

## McCracken, Chuck

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**From:** Laurie Stevenson <laurie.stevenson@epa.state.oh.us>  
**Sent:** Friday, March 11, 2011 12:55 PM  
**To:** Chris.Perry@dnr.state.oh.us; Heidi.Hetzel-Evans; john.husted@dnr.state.oh.us; 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; Aaron Shear; Benjamin Cirk; Brian Hall; Chuck Lowe; Dan Underwood; Donna Kniss; Eric Adams; Eric Nygaard; Erm Gomes; Fred Snell; Joe Goicochea; Keith Riley; Kristopher Weiss; Lee Burkleca; Lindsay Taliaferro; Michael Eggert; Mike Baker; Mike Hopkins; Mike Settles; Misty Parsons; Nancy Rice; Rich Blasick; Steve Saines; Steve Williams; Stivo DiFranco; Tom Harcanik; Tracy Freeman; Virginia Wilson; Chuck McCracken; Michael Snee; Rebecca Fugitt; robert.owen@odh.ohio.gov; Stephen Helmer  
**Subject:** Final agenda for 3/17 team meeting  
**Attachments:** Marcellus Shale 3-17FinalAgenda.DOC; Marcellus Shale Meeting2-10Notes.PDF

Hello everyone. Attached is the final agenda for our meeting next Thursday, March 17, scheduled from 1:30-4:00 here at Ohio EPA (Center for Excellence, 6th floor). OEPA districts, I'm planning to try video conferencing from here again and will pass along details later for this and/or call-in bridge line option.

I'm also attaching the notes from our last meeting.

Thanks,  
Laurie

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**Marcellus Shale Meeting**  
**OEPA/ODNR/ODH**  
**Thursday, March 17**  
**1:30 – 4:00 p.m.**  
**Ohio EPA, Center for Excellence**  
**AGENDA**

<b>Welcome/Introductions</b>	All
<b>Public Outreach/Education</b> <ul style="list-style-type: none"><li>Media Relations Update</li><li>Legislative outreach</li><li>Additional fact sheets, web updates, etc.</li></ul>	ODNR/OEPA
<b>Drilling Activity/Updates</b> <ul style="list-style-type: none"><li>Ohio Drilling activity in the Marcellus/Utica – Permitting and drilling activity update</li><li>Visit to Chesapeake drill sites/debrief</li></ul>	ODNR OEPA
<b>Permitting Collaboration/Updates</b> <ul style="list-style-type: none"><li>Ohio EPA/ODNR meeting re. permit conditions to protect GW and other sensitive environments</li><li>Sharing permit application and permits for Marcellus or Utica drilling</li></ul>	J. Husted/M. Baker/M. Eggert
<b>401/404</b> <ul style="list-style-type: none"><li>Development of General Permit/401 authorization</li><li>Discussions with U.S. Army Corps</li></ul>	T. Harcarik
<b>Wastewater</b> <ul style="list-style-type: none"><li>Permit/POTW Update Warren, E. Liverpool, Steubenville</li><li>Fact sheet for municipal wastewater plants/haulers</li></ul>	P. Novak
<b>Drinking Water</b> <ul style="list-style-type: none"><li>Draft fact sheet/water sampling and analysis</li></ul>	M. Eggert
<b>Air</b> <ul style="list-style-type: none"><li>OEPA evaluation of air sources/permitting options</li></ul>	DAPC
<b>Waste</b> <ul style="list-style-type: none"><li>RCRA exemption for mining operations/scope</li></ul>	J. Goicochea, A. Shear
<b>Rules</b> <ul style="list-style-type: none"><li>SB 165/Rules workgroup activity</li><li>TENORM Rules - update</li><li>OEPA rule proposal – exemption of pits/lagoons from DSW PTIs</li></ul>	ODNR ODH P. Novak
<b>Next Steps</b>	All

## Inter-Agency Marcellus Shale Team Meeting Notes

### February 10, 2010

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Introductions - Participating Agencies (OEPA, ODNR, ODH)

#### New Administration Updates/Focus on Shale Gas

ODNR Issues: Resources to respond to drilling industry as it comes to Ohio; increased level of drilling

OEPA Issues: Focusing on developing streamlined regulatory/permitting tools such as general permits for air and 401.

#### Drilling Activity Update

Handout with current stats on drilling from ODNR. We have the first Utica horizontal well drilled (Harrison Cty), horizontally drilled, but not yet fractured. Ohio Buckeye (Buhl Site)

Going to Carroll County for coring. May do some drilling at this location.

ODNR will be posting updated lists on their Web site with map of sites.

Marcellus Wells. Two fraced (one last week). Jefferson County. Marquette Exploration. First true Marcellus well. 17-stage frac. Total depth reached in October 09. Previous well in 06 by Phillips Exploration (4-stage frac). Does ODNR get notification of frac job.

#### Pipeline Update

Three pipeline proposals in Ohio. Two from Monroe County going into existing lines. Requiring individual 401 WQCs. Have met with consultants. Shut down during winter, for field work/assessment. Expecting individual apps. Probably summer of next year. 404 Permits will be required. Rockies Express received Nationwide Permit. Kinder Morgan – application sent application back due to technical deficiencies by OPSB.

#### Permit Conditions/ODNR

We have been sharing/exchanging information. OEPA is trying to get a better understanding of permitting process, conditions and safety measures built into the process to protect resources. How do these link together and how will the agencies share information (e.g. applications coming in for sensitive areas)? If drilling is proposed for sensitive areas, how will we work together and communicate to our constituents. 1 and 5-year time of travel information received from OEPA. ODNR Will compare incoming applications against these data layers to flag high priority sites that will need a level of collaboration. Will need to insure public understands adequate level of safety.

How do we create an environment where information is exchanged openly between agencies? ODNR response - all incoming applications posted on-line already, so we can get access to this

We need regulatory checklist for drillers. We need to cross-refer companies between ODNR/OEPA.

Potential air emission sources: Natural gas combustion, flares and generators (portable or stationary)

Do we know the universe of drillers now? Marcellus Shale Coalition (mailing list). 44. Maybe targeted outreach to drillers.

#### Wastewater Update

Chesapeake does not plan to take flowback water to POTWs.

City of Warren – authorized to take 100,000 gpd. E Liverpool PTI for metals precip. No NPDES mod from E. Liverpool.

Steubenville, Patriot PTI. Received NPDES from Steubenville. IDP from Patriot. Concerns about drinking water intake that might drive discharge limits. Proposing 300,000 gpd which will be more than 10% than capacity in low flow conditions. Working with DDAGW/DSW on permit conditions.

Phoenix proposal – PTI (T. Tugen/R. Blasick). Want to take flowback and production water. Treatment and take back out to site for reuse. Some interest in processing to road application. Were we considering reaching out to townships? ODNR sent a mass mailing to brine haulers reminding them they cannot road apply brine, in June of last year.

Harrison Cty. Consol Coal has an active prep site for treatment plant. Want to collect brine and do treatment on-site. Harrison Cty Engineer. Want to store in large silos.

City of Warren wants to sell discharge water to companies for frac water. Issues? Would it trigger Class I injection. Possible issues with contaminants. With other fresh water resources available, this may not be viable/ideal options.

Patriot - potential class II injection well. Location across from Warren treatment plant. Patriot has talked with T. Tomastik about locating a well right by Warren plant.

**Q. RCRA Exemption for brines/flowback materials handled by third-party entities.**

#### Drinking Water

Increasing requests from citizens about water safety. Russ Smith ODH. They are getting requests for third-party sampling/training. What is the company's obligation to test? ODNR – private well investigation. Oil and gas drilling. ODNR is investigatory.

### Water Sampling Inquiries

It's important for citizens to understand regulatory oversight of ODNR, ODH and responsibilities of drilling companies relative to drinking water. There's some mistrust by local SWCD over information that's obtained strictly by drilling companies. Some want to be involved in going into homes for sampling. Example: Trumbull County Health Department being mandated to collect samples. Baseline sampling prior to construction. We need to re-establish communication and clarify responsibilities.

ODH is going to do some training in April with ODNR/Soil and Water.

It's a statewide issue. R Simmers. N. Canton. PWS interest and domestic supplies. Penn State – sample packet to test for some ions. \$65. Disclaimers (not defensible, etc.) Need to do it right from front to end and use qualified labs testing for correct parameters.

Guidance for homeowners on water testing should address what is a certified lab, parameters, etc. We need a fact sheet between ODH and ODNR (and possibly OEPA) to get correct information out there. Question about baseline screening parameters. These should include: barium, iron, chlorides.

### TENORM Rules (ODH)

Review will be helpful of draft to make sure ODH is not overlapping agencies in regulatory areas or conflicting with existing regulations. The rules are not oil/gas specific, but may be helpful in terms of addressing radiological issues that might come up within industry.

SEDO had questions for ODH about radiological parameters in Warren permit. More discussion to occur outside of meeting.

### Public Outreach/Education

Water fact sheet: T. Tomastik has drafted something basic for homeowners.

There's probably a need for more education for drinking water operators (M. Baker).

OEPA has a fact sheet for municipal wastewater plants that want to take low salinity frac water. It's draft and should be done soon. (P. Novak) We'll also be drafting a fact sheet for drilling companies outlining regulatory basics (L. Stevenson).

### Other Items

Agencies receive questions about leasing information. Strictly between company and landowner. ODNR Has provided homeowners with basic information. May be an association available to respond to questions. Idea on referring people to another group to field questions (OSU Extension, for example). In early stages of developing this relationship. PA has a good template.

Public meetings attended by hundreds of people. Newspapers are following up. Upcoming Dispatch article might have wastewater angle.

NY freelancer contacting Ohio (M. Settles). Dispatch has requested many documents. Youngstown Feb. sweeps series on M. Shale.

Ohio University – environmental magazine.

Is there a way to notify public officials of drilling activity – R. Blasick.

STRONGER – Information distributed by T. Tugend.

**Next Meeting**

March 17, Ohio EPA Offices. 1:30-4:00

**McCracken, Chuck**

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**From:** Laurie Stevenson <laurie.stevenson@epa.state.oh.us>  
**Sent:** Monday, March 07, 2011 5:58 PM  
**To:** Chris.Perry@dnr.state.oh.us; Heidi.Hetzel-Evans; john.husted@dnr.state.oh.us;  
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; Aaron Shear; Benjamin Cirkel; Brian Hall; Chuck Lowe; Dan  
Underwood; Donna Kniss; Eric Adams; Eric Nygaard; Erm Gomes; Fred Snell; Joe  
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Mike Baker; Mike Hopkins; Mike Settles; Misty Parsons; Nancy Rice; Rich Blasick; Steve  
Saines; Steve Williams; Stivo DiFranco; Tom Harcarik; Tracy Freeman; Virginia Wilson;  
Chuck McCracken; Michael Snee; Rebecca Fugitt; robert.owen@odh.ohio.gov; Stephen  
Heimer  
**Subject:** Draft agenda for 3/17 team meeting  
**Attachments:** Marcellus Shale 3-17 Draft Agenda.DOC

Hello everyone. Attached is the draft agenda for our next meeting on 3/17, scheduled from 1:30-4:00 here at Ohio EPA (Center for Excellence, 6th floor).


OEPA districts, I'm planning to try video conferencing from here again and will pass along details later for this and/or call-in bridge line option.

Please give me your additions/changes on the agenda by COB this Thursday and I'll get the final out on Friday.

Also, I'm running late on the notes from our last meeting...will get these out with the final agenda. Sorry about that.

Thanks,  
Laurie

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**Marcellus Shale Meeting**  
**OEPA/ODNR/ODH**  
**Thursday, March 17**  
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**Ohio EPA, Center for Excellence**  
**DRAFT AGENDA**

<b>Welcome/Introductions</b>	All
<b>Drilling Activity/Updates</b>	
• Ohio Drilling activity in the Marcellus/Utica – Permitting and drilling activity update	ODNR
• Visit to Chesapeake drill sites/debrief	OEPA
<b>Permitting Collaboration/Updates</b>	
• Ohio EPA/ODNR meeting re. permit conditions to protect GW and other sensitive environments	J. Husted/M. Baker/M. Eggert
• Sharing permit application and permits for Marcellus or Utica drilling	
<b>401/404</b>	
• Development of General Permit/401 authorization	T. Harcarik
• Discussions with U.S. Army Corps	
<b>Wastewater</b>	
• Permit/POTW Update	P. Novak
• Warren, E. Liverpool, Steubenville	
• Fact sheet for municipal wastewater plants/haulers	
<b>Drinking Water</b>	
• Draft fact sheet/water sampling and analysis	M. Eggert
<b>Air</b>	
• OEPA evaluation of air sources/permitting options	DAPC
<b>Waste</b>	
• RCRA exemption for mining operations/scope	J. Goicochea, A. Shear
<b>Rules</b>	
• SB 165/Rules workgroup activity	ODNR
• TENORM Rules - update	ODH
• OEPA rule proposal – exemption of pits/lagoons from DSW PTIs	P. Novak
<b>Public Outreach/Education</b>	C. Butler
• Media Relations Update	
• Legislative outreach	
• Additional fact sheets, web updates, etc.	
<b>Next Steps</b>	All



**McCracken, Chuck**

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**From:** Chuck McCracken  
**Sent:** Friday, February 11, 2011 1:08 PM  
**To:** Laurie Stevenson  
**Cc:** Mark Light; Michael Snee  
**Subject:** ODH DRAFT TENORM rules for OEPA District Reps  
**Attachments:** ODH Draft TENORM Rule.pdf

Laurie:

Attached is a .pdf version of the DRAFT - NOT FOR PUBLIC DISTRIBUTION - ODH TENORM Rules that were passed out at yesterday's Oil & Gas working group meeting. Please distribute them to the OEPA District folks that are part of the team.

If they have any comments they should be submitted before our next meeting on March 17th to:

[BRadiation@odh.ohio.gov](mailto:BRadiation@odh.ohio.gov)

Thanks,

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

McCracken, Chuck

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**From:** Tugend, Thomas <Thomas.Tugend@dnr.state.oh.us>  
**Sent:** Tuesday, February 08, 2011 3:45 PM  
**To:** Laurie Stevenson; Perry, Chris; Hetzel-Evans, Heidi; Husted, John; Halfrisch, Mike; McCormac, Mike; Simmers, Rick; Lozier, Ted; Tomastik, Tom; Aaron Shear; Bill Skowronski; Brian Hall; Chuck Lowe; Dan Underwood; Donna Kniss; Eric Adams; Eric Nygaard; Erm Gomes; Fred Snell; Joe Goicochea; Keith Riley; Kristopher Weiss; Lindsay Taliaferro; Michael Eggert; Mike Baker; Mike Settles; Nancy Rice; Rich Blasick; Steve Saines; Steve Williams; Stivo DiFranco; Tom Harcarik; Tracy Freeman; Virginia Wilson; Chuck McCracken; Michael Snee; Rebecca Fugitt; robert.owen@odh.ohio.gov; Stephen Heimer  
**Cc:** Craig Butler; Husted, John  
**Subject:** STRONGER - Hydraulic Fracturing Review

In June, STRONGER (State Review of Oil and Natural Gas Environmental Regulations) conducted a review of the Division of Mineral Resources Management's hydraulic fracturing regulations. The report was finalized in January and officially released this week. We are pleased with the positive findings of STRONGER and for anyone interested in reviewing the final report, please use the below link.

<http://www.strongerinc.org/documents/Final%20Report%20of%202011%20OH%20HF%20Review.pdf>

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This message was secured by ZixCorp(R).

**McCracken, Chuck**

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**From:** David Lipp  
**Sent:** Monday, February 07, 2011 8:00 AM  
**To:** Michael Snee; Chuck McCracken; Stephen Helmer; Kenneth Barnhart; Jim Colleli  
**Subject:** Draft TENORM Rules  
**Attachments:** 3701\$1-TN 20110204 Draft.doc

See attached. Additional changes include turning rule 20 into an appendix to rule 15 and removing footnote 6.

**McCracken, Chuck**

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**From:** Laurie Stevenson <laurie.stevenson@epa.state.oh.us>  
**Sent:** Saturday, February 05, 2011 10:40 AM  
**To:** Chuck McCracken  
**Subject:** Re: ODH DRAFT TENORM rules for 2/10 team meeting

Hi Chuck. I'd suggest at least 30 copies, maybe 40 just to be on the safe side. If there are extras, I can send them to district staff. Laurie -----Original Message-----

From: Chuck McCracken <Chuck.McCracken@odh.ohio.gov>  
To: Laurie Stevenson <Laurie.Stevenson@epa.state.oh.us>  
Cc: Michael Snee <Michael.Snee@odh.ohio.gov>

Sent: 2/4/2011 2:35:09 PM  
Subject: ODH DRAFT TENORM rules for 2/10 team meeting

Laurie:

ODH plans to bring a number of copies of our DRAFT TENORM rules to the meeting on the 10th.

This is the DRAFT document that we agreed to provide to OEPA and ODNR for review and comment resolution prior to us beginning our official rule promulgation process. We will make electronic copies available to email the OEPA & ODNR district folks next week as well.

What I need to know at this point is how many printed copies to bring to the meeting.

Please advise by Weds at the latest.

Thanks,

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

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McCracken, Chuck

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**From:** Laurie Stevenson <laurie.stevenson@epa.state.oh.us>  
**Sent:** Friday, January 21, 2011 3:55 PM  
**To:** Chris.Perry@dnr.state.oh.us; Heidi Hetzel-Evans; john.husted@dnr.state.oh.us;  
mike.mccormac@dnr.state.oh.us; rick.simmers@dnr.state.oh.us;  
tom.tomastik@dnr.state.oh.us; tom.tugend@dnr.state.oh.us; Aaron Shear; Bill Skowronski;  
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Eggert; Mike Baker; Mike Settles; Nancy Rice; Rich Blasick; Steve Saines; Steve Williams;  
Stivo DiFranco; thomas.tugend@epa.state.oh.us; Tom Harcarik; Tracy Freeman; Virginia  
Wilson; Chuck McCracken; Michael Snee; robert.owen@odh.ohio.gov; Stephen Helmer  
**Cc:** Craig Butler  
**Subject:** Notes from 12/9 team meeting and next scheduled meeting  
**Attachments:** ShaleMeetingNotesFinal12-9.PDF

Hello everyone. Just a friendly reminder that we have our next inter-agency meeting on Thursday, February 10th from 1:30-4:00 here at OEPA, Central Office (Center for Excellence, 6th floor).

I'll get a draft agenda out for review early next week. Sorry I'm running a bit behind on coordinating this. I'm also attaching notes from our 12/9 meeting.

OEPA districts, we'll get out more details to you on either a bridge line or video conference option for the meeting.

Thanks!  
Laurie

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## Introductions

### ODNR update and site visit to PA – update (T. Tugend, T. Tomastik)

CNX/Consol, DEP. Met to discuss M. Shale drilling activity. Experiences/lessons learned. Drilling in CNX reserves (on their property where they intend to long-wall mine). Coal company. Things looked pretty good at site. Have acreage in Ohio. Utica well drilled in Ohio.

2,500 total wells (1,100 Marcellus by end of October). Now have about 210 people on staff just do to oil and gas. Complaints annually 743 – 300 of which were water-supply related complaints. Flowback pits require 40 mil liner plus 40 mil sand. Many have drains and monitor wells. Marcellus Shale Coalition Web site now has complete breakdown of additive/chemicals. Chemical/radiological work – data requested. They have not seen problems with rad contam in fluids...some issues related to solids. They are hearing about possibility of piping raw water from various sources (municipal, impoundment, etc.)

Contamination cases (GasLand). Was a shallow gas migration problem similar to Bainbridge...had nothing to do with hydraulic fracturing. Dunkard Creek fish kill – was determined to be coal mining discharge...not frac water dumping.

CNX going back in January to try and perforate Utica shale to see what they have. They have an open flow of 1.5 million cubic feet. Very substantial showing compared to other wells. 1.5 – 2.8 billion cubic feet per year – gas production. Drilling started in 2006 for these. Life span of well unknown. PSI diminishes over time. Confirmed flowback recovery of 10-15%. After flowback, you are not seeing a lot of fluid production from wells.

CNX site: They were on two-tier, six well site. Three to six wells per pad. About three acre site. Piping water in. Building pit to contain water for several wells. PA DEP has regulations that apply to pit design (e.g. liners). Marcellus Coalition Web site has good information. Many drilling operations are large, corporate players and they seem very safety/environmentally conscious. Site work for this is 16-18 weeks for complete drilling in number of wells.

Q: What is the average footprint of a drill site? Average footprint is around 3 acres for site. Would be smaller if only one well. 3-6 months for drilling activity to be completed.

Chesapeake is getting more active in Ohio with stratigraphic testing permits. Planning to test in Utica zone. Planning to come in to talk with ODNR to talk about permitting after the first of the year.

Leasing activity is very high right now. 22,000 acres went to Chesapeake for \$45 million. Leasing is fairly hot right now. Senator Schuring is coordinating a meeting to discuss permitting, etc. with citizens. Another company is approaching landowners in Ashland County – this is the farthest West we've seen so far.

#### **NY Moratorium - J. Goicochea, OEPA**

Last week went into effect. Region II has been active in this issue. Environmental Impact Statement was also posted. In effect for six months as more study is completed.

#### **ODNR Update – Drilling in Ohio**

2 wells. Marquette Exploration – drilling horizontal in Spring (target)

Strat test – vertical test – coring to get geology...will probably continue for several months before drilling picks up.

Steve Saines indicated that a company has completed horizontal part of well in Belmont. ODNR indicates Triad Hunter got permit. Have not completed well. Water line under road. Beck Energy still does not have permitting privileges – Monroe County site. If they do get privileges back from ODNR to get a permit, OEPA wants to be involved in this to get conditions in it that will be protective.

#### **Wastewater Update (B. Hall, OEPA)**

Letter just went out to Patriot regarding OEPA's inability to process PTI for Steubenville until we get corresponding NPDES mod from POTW. E. Liverpool needs to address some issues before we can authorize a mod to their NPDES permit. Steubenville does not have approved pre-treatment program, so OEPA would issue the permit. Warren final NPDES mod approved 12/1.

PA DEP said their regulations go into effect in January with limit of 500 mg/L TDS from POTWs.

#### **Pipeline updates (T. Harcarik, OEPA)**

We have three companies that have approached us, but no permit applications in yet.

- Kinder Morgan – Hooks up to co-gen line. They wanted to have application in by end of the calendar year...running into complications with wetland areas.
- Mustang Engineering – goes to MI
- El Paso Midstream – takes ethane to processing plant in Louisiana

DDAGW should be engaged in the discussions related to this, as some of these proposals include crossing well fields. Water lines may also be going through wetlands/streams, etc.

#### **TDS Update (B. Hall, OEPA)**

We have been talking with coal regarding TDS/water quality standards. Have been evaluating what's been happening in Iowa and Illinois. ORSANCO – Proposing to develop a 500 mg/L standard similar to PA.

#### **Air Requirements (C. Butler, OEPA)**

Group working with State of PA to develop emissions inventory of air impact from diesel emissions from drilling activity. Part of the discussion is whether they are required to get air permits. Large diesel generators might not fall under exemptions because of size, HP. A lot of power coming from electricity. Diesel generators for site in Monroe Cty both over 1,000 HP. (for pushing drilling fluids), 120 gallons of diesel fuel per hour. PA got grant to do some study work at some sites to try and identify emissions from sources.

#### **SB 165 – Rule Updates (T. Tugend, ODNR)**

Multi-stakeholder groups. Have met 5-6 times. First task is for drilling unit configurations...compact. Mike M. is working on this. Close to having draft rules.

Noise mitigation. Have had two discussions on this.

Well construction standards – these discussions will start after the first of the year.

Drilling permit conditions – how to protective sensitive areas. ODNR permits/permitting conditions.

Examples: Monroe County site (as an example). Where there are proposed drill sites near sensitive areas, permits could be conditioned. Where and how do triggers get implemented. Handout from Rick Simmers. Review of statutory authority under 1509.06(F). Presentation of imminent danger to health or safety, or damage to environment – these are the criteria that would be used as basis for denying permit. Examples include: drilling in the five-year time of travel.

Pit construction: standards were developed quite a while ago. Two scenarios (1) freshwater and (2) frac water. Companies will probably focus on keeping materials in tanks. Scott Kell is working on BMPs under contract with ODNR now.

Proposed well location lat/long – working with USGS to get data to ODNR during permit review process.

401 considerations – could this be addressed through ODNR permit app? At least a notice.

Roadways, drill sites,

Companies can voluntarily report – online data repository (M. Baker). Good commitment from companies to do this. September meeting. Organizations committed to do this.

Joe G. commented on solid waste-related conditions, particularly those allowing for on-site disposal.

More coordination between DSW and DDAGW to talk about next steps relative to ODNR permit conditions. OEPA will look at categories provided in handouts. May have additional conditions or want to see more detail on both.



#### **ODH – TENORM rules (M. Snee)**

Still working on rules. Going slower than anticipated – originally thought would be done with draft by October, but still working.

Since last meeting, have received inquiries about drill cutting disposal from PA.

C. Butler, OEPA talked about a recent meeting between OEPA and Apex landfill about potential new activity. This may include the construction of a solidification pit for frac water/drill cuttings.

#### **Outreach/Education Activity Update (L. Stevenson, OEPA)**

Distributed final copy of drilling/regulatory basics fact sheet. Other potential topics:

- Homeowner – water safety. T. Tomastik volunteered to initiate something on this.
- Drilling operations – L. Stevenson will work with OEPA divisions on initial draft.
- Pipeline construction/requirements– an issue for landowners as well

#### **Media relations (OEPA/ODNR) - No significant activity**

Frac water sampling - potential for collaboration? Marcellus Shale Coalition has done sampling, so we may be able to get data from them. T. Tomastik will review information received from PA. We should keep this on the radar, but in the future, as we have limited drilling activity. In the interim, let's focus on parameters list. Is it important to do this if others are volunteering information? (C. Butler). Everything on the media indicates flowback water is "toxic." More concrete data would help address concerns and reduce speculation. Add as agenda item for our next meeting. In the meantime, scope out what we would actually be doing.

**NEXT MEETING:** February 10<sup>th</sup> 1:30-4:00 at Ohio EPA.

**McCracken, Chuck**

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**From:** McCormac, Mike <Mike.McCormac@dnr.state.oh.us>  
**Sent:** Wednesday, December 15, 2010 8:24 AM  
**To:** Laurie Stevenson; Perry, Chris; Hetzel-Evans, Heidi; Husted, John; Simmers, Rick; Tomastik, Tom; Aaron Shear; Bill Skowronski; Brian Hall; Charlotte Hickcox; Chuck Lowe; Dan Underwood; Donna Kniss; Eric Adams; Eric Nygaard; Ern Gomes; Fred Snell; Joe Goicochea; Keith Riley; Kristopher Weiss; Lindsay Taliaferro; Michael Eggert; Mike Baker; Mike Settles; Nancy Rice; Rich Blasick; Steve Saines; Steve Williams; Stivo DiFranco; Tom Harcarik; Tracy Freeman; Virginia Wilson; Chuck McCracken; Michael Snee; Rebecca Fugitt; Robert Owen; Stephen Helmer; Tugend, Thomas; Craig Butler  
**Cc:** McCormac, Mike  
**Subject:** Oil and Gas Permit Geologic Data Review  
**Attachments:** Oil and Gas Permit Geologic Data Review.doc

All,

As a follow-up to last weeks meeting, here is a list of current and future data layers that will be used in the permit review process.

Mike

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This message was secured by ZixCorp(R).

## Oil and Gas Permit Geologic Data Review

The Ohio Department of Natural Resources, Division of Geological Survey (DGS) proposes to assist the Division of Mineral Resources Management (DMRM) by providing geologic information from digital data layers on file at the Geological Survey to assist with analysis of proposed oil/gas well locations. Current available layers requested include:

1. Drift thickness (amount of drift at the location)
2. Abandoned Underground Mines
3. Active Underground Mines (that are available)
4. Surface Mine Layers (that are available)
5. Structural Contour of Lowest Coal (a list provided by DMRM by county)
6. Quaternary Geology (criteria for depth 0' to 20')
7. Topographic elevation
8. Oil & Gas Wells (map symbol, permit # and formation)
9. Drastic map information
10. Spacing radius around proposed well
11. Locations of water wells within 300 feet of location.
12. Underground Injection Control Area of Reviews for Active Injection Wells (a list of active wells will be provided by API number with the AOR radius)
13. Source Water Protection Area-1 & 5 year Time of Travel (DGS will obtain from the Div. of Soil & Water Resources or the OEPA)
14. Flood Plains (DGS will obtain from the Div. of Soil & Water Resources)
15. Scenic River Boundaries (DGS will obtain from the Div. of Watercraft)

These records, maps, and images have been converted to digital format and a computer software application for displaying these records, maps, and images in a geographic information system (GIS) environment will be constructed. This permits delivery of geologic information in a digital environment in a timely fashion.

Future layers include:

1. Ohio Pure Oil and Ohio Fuel Maps (requires geo-referencing)
2. Underground Source of Drinking Water
3. Gas Storage Fields and Buffer Zones
4. Lake Plain Permit Conditions (need to be digitized)
5. Thin Till Permit Conditions

com 1 of 3

DEC 9, 2010

C. M. Crocker  
NOTES

CNX  $\Rightarrow$  Consult Coal

DEP  $\Rightarrow$

✓ Verted into Utica in Belmont

2500 total wells

• 1200 marcellus wells drilled this yr

• Marcellus Shale Coalition website

• Have not seen radiological issues in the fluids.

\* Fish Kill was not due to Fracking -  
found to be from Coal burning spill.

production  
2.8 Billion cf/year/well

10-15%

3-5 barrels/day of fluid once  
operational

C. M. Crocker

Aspeak Inc. COM 2 of 3  
12/9/10

Metamora Co. Stark Co.  
Gurnee Co.  
Hansen Co. Ashland Co.  
Geauga Co.

Coming into talk w/ ODNR  
in January

Monroe County

Reg. update:

✓ New OPA TDS limits  $\Rightarrow$  taken from  
IOWA.

NEW OHIO 500 mg/ml TDS

Scott Lockhart  
② APEX

com 3. P3  
12/9/10

22 00 Marsellas Shale Dewatering 22 00

FRAE Waters Cannot be  
road spread

• CEPA Sharepoint Website  
for Marcelles issues

#### Introductions

#### ODNR update and site visit to PA – update (T. Tugend, T. Tomastik)

CNX/Consol, DEP. Met to discuss M. Shale drilling activity. Experiences/lessons learned. Drilling in CNX reserves (on their property where they intend to long-wall mine). Coal company. Things looked pretty good at site. Have acreage in Ohio. Utica well drilled in Ohio.

2,500 total wells (1,100 Marcellus by end of October). Now have about 210 people on staff just do to oil and gas. Complaints annually 743 – 300 of which were water-supply related complaints. Flowback pits require 40 mil liner plus 40 mil sand. Many have drains and monitor wells. Marcellus Shale Coalition Web site now has complete breakdown of additive/chemicals. Chemical/radiological work – data requested. They have not seen problems with rad contam in fluids...some issues related to solids. They are hearing about possibility of piping raw water from various sources (municipal, impoundment, etc.)

Contamination cases (GasLand). Was a shallow gas migration problem similar to Bainbridge...had nothing to do with hydraulic fracturing. Dunkard Creek fish kill – was determined to be coal mining discharge...not frac water dumping.

CNX going back in January to try and perforate Utica shale to see what they have. They have an open flow of 1.5 million cubic feet. Very substantial showing compared to other wells. 1.5 – 2.8 billion cubic feet per year – gas production. Drilling started in 2006 for these. Life span of well unknown. PSI diminishes over time. Confirmed flowback recovery of 10-15%. After flowback, you are not seeing a lot of fluid production from wells.

CNX site: They were on two-tier, six well site. Three to six wells per pad. About three acre site. Piping water in. Building pit to contain water for several wells. PA DEP has regulations that apply to pit design (e.g. liners). Marcellus Coalition Web site has good information. Many drilling operations are large, corporate players and they seem very safety/environmentally conscious. Site work for this is 16-18 weeks for complete drilling in number of wells.

Q: What is the average footprint of a drill site? Average footprint is around 3 acres for site. Would be smaller if only one well. 3-6 months for drilling activity to be completed.

Chesapeake is getting more active in Ohio with stratigraphic testing permits. Planning to test in Utica zone. Planning to come in to talk with ODNR to talk about permitting after the first of the year.

Leasing activity is very high right now. 22,000 acres went to Chesapeake for \$45 million. Leasing is fairly hot right now. Senator Schuring is coordinating a meeting to discuss permitting, etc. with citizens. Another company is approaching landowners in Ashland County – this is the farthest West we've seen so far.

#### **NY Moratorium - J. Goicochea, OEPA**

Last week went into effect. Region II has been active in this issue. Environmental Impact Statement was also posted. In effect for six months as more study is completed.

#### **ODNR Update – Drilling in Ohio**

2 wells. Marquette Exploration – drilling horizontal in Spring (target)

Strat test – vertical test – coring to get geology...will probably continue for several months before drilling picks up.

Steve Saines indicated that a company has completed horizontal part of well in Belmont. ODNR indicates Triad Hunter got permit. Have not completed well. Water line under road. Beck Energy still does not have permitting privileges – Monroe County site. If they do get privileges back from ODNR to get a permit, OEPA wants to be involved in this to get conditions in it that will be protective.

#### **Wastewater Update (B. Hall, OEPA)**

Letter just went out to Patriot regarding OEPA's inability to process PTI for Steubenville until we get corresponding NPDES mod from POTW. E. Liverpool needs to address some issues before we can authorize a mod to their NPDES permit. Steubenville does not have approved pre-treatment program, so OEPA would issue the permit. Warren final NPDES mod approved 12/1.

PA DEP said their regulations go into effect in January with limit of 500 mg/L TDS from POTWs.

#### **Pipeline updates (T. Harcarik, OEPA)**

We have three companies that have approached us, but no permit applications in yet.

- Kinder Morgan – Hooks up to co-gen line. They wanted to have application in by end of the calendar year...running into complications with wetland areas.
- Mustang Engineering – goes to MI
- El Paso Midstream – takes ethane to processing plant in Louisiana

DDAGW should be engaged in the discussions related to this, as some of these proposals include crossing well fields. Water lines may also be going through wetlands/streams, etc.

#### **TDS Update (B. Hall, OEPA)**

We have been talking with coal regarding TDS/water quality standards. Have been evaluating what's been happening in Iowa and Illinois. ORSANCO – Proposing to develop a 500 mg/L standard similar to PA.



#### **Air Requirements (C. Butler, OEPA)**

Group working with State of PA to develop emissions inventory of air impact from diesel emissions from drilling activity. Part of the discussion is whether they are required to get air permits. Large diesel generators might not fall under exemptions because of size, HP. A lot of power coming from electricity. Diesel generators for site in Monroe Cty both over 1,000 HP. (for pushing drilling fluids), 120 gallons of diesel fuel per hour. PA got grant to do some study work at some sites to try and identify emissions from sources.

#### **SB 165 – Rule Updates (T. Tugend, ODNR)**

Multi-stakeholder groups. Have met 5-6 times. First task is for drilling unit configurations...compact. Mike M. is working on this. Close to having draft rules.

Noise mitigation. Have had two discussions on this.

Well construction standards – these discussions will start after the first of the year.

Drilling permit conditions – how to protective sensitive areas. ODNR permits/permitting conditions.

Examples: Monroe County site (as an example). Where there are proposed drill sites near sensitive areas, permits could be conditioned. Where and how do triggers get implemented. Handout from Rick Simmers. Review of statutory authority under 1509.06(F). Presentation of imminent danger to health or safety, or damage to environment – these are the criteria that would be used as basis for denying permit. Examples include: drilling in the five-year time of travel.

Pit construction: standards were developed quite a while ago. Two scenarios (1) freshwater and (2) frac water. Companies will probably focus on keeping materials in tanks. Scott Kell is working on BMPs under contract with ODNR now.

Proposed well location lat/long – working with USGS to get data to ODNR during permit review process.

401 considerations – could this be addressed through ODNR permit app? At least a notice.

Roadways, drill sites,

Companies can voluntarily report – online data repository (M. Baker). Good commitment from companies to do this. September meeting. Organizations committed to do this.

Joe G. commented on solid waste-related conditions, particularly those allowing for on-site disposal.

More coordination between DSW and DDAGW to talk about next steps relative to ODNR permit conditions. OEPA will look at categories provided in handouts. May have additional conditions or want to see more detail on both.