



WV-DEP's Non-Response to Horizontal Well Act Studies

by Dave McMahon, wvdavid@wvdavid.net
and Julie Archer, julie@wvsoro.org

The Horizontal Well Act passed in December 2011 required the Department of Environmental Protection (DEP) to conduct three studies regarding various impacts from horizontal well drilling. Based on these studies the DEP was mandated to do rule making if it determined additional regulations were needed.

We appreciate that the DEP recognized that something needed to be done. However, rather than doing rule making, it hit the ball back into the Legislature's court, recommending they revisit the setback provisions of the Act. DEP's recommendation was that the distance from occupied dwellings be measured from the nearest edge or limit of disturbance (LOD), rather than the center of the pad "to provide for a more consistent and protective safeguard for residents in affected areas." We agree, however, setbacks alone are not sufficient – and the DEP did not recommend the distance that should be enacted for the setback.

At a presentation before the legislature in August, the DEP said it does not yet have a hard scientific standard to use as a basis for establishing a setback. In their cover letter explaining why they were not doing rulemaking, the DEP said, "there are no indications of a public health emergency or threat" based on the data obtained through the studies. DEP should not wait for an emergency to act. We believe the DEP should prevent emergencies. Protections are needed below the standards for a public health emergency. People living near well sites are experiencing health problems now.

It would be nice if the DEP had more data. But they have all of the data that is available. And there is enough data currently available that something should be done now.

In addition to increasing the setback distance from homes to 1,500 feet from the limit of LOD, the



This well pad is about 200 feet from a residence.

(Photo courtesy of Bill Hughes, Wetzel County Action Group)

following recommendations from researchers at WVU should be adopted with regard to noise, dust and other air emissions from horizontal drilling sites:

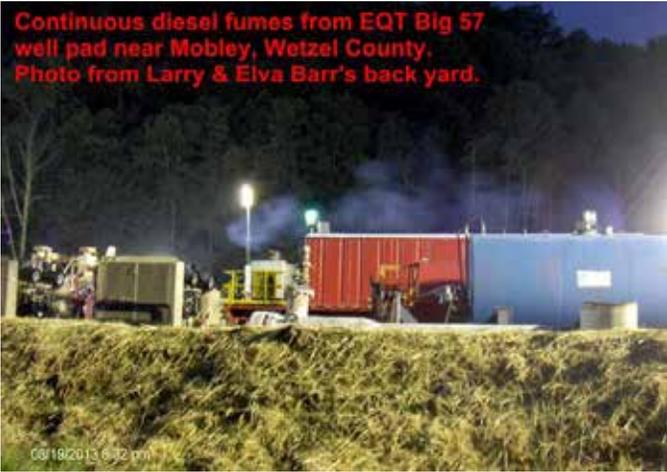
- Fence-line monitoring for these parameters
- Measurable emission standards for these parameters that can be adjusted using Best Available Control Technology (BACT)
- Short and long-term health studies of citizens living near Marcellus wells

Increased Setbacks AND Monitoring Needed for Noise, Dust and Other Air Emissions

The first study due was a study on noise, light, dust and volatile organic compounds (VOCs) as they relate to the distance wells can be from occupied dwellings.

Concern about air quality has become widespread among SORO members and others living in communities impacted by oil and gas drilling. Although well pads should be further away from peoples' homes for other reasons such as protecting

(continued on page 2)



Continuous diesel fumes from EQT Big 57 well pad near Mobley, Wetzel County. Photo from Larry & Elva Barr's back yard.



Visible raw gas release that lasted more than 45 minutes (Photos courtesy of Bill Hughes, Wetzel County Action Group)

Why We Need More Than Setbacks: Air Pollution Problems at Grandfathered Sites

The well location restrictions established by the Horizontal Well Act do not apply to new wells on a multiple well pad if at least one of the wells on the pad was permitted or had an application pending prior to the passage of the Act.

The pictures above (and on page 1) are examples of air pollution problems at grandfathered sites – and illustrate why we need to monitor noise, dust, and other air emissions from horizontal drilling sites, and establish measurable emission standards for these parameters that can be adjusted using Best Available Control Technology (BACT).



Well site at the left, as seen from the air



Another grandfathered site in Wetzel County

Horizontal Well Studies (continued from page 1)

property values, we agree with the study's author, Dr. Michael McCawley, that a setback distance is not the way to address air quality problems due to variables in topography and meteorology – and because of the cumulative affects of having many wells in a particular area. Wetzel County, for example has more than 325 completed wells on 108 pads.

We support Dr. McCawley's recommendation to conduct short and long term epidemiological studies like the one in Colorado (and cited in his report) that showed increased cancer risks within ½ mile. But mostly we agree with Dr. McCawley that the people of West Virginia should not be guinea pigs. The studies Dr. McCawley suggests should be conducted, but we should NOT wait for the results of a long-term health effects study to act.

(continued on page 3)

Horizontal Well Studies *(continued from page 2)*

We also support Dr. McCawley's recommendations to monitor noise, dust, and other air pollution in real time and, and to require drillers to alter their operations to avoid exceeding the emission standards for these parameters. Starting now – for all new horizontal shale wells (not just new pads but new wells) – drillers should be required to set up a monitoring trailer at the nearest residence, or other point of impact, that would transmit data in real time to the operator, regulators and the public.

If the industry is concerned about the cost of having to curtail its operations to meet these requirements, then they are sacrificing the health and the life savings of West Virginians to do so. Dr. McCawley said this is something the industry can do for about \$150,000. In most cases, that is only 1/4 of 1% of what it costs the driller to develop a Marcellus well site.

Unfortunately, the DEP has already demonstrated that it will not require drillers to follow Dr. McCawley's recommendations. We need the legislature to incorporate them into law, in addition to increasing the setbacks currently in place.

Other Recommendations and Findings

Dust

In addition to being part of the air quality monitoring, dust should be controlled so it does not show up on peoples' porches and cars. It's a simple enforceable test. If there is dust on peoples' porches and cars, the standard is being violated. Dr. McCawley's report says regulation is needed – "Workers noted that the only use of wetting agents that they had seen were when the sampler was being placed on site. While this may be an exaggeration, the amount of fine dust collected at the sites . . . [was] visible proof that some increased wetting agents use was needed", as well as slower speed limits.

Noise

The executive summary prepared by Dr. McCawley and reviewed by DEP said that the average noise levels recorded were below the level established by the EPA for long-term hearing loss -- 70 dBA or the equivalent of a kitchen exhaust fan on high.

DEP's standard for noise should not be hearing loss. The standard should be based on whether it disturbs peoples' sleep and whether it raises their blood pressure or otherwise affects their health.

The study noted that EPA said that average noise at 55 dBA interferes with outdoor human activity, and 45 dBA interferes with activity indoors. And there are health effects. According to the World Health Organization, at 30 to 40 dBA, "A number of effects on sleep are observed from this range: Body movements, awakening, self reported sleep disturbance, and arousals. Above 55 dBA, "The situation is considered increasingly dangerous for public health. Adverse health effects occur frequently, a sizeable proportion of the population is highly annoyed and sleep disturbed. There is evidence that the risk of [heart] disease increases."

We support Dr. McCawley's recommendation for impact point monitoring for noise, and for changes in operations if the noise level exceeds 55 decibels at peoples' homes.

Pit Safety and Construction

The important points regarding the pit study are: 1.) the industry cannot be trusted, and 2.) we cannot rely on the current system of regulation and enforcement.

Some of the pits included in the study were constructed before the Horizontal Well Act went into affect. The Act required pits to be built according to plans drawn by registered professional engineers. Those were somewhat better, but not without problems.

The engineers at WVU responsible for the study looked at fifteen (15) sites. At eight (8) of the 15, impoundments were not built to the specifications in the plans.

Six (6) of the sites were chosen for on-site field compaction density and moisture content testing. Seventy samples were taken at these six sites. Only 8.5% of the samples met the specified compaction standards.

According to the report, "these deficiencies reflect a lack of adherence to the best management practices set forth in the West Virginia Soil Erosion and Sediment Control Field Manual."

The study also found DEP inspectors have no formal training related to pits, impoundments and inspections. The inspectors only targeted the readily apparent problems such as slips and slides, while not recognizing or fully understanding indicators or warning signs of other problems that could lead to an emergency situation if not corrected and allowed to progress.

(continued on page 4)

Horizontal Well Studies (continued from page 3)

Pit Contents and Impacts on Water Quality

The second part of the pit study looked at the potential for groundwater contamination from pits as well as the toxicity and radioactivity of the waste materials that end up in pits, including cuttings.

While WVU was monitoring the groundwater around the pits that were studied, no leaking or contamination was detected. However, when a contaminant plume enters an aquifer, it can take the plume longer (years or decades) than the duration of the monitoring to reach an individual water well. This study should be continued long-term.

As far as the toxicity of the cuttings and other contents of the pits, the study tested flowback. Not surprisingly, since the Marcellus Shale is known to be radioactive, the level of radioactivity in samples of flowback taken at 4 of the 5 sites exceeded safe drinking water standards.

The study also analyzed some cuttings from toxicity including radioactivity — but these were only from vertical drilling! Researchers were not given access to or provided with samples of cuttings from the Marcellus Shale – cuttings that other studies have confirmed are radioactive. How radioactive? We still don't know.

Because the Marcellus is radioactive and because pits contain other potentially hazardous substances, on-site burial of Marcellus drilling waste must be banned. We appreciate that most drillers are now using closed loop systems, are taking it to landfills and cannot bury it on-site without the surface owner's consent. We expect the industry agreed to this because it understands the dangers of naturally occurring radioactive materials or NORMs. From a surface owner perspective, taking this waste to landfills is certainly better than on-site burial. Nevertheless, we understand and appreciate the concerns of some local solid waste authorities and our allies in the environmental community about the waste going to landfills that are not designed as hazardous waste landfills. So, what should be done? See **SORO Concerned About NORMs** in the next column.

Editor's Note: This article is a condensed version of a presentation WV-SORO gave to members of the Joint Judiciary Committee in December 2013.

SORO Concerned About NORMs

by Norm Steenstra, norm@wvcag.org

A major issue concerning the huge increase in Marcellus Shale drilling is its waste disposal. NORMs (naturally occurring radioactive materials) are widely present in the Marcellus. What to do with the huge volumes of waste generated is a major concern for both surface owners and state environmental organizations. Last year, with the stroke of a pen, WV Department of Environmental Protection (DEP) Secretary Randy Huffman declared that drilling waste was exempt from tonnage limits in state municipal landfills. As a result of this arbitrary act, seven landfills experienced up to a fourfold increase in truck traffic and waste tonnage. The DEP seemingly also ignored the state law that prohibits the dumping of ANY radioactive material in a landfill.

Taking the approach if we don't test for radioactivity it must not be radioactive, the DEP has acknowledged that it has not tested the horizontal drilling cuttings, something that was supposed to be done in the course of the studies mandated by the Horizontal Well Act. SORO and other groups confronted the DEP and brought the issue to the legislature's attention during the legislative session, which ended last month.

The good news is that the practice of burying the waste on or near the drilling site, while not strictly prohibited by law, is no longer being permitted. So what does one safely do with it? The not so good news is that, with the blessing of the Legislature, the DEP continues to allow landfills to accept the waste while it studies the radioactivity issue. A report is due to the Joint Legislative Oversight Commission on Water Resources and the Legislature's Joint Committee on Government and Finance July 1, 2015. In the meantime, any solid waste facility taking drill cuttings and drilling waste must install radiation monitors by January 1, 2015.

In addition, the legislature has mandated that the DEP develop rules to establish limits for radiation, as well as other unique toxins associated with drill cuttings and drilling waste including, but not limited to heavy metals, petroleum-related chemicals, (benzene, toluene, xylene, barium, chlorides, radium and radon).

Stay tuned because radioactive material is the gift that keeps on giving and giving and giving!

DEP Stonewalls Citizen Concerns on Ritchie County Injection Well

by Gary Zuckett, garyz@wvcag.org

Reports from residents living near Hall Drilling's fracking fluid disposal and underground injection operation near Ellenboro in Ritchie County tell of continuous truck traffic in and out of the facility. This site was the subject of a DEP public hearing last December where local residents opposed the expansion of the facilities' existing permit to allow "commercial" disposal – i.e. accepting of toxic drilling fluids for disposal from all comers, rather than limiting it to waste generated only by Hall's drilling operations.

The site is has two open pits. The first being a settlement pit for the heavy material (sludge) to sink and then the liquid waste flows into the next pit before it is injected under high pressure into one of two disposal wells on the site.

Since the December public hearing at the local high school there has been no official word from DEP about the status of the revised permit application, but, considering the amount of truck traffic now accessing the location, local citizens and landowners are concerned that it may have been approved.

That is not their only concern. Cattle have been dying off on a farm adjacent to the facility and the landowners' water well there has tested positive for arsenic. Several nearby landowners had no idea that this operation was accepting and disposing of toxic drilling waste until the December hearing.

Continued efforts to get answers from DEP by local citizen groups and watershed associations (including Friends of the Hughes and the Doddridge County Watershed Association) have been met with silence from the agency. What are they trying to hide? Has this permit been approved? Why are the cows next door dropping dead? Where is the arsenic in the water well coming from?

This situation is remarkably similar to the experiences of landowners near a another waste disposal site in Fayette County where local residents have reported the pits are leaking and affecting local wells and an adjacent stream that flows directly into the New River just upstream from the drinking water intake for Fayetteville and the surrounding area. See www.dirtysecretwater.com for their story.

Groups Seek Shut Down Problem Waste Disposal Site

by Julie Archer, julie@wvsoro.org

WV SORO has joined the Natural Resources Defense Council (NRDC), the Plateau Action Network (PAN) and local landowners in asking the state to shut down a problem waste disposal site in Fayette County, which has a history of violations that threaten the environment, as well as the health and safety of the community.

In February, DEP renewed the facility's permit despite objections and concerns raised by SORO, NRDC, PAN and several nearby residents regarding Danny Webb Construction, Inc.'s fitness to operate a facility which handles toxic waste — given the multiple violations and non-compliance with state orders by the company. A month later, the DEP revoked the permit due to "procedural deficiencies" but issued an order that allows injection of drilling waste to continue at the site indefinitely.

In our appeal to the Environmental Quality Board (EQB), WV-SORO and the other appellants argue that DEP's issuance of the order violates various federal and state laws and regulations, including the public policy of the state of West Virginia to maintain reasonable standards of purity and quality of the waters of the state under the WV Water Pollution Control Act and the WV Groundwater Protection Act. We also argue issuance of the order violates the state's hazardous waste laws because activities at the site constitute a hazard to the safety of persons and could damage publicly owned resources, in addition to failing to protect fresh water sources or supplies.

The stream adjacent to the site is a tributary of Wolf Creek, the source of emergency drinking water for Fayetteville. Wolf Creek is an impaired stream listed on the state's listing of impaired waters under the Clean Water Act and the Water Quality Planning and Management Regulations.

Although some of the water quality issues may be attributable to previous activities in the watershed and on the DWC site, this does not relieve DWC of its obligation and responsibility to follow the law and the terms of its permits, nor does it relieve the DEP's obligation and responsibility to enforce the law and protect the public and the environment.

(continued on page 6)

Problem Site (continued from page 5)

There is strong evidence that DEP has turned a blind eye to a flagrant violator, and we believe the history of this site raises questions about whether DEP has authorized continued activity, potentially putting the public at risk, despite indications that the operator may have regularly violated the DEP's orders.

Appellants are asking the EQB to reverse or vacate the March order issued by DEP altogether and require all injection at the site to stop until a permit can be issued that complies with state law.

A Brief History of the DWC Site

Danny Webb Construction was initially issued a permit to operate a Class II D oil and gas wastewater disposal well in May of 2002. In association with the injection wells at this site, Danny Webb Construction (DWC) also constructed two open pits at the site. Starting in 2004, DEP received multiple complaints of a foul odor emanating from open pits that DWC was using to store waste fluids. The DEP investigated and based on ongoing odor complaints, DEP required DWC to take several actions to remedy the situation. Records indicate that only one of these was timely completed in a timely manner. Others were completed only much later, well after the requirements had been imposed.

In January 5, 2007, DEP issued a notice of violation to Danny Webb Construction, noting that the company had not "follow[ed] the conditions of the permit" including failures to install culverts, a ditch line, and sediment control measures.

In May of 2007, Danny Webb Construction applied for a UIC permit renewal. At the time, DEP received numerous comments from local residents expressing opposition to the renewal of the permit, including from the Fayette County Health Officer. While many concerns were raised by local residents, a significant number mentioned ongoing problems with noxious odors. In addition, the DEP received a communication from an Underground Storage Tank Inspector noting that Mr. Webb had provided the inspector with conflicting stories about the activities at the site. Despite these ongoing problems and concerns, DEP issued a renewed permit on October 25, 2007.

Since that time, DWC was cited more than once

for underground injection into another well at the same site without a permit.

DWC was also cited for failure to pump the fluid in the pits into tanks and close the pits within six months of permit issuance. Unfortunately, despite a longstanding pattern of noncompliance by DWC, the DEP later reversed its position and issued an order allowing DWC to keep the pits in operation, "so long as they contain only fluids and do not cause objectionable odors off-site."

However, local residents have continued to report offensive odors to the present time.

In addition, in 2010, DEP issued at least two notices of violation to DWC because oil not associated with produced water was observed in the pits.

WV-SORO, Allies Intervene in Stormwater Permit Appeal

by Julie Archer, julie@wvsoro.org

SORO has joined with the WV Environmental Council and the WV Rivers Coalition to intervene in *IOGA WV v. WV-DEP*. IOGA WV (the Independent Oil and Gas Association of WV) is challenging the DEP Division of Water and Waste Management's (DWWM) issuance of a permit that governs oil and gas related construction activity. A general permit covering these activities has been needed for some time, but is especially needed now to protect West Virginia's streams from sedimentation caused by the construction of pipelines, processing facilities and other infrastructure related to Marcellus Shale gas development.

The state continues to see an increase in these types of construction projects and we felt it important to support the DWWM for taking the initiative to regulate stormwater discharges from these activities (even though the Division is not required to do so under the Clean Water Act), as this pollution has the potential to have devastating effects on the state's rivers and streams, degrading water quality and effecting our members' and other citizens' use and enjoyment.

A hearing before the Environmental Quality Board was initially scheduled for December, but there have been several continuances of the proceedings as the parties try to work out the terms of a settlement.

WV-SORO Litigation Update

A few years ago, WV-SORO began focusing on litigation as a means to further our goals of helping surface owners have their rights recognized and respected, and giving them more say when oil and gas development occurs on their land. The hope was that the Courts, which generally are less subject to political influence, would be more responsive to recognizing surface owners' rights and interests.

Here is a brief update on some cases we've been involved in. For more background on these cases see our Summer 2012 newsletter.

DEP and EQT vs. Hamblet

In September 2012, the West Virginia Supreme Court heard arguments in this case seeking a decision as to whether a surface landowner has a right to an administrative hearing on, and an appeal of, the Department of Environmental Protection's (DEP) decision to issue a permit to drill a gas well on the surface owner's land. Unfortunately, the Court ruled against Mr. Hamblet saying that current state statutes do not give surface landowners the right to appeal drilling permits.

The court also ruled against WV-SORO, which had been granted intervener status in the case to support Hamblet's argument that surface owners have a right to appeal state agency decisions and to argue that surface owners also need a hearing before the permit is issued. In addition, SORO had argued that surface landowners have constitutional rights to appeal drilling permits.

This was obviously not the outcome we had hoped for in this case. We are disappointed that the Court did not affirm that surface owners have a constitutional right to appeal the state's decision to issue drilling permits, and that they declined to address our argument regarding surface owners' rights to an administrative hearing before the permit is issued.

We do appreciate that the court urged the Legislature to re-visit the issue and to consider whether surface owners should be afforded an administrative appeal. However, legislation was introduced during the 2013 and 2014 legislative sessions, but was not taken up.

Cain vs. XTO

Two years ago, WV-SORO attorney and co-founder Dave McMahon filed such a case on behalf of Marion County landowner and WV-SORO member Richard Cain that would have determined whether drillers can use a surface owner's land to drill horizontal wells into neighboring mineral tracts without the surface owner's consent.

If Mr. Cain had prevailed, it would have made it more difficult and expensive for gas companies to site multi-acre Marcellus well pads on surface owners' land. Unfortunately, U.S. District Court Judge Irene Keeley withdrew her motion asking the West Virginia Supreme Court of Appeals to answer the questions at the center of the case. The case then entered mediation and was settled out of court late last year.

WV-SORO is again looking for the right test case to take to the Supreme Court, whether that is someone with a first inkling that the driller is coming or someone who has a well pad on them already. We think the law is clear based on legal treatises and cases on coal mining, but there is no West Virginia Supreme Court case on this issue for horizontal gas wells. As a result, the companies get away with having their landmen tell surface owners that the company has a right to put one of these enormous, long lasting, property devaluing, and potentially dangerous well pads on the surface owners' land. Most people's life savings are tied up in their home and land, and they end up with a devalued place few people would want to live, a place they cannot sell it because their mortgage was based on the value of their place before the monstrous well pad was constructed, and it is a tragedy.

EQT vs. Doddridge County Commission/Huffs et al

The bright spot in our litigation efforts has been raising awareness about the need for counties and municipalities to revise their floodplain ordinances in response to Marcellus Shale development. The problem is that most local floodplain ordinances followed a model provided by the state that assumed that the owner of the surface of the land is the person or entity that will be applying for a permit to put fill or structures on the surface in a floodplain. However, if the surface owner does not own the

(continued on page 8)

Litigation Update *(continued from page 7)*

minerals, or even if the surface owner owns the minerals but has leased them out, it will be the oil and gas driller and not the surface owner that applies for the floodplain permit – and under the current model ordinance, the surface owner will know nothing about, and have no input into the driller’s application for a floodplain permit to put fill and structures on the surface owners’ land.

In 2012, the Doddridge County Commission found itself in a mess when EQT filed for a permit to move 60,000 cubic yards into the Huffs’ meadow. The County granted the floodplain permit. The Huffs and their neighbors upstream and downstream knew nothing about the application for or the granting of the permit until after it was done and too late to appeal. Months later, when they found out, they complained to the County Commission that the company’s plans violated the County’s floodplain ordinance and would make future floods worse.

In response to the complaint, the county’s floodplain coordinator revoked EQT’s permit. EQT then sued the County Commission. The Huffs intervened in the case with assistance from SORO attorney and co-founder, Dave McMahon. Ultimately, the judge in the case ruled that the county’s floodplain ordinance was unconstitutional because it failed to provide due process to surface and adjoining landowners potentially affected by the development for which EQT was seeking a permit.

As a result of the lawsuit, Doddridge County adopted a new floodplain ordinance that gives notice and some rights to input to surface owners and other nearby property owners, and the state is working on a new model ordinance to ensure that surface owners are notified when drillers apply for floodplain permits. In the meantime, we have been reaching out to county officials through their associations to let them know about the potential problems with their ordinances and encourage them to take corrective action.

Wellness & Water II, Marcellus Academy Educate About the Impacts of Fossil Fuel Extraction *by Julie Archer, julie@wvsoro.org*

You know some major problems exist when nearly 75 people devote a large amount of time on a summer weekend to exploring an issue in depth. On June 29-30, 2013, the second Wellness & Water public education event was held in Buckhannon, WV. Starting with the first event in September 2012, these gatherings have provided opportunities for members of environmental organizations and allied groups like our Surface Owners’ Rights Organization (WV-SORO), and other concerned citizens to gather for networking and information sharing opportunities. In addition to WV-SORO, co-sponsors of this year’s event were the Doddridge County Watershed Association, the Ohio Valley Environmental Coalition, the WV Chapter of the Sierra Club and the WV Highlands Conservancy. Speakers and workshop leaders for the event included scientific and public policy experts, in addition to representatives from various organizations which seek to provide information and assistance to people who are concerned about their water quality and/or finding alternatives to fossil fuel usage. Attendees also heard testimonials from five coal and gas affected residents. Many participants said that this was the most powerful portion of the program.

Wellness & Water II participants agreed that we need to come up with processes for continued information sharing. To that end, a permanent Facebook page will be created and all who ‘Like’ the page will be able to post comments and receive information. Future events, action opportunities, and networking possibilities will be posted there. Stay tuned to our action alerts and newsletters for more information about this.

Two weeks following Wellness & Water (on July 13-14, 2013), more than 40 activists from around the state gathered again in Buckhannon for another educational opportunity sponsored by the WV Chapter of the Sierra Club. The goal of the club’s third annual Marcellus Academy was to provide those working to address Marcellus drilling related issues in their communities with tools to

(continued on page 9)

Wellness & Water (continued from page 8)

organize others, to monitor industry practices, and to help guide local and legislative leaders toward implementing sound policies to address these issues.

On Saturday morning, Dr. Michael McCawley of the WVU School of Public Health kicked off the weekend with a discussion of the results and recommendations from his assessment of air, noise and light impacts from horizontal drilling operations. Gene Smith and Rick Campbell with the WV DEP Office of Oil & Gas followed with a presentation on their agency's role in gas drilling. Later in the day, Dr. Ben Stout of Wheeling Jesuit University spoke about the mounting problems with toxic drilling waste and the proposed Green Hunter wastewater facility near in Wheeling. That evening, former State Senator and environmental advocate Charlotte Pritt, and Delegate Mike Manypenny teamed up for a presentation on the WV Legislature – Who's Who and How It Works.

On Sunday, Alan Collins, Professor and Assistant Director, Division of Resource Management at WVU spoke about the results of the recent survey of West Virginia landowners he conducted to determine what impacts (both positive and negative) shale gas drilling has had on surface owners.

The weekend also featured a series of presentations focused on monitoring industry activity. This included a presentation by Bill Hughes of the Wetzel County Action Group on trucks and heavy equipment on our roads -- what they are, what they do and what drilling phase is happening when certain trucks and equipment arrive at a well site. Upshur County residents Cindy Rank and Tim Higgins presented a slide show of a near by well site from site preparation to current production phase in preparation for a visit to the site before attendees departed for home.

Robin Blakeman of the Ohio Valley Environmental Coalition and Chuck Wyrostok, Outreach Organizer with the WV Chapter of the Sierra Club contributed to this article.



Save the Date:
Marcellus Academy
June 21-21, 2014
WV Wesleyan College
Buckhannon, WV
Details TBA

WV-SORO: Who We Are

When SORO formed in 2007, it was in response to the many calls we received from landowners concerning abuses from by the oil & gas Industry. Although a few companies that own thousands of acres joined SORO, our mission was to assist and guide the thousands of smaller tract surface owners across the state.

So who are we? Our current membership includes more than 160 people living in 26 other states that still own land in West Virginia. Most are heirs of the family “home place” and represent about 18% of our total membership. More than 750 SORO members still reside in West Virginia and own land in 54 of our 55 counties (– all except Morgan).

Top 10 SORO Membership Counties

| COUNTY | # of MEMBERS |
|--------------|--------------------------------------|
| Harrison | 63 |
| Upshur | 62 |
| Doddridge | 60 |
| Lewis | 52 |
| Kanawha | 48 |
| Roane | 45 |
| Ritchie | 40 |
| Marion | 32 |
| Wetzel | 23 |
| Marshall | 20 |
| Total | 445 (60% of In-State Members) |

Although SORO receives some grants to support our work, we also on financial and other support from our members to keep us going. Please renew your membership or send a donation today using the form on the back of this newsletter.

Thank You!



WV Surface Owners' Rights Organization
 1500 Dixie Street
 Charleston, WV 25311
 www.wvsoro.org

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Please renew your membership or send a donation.



I want to support WV-SORO's work by renewing my membership.

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City, State, Zip: _____

Telephone: _____ Fax: _____

County: _____ E-Mail Address: _____

Enclosed is: []\$30 annual WV SORO membership []\$_____ as an extra donation
(Contributions, large & small, are welcome and appreciated!)

**Please mail this form with your membership dues to:
 WV-SORO, 1500 Dixie Street, Charleston, WV 25311**