering

Emergency Response >

Material Safety Data

Sheets (MSDS)

Legal

Orphan Well Program

Urban Drilling

## Emergency Notification and Operations

### General Information

The Division of Oil & Gas Resources Management launched the Emergency Operations and Response section in 2015. This team is specially trained and focused on oil and gas emergencies and is able and ready to respond 24 hours a day, 7 days a week. A vital part of their mission is work with local first responders so that they too can be prepared and safely respond to any oil and gas incident.

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((( Initial Incident Report Form [docx 1.5 Mb]

((( 30 Day Post-Incident Report [docx 1.7 Mb]

((( Federal List for Hazardous and Extremely Hazardous Substances [pdf 3.6Mb]

((( Reportable Incident Reference Form [pdf 131Kb]

Scott King

Show all

# Public Water Supplies included but not equally

- Ground Water Source Water Protection Areas protected to 5-Year TOT boundary
- Surface Water Source Water Protection Areas protected only to Emergency Management Zone (1,000 ft. from intake)
- Don't know why the difference -- maybe didn't understand the terms or maybe did not care
- I pointed out the error and asked them to correct before rules were final -- they did not do so



The new toll-free number is: **1-844-OHCALL1 (1-844-642-2551)**.

A reporting party is required to make a call to the Ohio One-Call System within 30-minutes after becoming aware of the occurrence, unless notification within that time is impracticable under the circumstances.

**This requirement does not change current federal/SEERC regulations for 30 minute notification to local fire department and LEPC.**

In addition, calls to The National Response Center (NRC) shall be made for those reportable quantity releases involving CERCLA hazardous substances or oil to navigable waters as soon as possible. The National Response Center (NRC) 24-hour number is 1-800-424-8802.

ODNR's 24-hour dispatching center will receive all calls made to **1-844-OHCALL1** and makes notifications to the below agencies.

### **The Ohio OneCall System Notifies:**

- **ODNR Division of Oil and Gas Resources Management**
- **ODC/ State Fire Marshal**
- **OEPA**
- **PUCCO**
- **ODNR WILDLIFE**

Once ODNR has fulfilled its initial notification of oil and gas emergency, each respective department or agency is responsible for making its own internal notifications and deploying its resources and personnel to respond to the emergency, as needed.



## THE FOLLOWING ARE REPORTABLE INCIDENTS:

TYPE OF INCIDENT	QUANTITY (GAL, BBL, PPM)	ADDITIONAL FACTORS
Gas Release	N/A	Blow out Uncontrolled Pop-off Valve (Urban Area) Any threat to public safety
Hydrogen Sulfide (H <sub>2</sub> S)	20 ppm ; > 10 min in working area	OR H <sub>2</sub> S release resulting in injury or death of person
Fire / Explosion	N/A	Emergency responder has been called by reporting person
Oil, Condensate or Materials Saturated with Oil or Condensate	> 210 US gallons in 24 hours	Outside secondary containment & into the environment
Oil, Condensate or Materials Saturated with Oil or Condensate	> 25 US gallons in 24 hours	In an urban area AND outside secondary containment & into the environment
		In an Emergency Management Zone of a surface water public drinking supply AND outside secondary containment & into the environment
		In a 5-year time of travel with a groundwater-based public drinking supply AND outside secondary containment & into the environment
		In a 100-year flood hazard area as delineated on the federal emergency management agency's (FEMA) national flood insurance rate map AND outside secondary containment & into the environment

Refined Oil Products	> 25 US gallons in 24 hours	Outside secondary containment & into the environment
Any Oil, Condensate or Materials Saturated with Oil or Condensate / Oil (refined)	N/A	Causing film or sheen on water surface
Brine / Semi-solid Wastes (sludge / drill cuttings)	> 42 US gallons in 24 hours	Outside secondary containment & into the environment
Brine (from vehicle, vessel, railcar or container)	> 42 US gallons	Operated by person to whom a registration certificate has been issued
Hazardous Substance (HS) or Extremely Hazardous Substance (EHS) or Mixture	Equal to or > than reportable quantities in tables in 40 CFR	Enters the environment and the release is an amount that exceeds 42 US gallons
	Unknown amount	List available at: <a href="http://oilandgas.ohiodnr.gov/well-information/emergency-response">http://oilandgas.ohiodnr.gov/well-information/emergency-response</a> Notify where total amount of the mixture or solution release equals or exceeds the reportable quantity

**THE FOLLOWING ARE NOT REPORTABLE INCIDENTS:**

1.	Controlled flaring or controlled burns authorized under Chapter 1509. of the Revised Code or under 1501:9 of the Administrative Code or authorized by the terms and conditions of a permit issued under Chapter 1509. of the Revised Code;
2.	Properly functioning emission control devices authorized pursuant to Revised Code Section 3704.03;
3.	Subsurface detonation of perforation-guns;
4.	Seismic shots; OR
5.	Controlled blasting for well site construction

# Problems to Still Resolve

- **Include Ohio EPA and Public Water Suppliers in list to get trade secret chemical formulations**
- **Establish a uniform method of notifying Public Water Suppliers of spills & releases – currently up to first responder who may/may not know the SWPAs**
- **Establish a uniform protection for Surface Water & Ground Water systems**

## Next Steps

# Meet again with ODNR O&G

- Discuss making web pages to track chemicals on drilling sites more user friendly
- Argue for inclusion of Public Water Suppliers in emergency training
- Argue for equal protection for Surface Water and Ground Water SWPAs
- Dr. Ted Auch, Ohio FractTracker; Teresa Mills, Buckeye Environmental Network (Buckeye Forestry Council); Public Water Supplier Rep & me

# Next Steps

## Lobby for Ohio EPA & PWS in 2017-18 Budget Bill

- Reinsert the language from the 2015-16 Budget Bill that allows Ohio EPA and Public Water Suppliers to know the chemical composition of Trade “secret” fracking materials and other on-site chemicals
- Melanie Houston, Ohio Environmental Council, is lead [mhouston@theoec.org](mailto:mhouston@theoec.org)
- Ohio AWWA is involved, Tyler Converse, Canton is lead on that effort
- Contact your local State Rep and Senator

# Next Steps

## Health Survey of Affected

### People in Monroe County

- No Ohio agency has lead jurisdiction to determine what happened
- Monroe County Health Dept. underfunded, not equipped to undertake study, frustrated
- Teaming with Southwest Pennsylvania - Environmental Health Project
- Ohio Environmental Council coordinating
- Peggy Berry, RN, PhD OSHA nurse is lead
- Support from Ohio nursing associations
- May try some soil & plant sampling

# Contacts for this presentation

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**Ohio EPA** Division of Drinking and Ground  
Waters Source Water Assessment and  
Protection Program,

[www.epa.ohio.gov/ddagw/swap\\_ssa.aspx](http://www.epa.ohio.gov/ddagw/swap_ssa.aspx)



Keeping Ohio's Water Clean  
Ohio Fracture Flow Working  
Group