June 18, 2015

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101845, issued to SWN PRODUCTION COMPANY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: B & W EDGE MST 5H
Farm Name: EDGE, WILLIAM F. JR. & BARBA
API Well Number: 47-5101845
Permit Type: Horizontal 6A Well
Date Issued: 06/18/2015

Promoting a healthy environment.

06/19/2015
PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled Water Well Regulations, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.
June 17, 2015

Jeremy M. McGraw
1358 National Road
Wheeling, WV 26003

Re: Surface Comments from Barbara Ann Edge, William F. Edge, Jr., David Edge regarding API #’s 4705101843 and 4705101845.

Dear Mr. McGraw:

The Office of Oil and Gas (OOG) has completed its review of the above referenced permit application submitted by SWN Production Company, LLC. The Marshall County oil and gas inspector examined the site to ensure compliance with all applicable requirements of Article 6, Chapter 22 of the West Virginia Code and Legislative Rule Title 35, Series 4. Also, your comments were sent to the applicant to ensure it was aware of your concerns. The applicant’s response is enclosed for your records.

After considering your comments, the applicant’s response, and the inspector’s findings, the OOG has determined that the application meets the requirements set forth in the above statute and legislative rule. Consequently, the OOG is issuing the permits today. For your information and convenience, I am including with this letter a copy of the permits as issued.

As you may know, surface owners are entitled to compensation for damages to their property resulting from oil and gas drilling activity. Absent an agreement by the parties, such damage compensation may be addressed pursuant to Article 7, Chapter 22 of the West Virginia Code. Please contact Gene Smith at (304) 926-0499, extension 1652 if you have questions.

Sincerely,

Laura L. Adkins
Environmental Resource Specialist
WVDEP Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304
304-926-0499 ext. 1495

Promoting a healthy environment.
AMENDED RESPONSE OF SWN PRODUCTION COMPANY, LLC
TO COMMENTS ON APPLICATION FOR WELL WORK PERMIT
FILED BY BARBARA ANN EDGE, WILLIAM F. EDGE and DAVID EDGE

June 10, 2015

Applicant Name: SWN Production Company, LLC

Address: P. O. Box 1300, Jane Lew, West Virginia 26378

Phone: (832) 796-1610

To: Chief, Office of Oil and Gas
   Department of Environmental Protection
   601 57th Street East
   Charleston, WV 25304

Well Operator Name: SWN Production Company, LLC

API Well Number: 47-051-01843

Well Location: Sand Hill District, Marshall County, West Virginia

I. Surface Owners’ Comments Fail to Identify Any Facts to Support Denial of the
Well Work Permit Sought by SWN Production Company, LLC

On or about May 13, 2015, Barbara Ann Edge, William F. Edge and David Edge, as
surface owners of property on which SWN Production Company, LLC ("SWN") proposes to
conduct surface operations for the development of the B&W Edge MSH 205I well (the “Edge
Well”), filed comments objecting to SWN’s well work application filed on or about April 13,
2015 (the “Edge Comments”). The surface owners are residents of Ohio and do not live at the
property on which the well work is proposed. The Edge Comments contain no factual or legal
allegations concerning SWN’s past or present conduct regarding the development of a horizontal
natural gas well in West Virginia nor any factual or legal allegations that the proposed location
of the Edge Well will constitute a hazard to the safety of persons or fails to protect fresh water
sources or supplies as required under W. Va. Code § 22-6A-8(d)(1) and (4). In addition, the
Department of Environmental Protection’s Office of Oil and Gas lacks authority to deny SWN a
well work permit on the basis of allegations that the proposed well work is not "fairly necessary" or "reasonably necessary" for the extraction of minerals as alleged by the Surface Owners.

Accordingly, SWN respectfully requests that the comments of Surface Owners be rejected and that the well work permit for the Edge Well be issued immediately.

II. West Virginia Public Policy Favors Development of Natural Gas

The Legislature of the State of West Virginia has declared as a public policy of the State that "[a]llowing the responsible development of our state's natural gas resources will enhance the economy of our state and the quality of life for our citizens while assuring the long term protection of the environment." W. Va. Code § 22-6A-2(a)(8). Consistent with that declared public policy, it is SWN's responsibility and objective to develop natural gas and related hydrocarbons in a responsible and safe manner in compliance with the laws and regulations governing the exploration, development and production of natural gas in the State of West Virginia, including the protection of human health and the environment.


W. Va. Code § 22-6A "Horizontal Well Act" establishes the statutory requirements for drilling horizontal natural gas wells in West Virginia, as supplemented by the Rules Governing Horizontal Well Development. For example, SWN's well work permit application fulfills the requirements set forth in W. Va. Code § 22-6A-7 and 35 C.S.R. 8, § 5. More particularly, the proposed well complies with all of the well location restrictions established in W. Va. Code § 22-6A-12, and SWN will comply with all performance standards and operational requirements set forth in W. Va. Code § 22-6A-8(g) and 35 C.S.R. 8, § 9. These statutory and regulatory requirements have been determined by the West Virginia Legislature and West Virginia Department of Environmental Protection to be adequately protective of the safety of persons and fresh water sources or supplies.

IV. The Well Work Proposed by SWN More Than Adequately Protects Fresh Water Sources and Supplies

The Edge Comments rely exclusively on "[n]ews organizations from small local newspapers to large national sources, such as USA Today" as evidence that a "large amount of water contamination has been caused by well pad work similar to proposed API Well Number 47-051-1843. [sic]" The newspaper articles attached to the Edge Comments relate almost exclusively to allegations occurring in states other than West Virginia and have no specific relevance to the subject application.

The 18 Acre Wheeling Creek Watershed is not at significant risk of contamination by the Edge Well because SWN's well work application is based on utilization of a closed-loop system to contain and re-use fluids in the well drilling process. Moreover, the flow back fluids will be stored in steel tanks for re-use or delivered to permitted disposal facilities such as underground injection wells. No open pits will be used in the drilling or completion of the Edge
Well and the required sediment and erosion controls in accordance with the Office of Oil and Gas’ guidelines will be utilized. Moreover, Wheeling Creek is located approximately 3,000 feet from the edge of the proposed well pad and the nearest tributary of Wheeling Creek is located approximately 1,500 feet from the edge of the proposed well pad. SWN’s well work plan exceeds the requirements associated with protecting fresh water sources and supplies as required by the Horizontal Well Act and the Rules Governing Horizontal Well Development. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.

V. The Well Work Proposed by SWN Does Not Constitute a Hazard to the Safety of Persons

SWN has taken into consideration the location of the electrical substation on adjoining property in selecting the location for the proposed Edge Well. The Edge Comments do not reference any safety issues or incidents involving electric transmission substations. The proposed location of the Edge Well complies with the operational requirements to protect persons and the environment from unreasonable risks as imposed by W. Va. Code § 22-6A-12. The proposed well pad will be located approximately 500 feet from the outer edge of the substation and otherwise provides the maximum distance from residences and populated buildings as is reasonably possible. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.

VI. The West Virginia Department of Environmental Protection and its Office of Oil and Gas Do Not Have Jurisdiction Over Whether Activities Are “Fairly Necessary” or “Reasonably Necessary”

The West Virginia Legislature has established a remedy for surface owner compensation through the Oil and Gas Horizontal Well Production Damage Compensation Act, W. Va. Code § 22-6B-1, et seq. which remedy is without the involvement of the West Virginia Department of Environmental Protection. Whether the proposed well work is “fairly necessary” or “reasonably necessary” and the issue of the adequacy of compensation to a surface owner is therefore outside the scope of the jurisdiction of the West Virginia Department of Environmental Protection and its Office of Oil and Gas. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.

RECEIVED
Office of Oil and Gas
JUN 12 2015
WV Department of Environmental Protection

06/19/2015
SWN respectfully submits that all of the statutory and regulatory requirements for a well work permit have been satisfied and requests that the well work permit for the Edge Well be immediately issued without qualification based on the Edge Comments. The undersigned is available to answer questions or provide additional information to the Office of Oil and Gas as may be required.

Respectfully Submitted,

SWN Production Company, LLC

By: Spilman Thomas & Battle PLLC

Mark D. Clark
David L. Yaussy
P.O. Box 273
Charleston, WV 25325
(304) 340-3800

cc: James G. Bordas
Jeremy M. McGraw
Bordas and Bordas Attorneys, PLLC
1358 National Road
Wheeling, WV 26003
May 13, 2015

Via Facsimile (304-926-0452) and Regular U.S. Mail

James Martin, Chief
601 57th Street, SE
Charleston, WV 25304

Re: My Clients: William Edge, Barbara Edge and David Edge
SWN Production Company Well Permit Application
API 47-051-1843

Dear Chief Martin:

Our firm has been retained to represent William, Barbara and David Edge with regard to a proposed SWN Production Co. LLC well site to be placed on the surface of property that the Edges own in Marshall County, WV. Please find attached to this letter comments that the Edges submit in response to the permit application referenced above. Thank you very much for your attention to this matter.

Very truly yours,

Jeremy M. McGraw

JMM
Cc: William, Barbara & David Edge
SURFACE OWNERS' COMMENTS ON APPLICATION
FOR WELL WORK PERMIT

Name: Barbara Ann Edge, William F. Edge, Jr., David Edge

Address: 116 Virginia St., Martins Ferry, OH 43935

Phone: 740-633-6932

To: Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304

Well Operator Name: SWN Production Co., LLC

API Well Number: 47-051-1843

Well Location: 531,798.3 E / 4,428,557.0 N - Sand Hill District,
Marshall County, West Virginia

The surface owners of the property located at 531,798.3 E / 4,428,557.0 N,
Sand Hill District, Marshall County, West Virginia, Barbara Ann Edge and William F.
Edge, Jr., submit these comments to the Department of Environmental Protection
requesting that SWN Production Co., LLC's ("SWN") permit for API Well Number
47-051-1843 not be issued due to its failure to protect fresh water sources and
supplies, the hazard that would be created to the safety of persons, and the fact that the
surface of the Edge property is not fairly or reasonably necessary for the extraction of
minerals.

A. The proposed well work fails to protect fresh water sources and supplies.

News organizations from small local newspapers to large national sources,
such as the USA Today, have all documented the large amount of water contamination
that has been caused by well pad work similar to proposed API Well Number 47-051-
1843. See e.g. Exhibit #1, Water Contamination News Articles. The water
contamination problem caused by this type of well work is exactly why the legislature explicitly decided that a well work permit may not be issued if it is determined that the proposed well work fails to protect fresh water sources or supplies. See W. Va. Code § 22-6A-8(d)(4).

SWN’s proposed well pad is a perfect example of the type of situation the legislature was envisioning when W. Va. Code § 22-6A-8(d) was drafted. SWN’s proposed well work is located on a hill that runs down into the 18 Acre Wheeling Creek Watershed. As demonstrated in the previous articles, there is little question or debate that well pad work, such as API Well Number 47-051-1843 proposed by SWN, can and has caused serious damage to this region’s fresh water supply. The extent of water pollution changes depending on the source, but there is little question that hundreds of complaints have been filed, in the Ohio Valley alone, regarding the water pollution that has been caused by fracking operations.

While all water supplies are important, the Department of Environmental Protection must take into consideration the large amount of water that could be affected by API Well Number 47-051-1843. This comment is not discussing an individual property owner’s well that will solely be used by one family or neighborhood and, instead, this comment was written in an effort to notify the Department of Environmental Protection that the proposed well pad will fail to protect an 18 acre watershed, which via the Ohio River is a part of the watershed of the Mississippi River. Proposed API Well Number 47-051-1843 could have a significant impact on water sources and supplies.
Therefore, the well work permit for API Well Number 47-051-1843 should be denied due to its failure to protect fresh water sources and supplies.

B. The proposed well work constitutes a hazard to the safety of persons.

We are greatly concerned that constructing the proposed well site extremely close to the existing AEP substation, located on the adjoining property, would result in a serious hazard to our safety and the safety of other individuals living in the area. As previously discussed, the proposed well pad has the potential to cause serious harm to the water supply, which, in turn, constitutes a serious hazard to the safety of the people living in this region.

However, our water is not only safety hazard proposed API Well Number 47-051-1843 poses. An AEP substation, on the adjoining property, is located approximately 400 to 500 feet from the proposed well site. Moreover, the pipelines that will be needed for the well pad will likely come even closer to the AEP substation than the well pad. This would not be the first time that an operation of this kind has caused a serious hazard to the safety of people, as explosions and fires resulting from similar situations have been well documented in this region. See e.g. Exhibit #2, Explosion and Fire News Articles.

A brief internet search provides information regarding oil and gas explosions and fires, in this region and others, that have destroyed people's property, ruined their sense of security and taken many lives. It would be a safety hazard for SWN to place API Well Number 47-051-1843 in such a close proximity to AEP's substation. Allowing API Well Number 47-051-1843 to be built would directly violate W. Va.
Code § 22-6A-8(d), due to the safety hazard that would be created as a result of the increased risk of a fire or explosion and the pollution of fresh water sources and supplies.

Therefore, the well work permit for API Well Number 47-051-1843 should be denied due to the hazardous conditions it would create, which would greatly reduce the safety of people living near the well pad.

C. SWN is not engaging in activities which are "fairly necessary" or "reasonably necessary" for the extraction of minerals, as required by West Virginia Law.

In addition to the previously mentioned reasons, the well work permit should be denied due to Chesapeake's, and now SWN's, failure to consider the true value of the property they are taking, the unreasonably low compensation offered for the land, and the fact that entry onto the Edge property is not "fairly necessary" or "reasonably necessary" for the extraction of minerals, as required by West Virginia law. See e.g. Thornsberry v. Cabot Oil & Gas Corp., 231 W.Va. 676, 680-82, 749 S.E.2d 569, 574-75 (2013).

Under West Virginia law, owners of a mineral estate have, "as incident to this ownership, the right to use the surface in such a manner and with such means as would be fairly necessary for the enjoyment of the mineral estate." Syl. Pt. 1, Squires v. Lafferty, 95 W.Va. 307, 121 S.E. 90 (1921); see also Thornsberry, 231 W.Va. at 682; 121 S.E.2d at 575; Syl. Pt. 2, Buffalo Mining Co. v. Martin, 165 W.Va. 10, 267 S.E.2d
721 (1980) (owner of mineral estate may use overlying surface estate for purpose
"reasonably necessary" to the extraction of minerals); Whiteman v. Chesapeake
Appalachia, LLC, 729 F.3d 381, 387 (4th Cir. 2013) ("[I]n West Virginia, a mineral
estate owner that enters upon a surface estate owner's land does so without lawful
authority only if, under the 'reasonable necessity' standard, the mineral estate owner
'exceed[s] its rights . . . thereby invading the rights' of the surface estate owner.

Barbara Ann Edge and William F. Edge, Jr. are the current owners of the
surface rights of the property located at 531,798.3 E / 4,428,557.0 N, Sand Hill
District, Marshall County, West Virginia. Moreover, SWN does not have the right to
use the surface of the Edge property to access and produce oil and/or gas, as API Well
Number 47-051-1843 is not fairly necessary or reasonably necessary for the extraction
of the minerals located on the Edge property.

As a result, SWN's permit for API Well Number 47-051-1843 should not be
issued due to the unreasonably low compensation offered for the land and the fact that
the proposed well pad work is not fairly necessary or reasonably necessary for the
extraction of the minerals located on the Edge property.

CONCLUSION

The surface owners, Barbara Ann Edge and William F. Edge, Jr., respectfully
submit the foregoing comments and request that the Department of Environmental
Protection deny SWN's permit for proposed API Well Number 47-051-1843.

Proposed API Well Number 47-051-1843 would violate W. Va. Code § 22-6A-8(d),

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due to its failure to protect fresh water sources and supplies, the hazard it would create to the safety of people, and SWN's unreasonably low compensation offered for the land and the fact that the proposed well pad is not fairly or reasonably necessary for the extraction of minerals.

Respectfully Submitted,

William Edge, Barbara Edge, David Edge

By:

James G. Bordas, Jr.
Jeremy M. McGraw
Bordas & Bordas, PLLC
1358 National Road
Wheeling, WV 26003
EXHIBIT #1
4 states confirm water pollution from drilling

Kevin Hepp, AP   2:29 p.m. EDT, January 4, 2014

Associated Press review of complaints casts doubt on industry view that it rarely happens.

PITTSBURGH (AP) — In at least four states that have nurtured the nation's energy boom, hundreds of complaints have been made about well-water contamination from oil and gas drilling, and pollution was confirmed in a number of them, according to a review that casts doubt on industry suggestions that such problems rarely happen.

The Associated Press requested data on drilling-related complaints in Pennsylvania, Ohio, West Virginia and Texas and found major differences in how the states report such problems. Texas provided the most detail, while the other states provided only general outlines. And while the confirmed problems represent only a tiny portion of the thousands of oil and gas wells drilled each year in the U.S., the lack of detail in some state reports could help fuel public confusion and mistrust.

The AP found that Pennsylvania received 388 complaints in 2013 alleging that oil or natural gas drilling polluted or otherwise affected private water wells, compared with 469 in 2012. The Pennsylvania complaints can include allegations of short-term diminished water flow, as well as pollution from stray gas or other substances. More than 100 cases of pollution were confirmed over the past five years.

Just hearing the total number of complaints shocked Heather McMicken, an eastern Pennsylvania homeowner who complained about water-well contamination that state officials eventually confirmed.

"Wow, I'm very surprised," said McMicken, recalling that she and her husband never knew how many other people made similar complaints, since the main source of information "was just through the grapevine."

The McMickens were one of three families that eventually reached a $1.6 million settlement with a drilling company. Heather McMicken said the state should be forthcoming with details.

Over the past 10 years, hydraulic fracturing, or fracking, has led to a boom in oil and natural gas production around the nation. It has reduced imports and led to hundreds of billions of dollars in revenue for companies and landowners, but also created pollution fears.

Extracting fuel from shale formations requires pumping hundreds of thousands of gallons of water, sand and chemicals into the ground to break apart rock and free the gas. Some of that water, along with large quantities of existing underground water, returns to the surface, and it can contain high levels of salt, drilling chemicals, heavy metals and naturally occurring low-level radiation.

But some conventional oil and gas wells are still drilled, so the complaints about water contamination can come from them, too. Experts say the most common type of pollution involves methane, not chemicals from the drilling process.

Some people who rely on well water near drilling operations have complained about pollution, but there's been considerable confusion over how widespread such problems are. For example, starting in 2011, the Pennsylvania Department of Environmental Protection aggressively fought efforts by the AP and other news organizations to obtain information about complaints related to drilling. The department has argued in court filings that it does not count how many complaints "determination letters" it issues or track where they are kept in its files.

Steve Forde, a spokesman for the Marcellus Shale Coalition, the leading industry group in Pennsylvania, said in a statement that "transparency and making data available to the public is critical to getting this historic opportunity right and maintaining the public's trust."

When the state Environmental Department determines natural gas development has caused problems, Forde said, "our member companies work collaboratively with the homeowner and regulators to find a speedy resolution."

Among the findings in the AP's review:

- Pennsylvania has confirmed at least 106 water-well contamination cases since 2005, out of more than 5,000 new wells. There were five confirmed cases of water-well contamination in the first nine months of 2012, 16 in all of 2011 and 29 in 2010. The Environmental Department said more complete data may be available in several months.
Ohio had 37 complaints in 2010 and no confirmed contamination of water supplies; 54 complaints in 2011 and two confirmed cases of contamination; 68 complaints in 2012 and two confirmed contaminations; and 40 complaints for the first 11 months of 2013, with two confirmed contaminations and 14 still under investigation. Department of Natural Resources spokesman Mark Bruce said in an email. None of the six confirmed cases of contamination was related to fracking, Bruce said.

West Virginia has had about 122 complaints that drilling contaminated water wells over the past four years, and in four cases the evidence was strong enough that the driller agreed to take corrective action, officials said.

A Texas spreadsheet contains more than 2,000 complaints, and 82 of those allege possible well-water contamination from oil and gas activity, said Ramona Nye, a spokeswoman for the Railroad Commission of Texas, which oversees drilling. Texas regulators haven’t confirmed a single case of drilling-related water-well contamination in the past 10 years, she said.

In Pennsylvania, the number of confirmed instances of water pollution in the eastern part of the state "dropped quite substantially" in 2013, compared with previous years, Department of Environmental Protection spokeswoman Lisa Kasianowitz wrote in an email. Two instances of drilling affecting water wells were confirmed there last year, she said, and a final decision hasn’t been made in three other cases. But she couldn’t say how many of the other statewide complaints have been resolved or were found to be from natural causes.

Releasing comprehensive information about gas drilling problems is important because the debate is no longer about just science but trust, said Tisha Feygina, a social psychologist who studies environmental policy issues. Losing public trust is "a surefire way to harm" the reputation of any business, Feygina said.

Experts and regulators agree that investigating complaints of water-well contamination is particularly difficult. In part because some regions also have natural methane gas pollution or other problems unrelated to drilling. A 2011 Penn State study found that about 40% of water wells tested prior to gas drilling failed at least one federal drinking water standard. Pennsylvania is one of only a few states that don’t have private water-well construction standards.

But other experts say people who are trying to understand the benefits and harms from the drilling boom need comprehensive details about complaints, even if some cases are from natural causes.

In Pennsylvania, the raw number of complaints "doesn’t tell you anything," said Rob Jackson, a Duke University scientist who has studied gas drilling and water contamination issues. Jackson said he doesn’t think providing more details is asking for too much.

"Right or wrong, many people in the public feel like DEP is stonewalling some of these investigations," Jackson said of the situation in Pennsylvania.

In contrast with the limited information provided by Pennsylvania, Texas officials supplied a detailed 64-page spreadsheet almost immediately, listing all types of oil and gas-related complaints over much of the past two years. The Texas data include the date of the complaint, the landowner, the drilling company and a brief summary of the alleged problems. Many complaints involve other issues, such as odors or abandoned equipment.

Scott Anderson, an expert on oil and gas drilling with the Environmental Defense Fund, a national nonprofit based in Austin, notes that Texas regulators started keeping more data on complaints in the 1990s. New legislation in 2011 and 2013 led to more detailed reports and provided funds for a new information technology system, he said.

Anderson agreed that a lack of transparency fuels mistrust.

"If the industry has nothing to hide, then they should be willing to let the facts speak for themselves," he said. "The same goes for regulatory agencies."

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Read or Share this story: http://usat.ly/1IoH8W0
Study finds contaminants in natural gas wastewater

by Ken Ward Jr., Staff writer

Scientists from Duke University and two other institutions have discovered high levels of two potentially hazardous contaminants in wastewater discharged or spilled into streams and rivers from oil and gas operations in West Virginia and Pennsylvania.

In a paper published Wednesday, the Duke scientists said they found ammonium and iodide in wastewater from treatment sites in Pennsylvania and from a spill from a storage tank at a site in West Virginia.

"This discovery raises new concerns about the environmental and human health impacts of oil and gas wastewater in areas where it is discharged or leaked directly into the environment," said Ameer Vengosh, professor of geochemistry and water quality at Duke's Nicholas School of the Environment, and one of six experts from Duke, Dartmouth College and Stanford University who worked on the study.

The peer-reviewed study, published in the journal Environmental Science & Technology, is the first to document the presence of high levels of ammonium and iodide in oil and gas wastewater.

When dissolved in water, ammonium can convert to ammonia, which is highly toxic to aquatic life. Elevated iodide in surface water can promote the formation of highly toxic byproducts in drinking water when it mixes with...
the chlorine used to disinfect the water and municipal treatment plants.

The Duke researchers said that their work shows that oil and gas wastewater discharges and accidental spills to waterways "pose risks to both human health and the environment."

"The relatively high frequency of spills associated with the intensity of shale-gas development and reports of an overall increase in salinity in watersheds associated with hydraulic fracturing activities, combined with data presented in this study, suggest that the release of [oil and gas wastewater] to the environment is one of the major risks associated with the development of hydraulic fracturing," the study says. "The data presented in this study contribute to the growing body of information that shows there are significant environmental and ecosystem impacts of current [oil and gas wastewater] disposal practices in the U.S. and that regulatory action is needed to address these concerns."

Previous studies have shown that fluids from natural gas production activities — including hydraulic fracturing or "fracking" — contain high levels of salts, barium and radioactive elements, in addition to man-made chemicals added in the process of hydraulic fracturing.

While public concern for water contamination has focused on the impact of fracking fluids from shale-gas reserves like those in West Virginia's Marcellus Shale region, the new study found that wastewater from conventional oil and gas operations contains levels of ammonium and iodide that are just as high.

To conduct their study, the researchers collected and analyzed 44 samples of waters produced from conventional oil and gas wells in New York and Pennsylvania, and 31 samples from flowback waters from fracked shale-gas sites in Pennsylvania and Arkansas. They also collected and analyzed oil and gas effluents that were being discharged directly into streams at three disposal sites in Pennsylvania.

As part of their study, the Duke researchers examined material that was collected after a January 2014 incident in Tyler County, West Virginia, in which a tank at a natural gas site exploded and released fluids. These fluids migrated beyond the well pad containment and into the adjacent stream, Big Run Creek.

During the legislative session that started Wednesday, lawmakers are expected to consider proposals that would exempt some or all oil and gas industry above-ground storage tanks from the provisions of a new state tank safety law passed after last year's Freedom Industries chemical spill.

Reach Ken Ward Jr. at kward@wvgazette.com, 304-348-1702 or follow @kenwardjr on Twitter.
Fracking Brings Ammonium and Iodide to Local Waterways

Researchers find alarming levels of these new contaminants in wastewater released into Pennsylvania and West Virginia streams.

By Marianne LeVelle and The Daily Climate | January 14, 2015

Two hazardous chemicals never before known as oil and gas industry pollutants—ammonium and iodide—are being released and spilled into Pennsylvania and West Virginia waterways from the booming energy operations of the Marcellus shale, a new study shows.

The toxic substances, which can have a devastating impact on fish, ecosystems, and potentially human health, are extracted from geological formations along with natural gas and oil during both hydraulic fracturing and conventional drilling operations, said Duke University scientists in a study published today in the journal Environmental Science & Technology.

The chemicals are also found in natural springs and rivers, both accidentally and potentially, in areas not currently regulated and not designed to handle such spills.

The researchers warn the current regulations are not enough to stave off contamination of waterways.

Now, they advocate for stronger regulations to curb the industry operations. Over the design that allows methane and other chemicals it adds to frack water.

"We are releasing this wastewater into the environment and it is causing direct contamination and human health risks," said study co-author Avner Vengosh, professor of water quality and geochemistry at Duke's Nicholas School of the Environment. "It should be regulated and it should be stopped. That's not even science; it's common sense."

Industry sources did not respond immediately to word of the new study.

When dissolved in water, ammonium can turn to ammonia, highly toxic to aquatic life. The Duke team found ammonium levels in streams and rivers from energy industry wastewater outflows at levels 50 times higher than the U.S. Environmental Protection Agency's water-quality threshold. Under a loophole created by Congress in a 2005 energy law, fracking wastewater isn't regulated under the U.S. Safe Drinking Water Act.

Meanwhile, the Duke scientists found that the iodide contamination from energy operations — while not toxic by itself — promotes the production of disinfection byproducts when it comes in contact with the chlorine that is used to treat most drinking water systems. Previous studies have shown that such disinfection byproducts have toxic and carcinogenic properties, but only a few are regulated.

"As far as we are aware, iodide and ammonium are not regulated, nor monitored in any of the [oil and gas] operations in the United States," the researchers said in their paper.

Terrence Collins, director of the Institute for Green Science at Pittsburgh's Carnegie Mellon University, was not involved in the study but said findings of iodide contamination are particularly worrisome, especially if stream or river water is extracted downstream for drinking water.

"Widely practiced chemical treatments to kill pathogens are likely to cause the iodide to become incorporated into organic matter in the drinking water, and I am concerned that this could result in increased incidences of cancer," he said in an email.

The recent boom in U.S. oil and gas production has been accompanied by a surge in wastewater production. Fracked wells produce about 1 million to 2 million gallons of wastewater per well. For conventional wells, the volume is less but the risk of contamination with ammonium and iodide is the same. "The method doesn't matter," said Vengosh.

"Fracking fluids are not much different from conventional oil and gas wastes," said Jennifer Harkness, lead author of the study and a doctoral student at Duke.

The researchers collected and analyzed 44 samples of wastewater produced from conventional oil and gas wells in New York and Pennsylvania and 31 samples of "flowback" — the highly saline and polluted fluid that flows back to the surface during and after fracking — from shale gas wells in Pennsylvania and Arkansas. They also collected and analyzed oil and gas effluents being directly discharged into streams, rivers and surface waters at three disposal sites in Pennsylvania and a spill site in West Virginia.

In states like Texas and Oklahoma, with long histories of conventional drilling, oil and

http://www.sciencemag.org/content/early/2015/06/18/1541.1426.full.pdf+

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Fracking Brings Ammonium and Iodide to Local Waterways - Scientific American

Gas wastewater is disposed by injection in deep underground wells. But in Pennsylvania, a hotspot of fracking, there are few such sites. Some oil and gas wastewater is discharged to waterways after treatment at commercially operated industrial brine treatment plants, which were not designed to remove ammonium or iodide.

There also have been wastewater spills, including seeps from illegal disposal, leaking from surface impoundments, and truck tanker accidents. Some states even have purposely spread the salty oil and gas wastewater on roads to suppress dust or for deicing.

The estimated volume of oil and industry wastewater generated in the U.S. is now more than 837 billion gallons (3.16 billion cubic meters) per year. For comparison, that's nearly three times the volume of all the oil and gasoline that the United States consumes each year (291 billion gallons).

The researchers said their study adds to a growing body of evidence that government action is needed. "There are significant environmental and ecosystem impacts of current [oil and gas wastewater] disposal practices in the U.S.," they wrote, "Regulatory action is needed to address these concerns."

Marianne Lavelle is a staff writer for The Daily Climate. Follow her on Twitter @mlavelle. The Daily Climate is a nonprofit news site covering energy, the environment and climate change.

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bigbadwolf January 14, 2015, 9:33 PM

I wouldn't call it fraud .... although the chemicals are "naturally occurring" - and not part of the fracking fluid "special sauce", this underscores the many unknowns brought about by the fracking process - which is anything but natural.

EXHIBIT #2
Doddridge County gas fracking explosion injures at least 7

David Gutman

CHARLESTON, W.Va. – At least seven people were injured, four of them very seriously, after an explosion at a hydraulic fracturing operation at a gas well drilling pad in Doddridge County early Sunday morning, according to emergency officials.

Pat Heaster, the Doddridge County director of emergency services, said that four workers had potentially life-threatening burns. Those four were transferred to United Hospital Center in Bridgeport and then flown to West Penn Burn Center in Pittsburgh.

Heaster said that at least three, and possibly four, others were taken to area hospitals in private vehicles.

Kevin Killstrom, an executive with Antero Resources, which owns the well, said that a total of five workers were eventually flown to the burn center in Pittsburgh.

A Doddridge County 911 dispatcher had earlier said that a total of eight people were injured in the explosion.

The names and conditions of the injured workers have not been released.

Randy Trent, the chief of the Banks Volunteer Fire Department, said that
as they rushed to the scene Sunday morning they met victims being rushed to the hospital in private vehicles.

"We were probably five to six miles from the well site," Trent said. "On W.Va. Route 18, they were transporting people by personal vehicle to meet us."

The five workers flown to West Penn Burn Center did not work for Antero, but worked for three different contractors, Kilstrom said. Kilstrom would not release the names of the contractors. Heaster said that he saw Nabors Industries trucks on the scene, indicating that they were one of the contractors.

The explosion happened just before 4 a.m. Sunday at the Hinterer 2H well on the Ruddy Alt pad on Brushy Fork in New Milton, Kilstrom said. Kilstrom said there are three wells on the pad.

The explosion did not happen at the drilling rig itself, which wasn’t damaged, but at a nearby operation, Heaster said.

"They were fracking a well and something exploded, either in the pump or around the pump," Heaster said.

Heaster said that they were pumping water down a well, part of the hydraulic fracturing process for recovering gas trapped in shale rock. He said that the tanks that recover the water and other materials after they return to the surface are what exploded.

"The holding tanks that they were pumping into, that’s what exploded," Heaster said. "It was a supplementary operation to the drilling process, the wellhead was not involved."

Trent said that the fire was about 50 yards from the wellhead.

"Once we were on the scene the flames were never more than six to eight feet high," Trent said.

Kilstrom said they did not yet know the cause of the explosion.

"We just started the investigation this morning," he said. "Within the next couple days we should get to the facts, but you never know."

The explosion caused a residual fire. The Bancs Volunteer Fire Department, the Smithsburg Volunteer Fire Department and the West Union Volunteer Fire Department were all on the scene from about 4 a.m. until about 7 a.m. Sunday.

Kathy Cosco, a spokeswoman for the West Virginia Department of Environmental Protection, said that two inspectors with DEP’s Office of Oil and Gas were at the site. A representative of the federal Occupational Safety and Health Administration was also on the site Sunday evening.

"It appears that what exploded was a tank at the site," Cosco said in an email.

Messages left with Antero Resources corporate headquarters and their West Virginia offices were not returned Sunday.

Antero Resources owns at least 399 wells in Doddridge, Harrison, Ritchie, Tyler and Upshur Counties, according to a 2012 DEP database. The database lists 141 of those wells as being actively drilled, although, because the database is incomplete, that number is likely higher.

Antero has had safety problems in the past. Last August a spark at an

http://www.wvgazette.com/News/201307070002
Antero-owned well in Harrison County ignited methane gas several hundred feet underground, causing a fireball and a fire that burned for about an hour. Three workers were injured in that fire.

DEP cited Antero for failure to maintain well control for that incident.

DEP has cited Antero for 17 violations of state code in the past three years. Those have been primarily environmental violations -- for things like failing to prevent waste runoff, failure to report discharges and contaminating waterways.

One violation, from January 4, 2013, warned, "Imminent danger water supply[sic] threatened by allowing pollutants to escape and flow into the waters of the state."

In June of last year Antero was drilling using water in Harrison County when they accidentally repressurized some old water wells, causing several geysers, one about 10 feet high, that flooded one nearby home and several garages.

In March 2011, state regulators shut down an Antero gas well in Harrison County after mud contaminated with drilling chemicals spilled into a nearby stream.

Reach David Gutman at david.gutman@wvgazette.com or 304-348-5119.
Eureka flash fire claims two lives

April 17, 2013
By ALEX KIRK - Staff Writer (akirk@tylerstarnews.com), Tyler Star News

One person remains hospitalized and two are deceased following the Thursday evening flash fire at Triad Hunter's Eureka Hunter Pipeline on Twin Hickory Road just outside of Wixs in Tyler County. The fire was reported at about 7 p.m. and safely extinguished between 11 and 11:30 p.m.

Bruce Stephes, 56, of Marietta, Ohio, passed away the following evening, April 12, due to injuries suffered. Raymond Miller, 43, of Jessetta, Pa., passed away the evening of April 15 due to injuries suffered.

The injured workers were flown to the West Pennsylvania Burn Center in Pittsburgh to be treated for severe burns. Two of them were flown from the scene, while one was transported to Sistersville General Hospital before being airlifted. A fourth person was reportedly taken to the hospital by ambulance, checked for injuries, and then released.

The fire was initially thought to be an explosion at a gas well compression station, but it was later revealed to be a flash fire at a cleaning station.

Tyler County Sheriff Bob Kendle said two tanks and an excavator had caught fire. He stated they are still investigating the cause.

"From my understanding, the Occupational Safety and Health Administration believes it was totally accidental," said Sheriff Kendle.

Something was believed to have gone wrong during a routine cleaning of the pipeline by utilizing "pigs." "Pigs" are devices run through the pipelines for varying maintenance needs. The pigs in use at the time of the incident were meant to remove moisture from the line.

http://tylerstarnews.com/page/content/detail/569119/Eureka-flashfire-at-Eureka-Hunter-Pipeline-claims-two-lives.html
Eureka flash fire claims two lives - TylerStarNews.com | News, Information, Sistersville and Tyler County WV - Tyler Star News

Fire departments from Middlebourne, Sistersville, Shirley, Alton, Pleasants County, and St. Marys arrived at the scene, as well as Tyler County Sheriff Deputies and other first responders. Emergency Management volunteers also assisted.

"We took water and ice and went into standby at the staging area in case additional resources were needed," said Emergency Management Director Tom Cooper. "We stayed out there until they were coming out."

Cooper mentioned that Triad Hunter was very proactive when they began operations in Tyler County over a year ago.

"They brought in trainers from Wild Well Control in Texas to teach our responders how to react to these events," he said.

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One fire out, second still burning at Chevron natural gas well blast in Greene County

Cameron International worker still identified by officials as missing

DUNKARD TOWNSHIP, Pa. — State environmental officials and expert firefighters brought in by Chevron are taking the first steps in a plan to extinguish flames at a burning Marcellus Shale natural gas well in southwestern Pennsylvania.

Raw video: See the gas well fire burn (from u local)

Thursday, officials revealed there were actually two fires at the well site. They say the larger fire extinguished itself as water spewing from the ground along with the natural gas doused the flames. Specially-trained crews have also slowly started removing vehicles and equipment from around the second fire. Then, they say firefighters with the Houston-based Wild Well Control Team, who specialize in dealing with natural gas well fires, will move in closer to remove debris that's been aggravating the remaining fire. Then both well heads can be capped.

One fire out, second still burning at Chevron natural gas well blast in Greene County | Local News - WTAE Home

6/13/2015

The well site is about 60 miles south of Pittsburgh in Dunburn Township. It erupted into flames shortly before 7 a.m. Tuesday, injuring one worker and leaving one still unaccounted for Thursday evening. The missing worker is employed by Houston-based Cameron International, a spokesman confirmed. More information about the missing person may become available as crews are able to move closer to the well.

**Video:** Watch Matt Belanger's report

At first, details were slow to be released from corporations involved.

"Clearly we're aware of the incident in Pennsylvania. We're working with our customer, Chevron, to establish the facts. Our primary concern is the safety and security of our personnel. Beyond that, we have no comment to make because we know no more," Adam Nightingale said.

**Video:** Watch Ashley Hardway's report

In a late afternoon update Wednesday, Chevron spokeswoman LeAnn Wainwright said they are developing their strategy for extinguishing the blaze.

"Our plan includes efforts to control the well by shutting off the flow of natural gas and taking all appropriate procedures to protect the other wells on the pad. We are closely monitoring the status of the adjacent two wells and are developing contingency plans for those wells if necessary," Wainwright said. "Out of an abundance of caution, we have begun to monitor the air, surface waters and noise in the area for any signs of impact. At this point we have no indications that this incident has created any safety risk."

DEP spokesman Jon Polster said experts from Wild Well Control arrived on the site Tuesday evening to begin working out a plan to extinguish the fire. State Department of Environmental Protection officials said they've started to implement that plan Thursday.

**Photos:** Gas well explosion, fire in Greene County

Polster said the well was in a rural area where there were no homes or schools close enough to the well site to be dangerous. He said a DEP team at the site found no signs of threats to public health, noting that the fire was burning off volatile organic compounds in the gas.

"I do know the well is out of control and they're trying to get crews here to get the well back under control," said Todd Toland of Pacific Process Systems. "No immediate danger to the community. It's contained to that location, it's built in a location that's away from the community."

"There's been training. Actually, Wild Well's even come to the county to give training," said Greg Leathers of Greene County Emergency Management. "With the magnitude of the situation, local responders just aren't equipped to fight the fire itself. So they are told the basics of the fire. Their job is to assess the situation, if any first aid can be rendered immediately without putting anyone else in harm's way, we do that."

"They knew, basically from the get-go, it wasn't going to be something they could extinguish," Trooper Stefani Plume said. "At that point, their training basically tells them to get out as safely as possible and set up a perimeter."

Polster said Chevron had previously completed drilling and hydraulically fracturing, or fracking, the well and was in the final stages of using steel pipe to hook it up to a pipeline distribution network for production.

"We want to find out how this happened and why," Polster said, adding that the explosion was the first serious Marcellus Shale well blowout in western Pennsylvania.

Scott O'One was working about one-half mile away from the 7th well pad when he heard the.


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explosion.

"Basically it was like a sonic boom, You could feel a little bit of vibration in the ground, and the loud hissing sound. I knew exactly what it was," C One said. "We were probably anywhere from 600-800 yards away down over the hill. You could just literally, it felt like warm air, spring air, coming down over the hillside. It's very, very hot."

C One has worked in the energy industry for six years and said typically, safety is a top priority in the industry. "Nothing is conducted with, 'OK, let's do this job.' Every single morning when you report for your shift, you have what's called a JSA meeting. It's a standard. You have a roll call, everybody signs in on that sheet so in case there is an accident of this magnitude, you are to report to a muster point. At that point, there's a roll call," he said. "I did hear there was a large propane truck that was parked near the actual well, which would have been a no-no. That initial boom was probably that propane truck that exploded. From that point on, the percussion could have initiated the well head."

The Marcellus Shale formation lies under large parts of Pennsylvania, West Virginia, Ohio and other neighboring states; it's currently the country's most productive natural gas field.

"Ironically, the best thing to do is to let it burn, because you know where the gas is. If the fire were to go out, the gas would find another ignition source somewhere," Leathers said.

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05/10/1843

PHOTOS: GAS WELL EXPLOSION, FIRE IN GREENE COUNTY

1 of 17

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T461: Chevron/W Dunkard Township:


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June 10, 2015

AMENDED RESPONSE OF SWN PRODUCTION COMPANY, LLC
TO COMMENTS ON APPLICATION FOR WELL WORK PERMIT
FILED BY BARBARA ANN EDGE, WILLIAM F. EDGE and DAVID EDGE

Applicant Name:  SWN Production Company, LLC
Address:  P. O. Box 1300, Jane Lew, West Virginia 26378
Phone:  (832) 796-1610
To:  Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th Street East
Charleston, WV 25304

Well Operator Name:  SWN Production Company, LLC
API Well Number:  47-051-01843
Well Location:  Sand Hill District, Marshall County, West Virginia

I. Surface Owners’ Comments Fail to Identify Any Facts to Support Denial of the
Well Work Permit Sought by SWN Production Company, LLC

On or about May 13, 2015, Barbara Ann Edge, William F. Edge and David Edge, as
surface owners of property on which SWN Production Company, LLC ("SWN") proposes to
conduct surface operations for the development of the B&W Edge MSH 205H well (the "Edge
Well"), filed comments objecting to SWN's well work application filed on or about April 13,
2015 (the "Edge Comments"). The surface owners are residents of Ohio and do not live at the
property on which the well work is proposed. The Edge Comments contain no factual or legal
allegations concerning SWN’s past or present conduct regarding the development of a horizontal
natural gas well in West Virginia nor any factual or legal allegations that the proposed location
of the Edge Well will constitute a hazard to the safety of persons or fails to protect fresh water
sources or supplies as required under W. Va. Code § 22-6A-8(d)(1) and (4). In addition, the
Department of Environmental Protection's Office of Oil and Gas lacks authority to deny SWN a
well work permit on the basis of allegations that the proposed well work is not “fairly necessary” or “reasonably necessary” for the extraction of minerals as alleged by the Surface Owners.

Accordingly, SWN respectfully requests that the comments of Surface Owners be rejected and that the well work permit for the Edge Well be issued immediately.

II. West Virginia Public Policy Favors Development of Natural Gas

The Legislature of the State of West Virginia has declared as a public policy of the State that “[a]llowing the responsible development of our state’s natural gas resources will enhance the economy of our state and the quality of life for our citizens while assuring the long term protection of the environment.” W. Va. Code § 22-6A-2(a)(8). Consistent with that declared public policy, it is SWN’s responsibility and objective to develop natural gas and related hydrocarbons in a responsible and safe manner in compliance with the laws and regulations governing the exploration, development and production of natural gas in the State of West Virginia, including the protection of human health and the environment.

III. SWN’s Well Work Application Complies With the Requirements of W. Va. Code § 22-6A-7 and the Rules Governing Horizontal Well Development - 35 CSR 8

W. Va. Code § 22-6A “Horizontal Well Act” establishes the statutory requirements for drilling horizontal natural gas wells in West Virginia, as supplemented by the Rules Governing Horizontal Well Development. For example, SWN’s well work permit application fulfills the requirements set forth in W. Va. Code § 22-6A-7 and 35 C.S.R. 8, § 5. More particularly, the proposed well complies with all of the well location restrictions established in W. Va. Code § 22-6A-12, and SWN will comply with all performance standards and operational requirements set forth in W. Va. Code § 22-6A-8(g) and 35 C.S.R. 8, § 9. These statutory and regulatory requirements have been determined by the West Virginia Legislature and West Virginia Department of Environmental Protection to be adequately protective of the safety of persons and fresh water sources or supplies.

IV. The Well Work Proposed by SWN More Than Adequately Protects Fresh Water Sources and Supplies

The Edge Comments rely exclusively on “[n]ews organizations from small local newspapers to large national sources, such as USA Today” as evidence that a “large amount of water contamination has been caused by well pad work similar to proposed API Well Number 47-051-1843. [sic]” The newspaper articles attached to the Edge Comments relate almost exclusively to allegations occurring in states other than West Virginia and have no specific relevance to the subject application.

The 18 Acre Wheeling Creek Watershed is not at significant risk of contamination from the Edge Well because SWN’s well work application is based on utilization of a closed-loop system to contain and re-use fluids in the well drilling process. Moreover, the flow back fluids will be stored in steel tanks for re-use or delivered to permitted disposal facilities such as underground injection wells. No open pits will be used in the drilling or completion of the Edge...
Well and the required sediment and erosion controls in accordance with the Office of Oil and Gas’ guidelines will be utilized. Moreover, Wheeling Creek is located approximately 3,000 feet from the edge of the proposed well pad and the nearest tributary of Wheeling Creek is located approximately 1,500 feet from the edge of the proposed well pad. SWN’s well work plan exceeds the requirements associated with protecting fresh water sources and supplies as required by the Horizontal Well Act and the Rules Governing Horizontal Well Development. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.

V. The Well Work Proposed by SWN Does Not Constitue a Hazard to the Safety of Persons

SWN has taken into consideration the location of the electrical substation on adjoining property in selecting the location for the proposed Edge Well. The Edge Comments do not reference any safety issues or incidents involving electric transmission substations. The proposed location of the Edge Well complies with the operational requirements to protect persons and the environment from unreasonable risks as imposed by W. Va. Code § 22-6A-12. The proposed well pad will be located approximately 500 feet from the outer edge of the substation and otherwise provides the maximum distance from residences and populated buildings as is reasonably possible. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.

VI. The West Virginia Department of Environmental Protection and its Office of Oil and Gas Do Not Have Jurisdiction Over Whether Activities Are “Fairly Necessary” or “Reasonably Necessary”

The West Virginia Legislature has established a remedy for surface owner compensation through the Oil and Gas Horizontal Well Production Damage Compensation Act, W. Va. Code § 22-6B-1, et seq. which remedy is without the involvement of the West Virginia Department of Environmental Protection. Whether the proposed well work is “fairly necessary” or “reasonably necessary” and the issue of the adequacy of compensation to a surface owner is therefore outside the scope of the jurisdiction of the West Virginia Department of Environmental Protection and its Office of Oil and Gas. Accordingly, there is no basis to deny or condition the well work permit for the Edge Well and the permit should be immediately issued.
SWN respectfully submits that all of the statutory and regulatory requirements for a well work permit have been satisfied and requests that the well work permit for the Edge Well be immediately issued without qualification based on the Edge Comments. The undersigned is available to answer questions or provide additional information to the Office of Oil and Gas as may be required.

Respectfully Submitted,

SNW Production Company, LLC
By: Spilman Thomas & Battle PLLC

Mark D. Clark
David L. Yaussy
P.O. Box 273
Charleston, WV 25325
(304) 340-3800

cc: James G. Bordas
Jeremy M. McGraw
Bordas and Bordas Attorneys, PLLC
1358 National Road
Wheeling, WV 26003
To: 13049260452
From: Jodi Cunningham
Fax: 13049260452
Phone: 
Pages: 25
Date: 5/13/2015

Comments: Please see attached. If you have any questions, please do not hesitate to contact me.

Very truly yours,

Jodi K. Cunningham

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC 494512924 Operator ID
Operator's Well Name: 51-Marshall 6-3477, Wheeling
County: 51-Marshall District: 0
Quadrangle: 6-3477

2) Operator's Well Name: MSH 5H Well Pad Name: B & W Edge MSH Pad

3) Farm Name/Surface Owner: William F. Jr. & Barbara Edge Public Road Access: Walnut Grove Road

4) Elevation, current ground: 1276' Elevation, proposed post-construction: 1253'

5) Well Type
(a) Gas × Oil × Underground Storage
(b) If Gas Shallow × Deep
Horizontal ×

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation: Marcellus, Target Top TVD: 6269', Target Base TVD: 8399', Anticipated Thickness: 84', Associated Pressure: 4160

8) Proposed Total Vertical Depth: 6358'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 45,790' 10,569'

11) Proposed Horizontal Leg Length: 8,172'

12) Approximate Fresh Water Strata Depths: 300'

13) Method to Determine Fresh Water Depths: from nearby water wells

14) Approximate Saltwater Depths: 960'

15) Approximate Coal Seam Depths: 742'

16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of.

17) Does Proposed well location contain coal seams directly overlaying or adjacent to an active mine? Yes X No

(a) If Yes, provide Mine Info: Name: Shoemaker
Depth: 669'
Seam: Pittsburgh Seam
Owner: Shoemaker
## CASING AND TUBING PROGRAM

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## PACKERS

| Kind: | 10K Arrowset AS1-X | | |
|-------|--------------------|| |
| Sizes:| 5 1/2"             | | |
| Depths Set: | | | |
19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate any potential zones between and including the Benson to Marcellus. **If we should encounter a void place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 50' below void nor more than 100' below void. (**If freshwater is encountered deeper than anticipated it must be protected, set casing 50'-75' below and cts.)

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production unites, vertical separation units, water and oil storage tanks. Max press and anticipated max rate- 9000 lbs @ 80 barrels a minute.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 13.5

22) Area to be disturbed for well pad only, less access road (acres): 6.2

23) Describe centralizer placement for each casing string:

All casing strings will be ran with a centralizer at a minimum of 1 per every 3 joints of casing.

24) Describe all cement additives associated with each cement type:

See Attachment ***

25) Proposed borehole conditioning procedures:

All boreholes will be conditioned with circulation and rotation for a minimum of one bottoms up and continuing until operator is satisfied with borehole conditions.

*Note: Attach additional sheets as needed.
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name: SWN Production Co., LLC
OP Code: 49447757

Watershed (HUC 10): Upper Ohio South
Quadrangle: 647- Wheeling
Elevation: 1253'
County: 51-Marshall
District: 9- Sand Hill

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes [ ] No [X]

Will a pit be used? Yes [X] No [ ]

If so, please describe anticipated pit waste: [ ]

Will a synthetic liner be used in the pit? Yes [ ] No [X] If so, what ml? [ ]

Proposed Disposal Method For Treated Pit Wastes:

- Underground Injection (UIC Permit Number: 20072639/200413175/200610306/200810317)
- Reuse (at API Number: 2X)
- Off-Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility)

Will closed loop system be used? Yes [X]

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air and salt saturate mud

- Oil based, what type? Synthetic, petroleum, etc.

Additives to be used in drilling medium? See attached sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.

- If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust)

- Landfill or offsite name/permit number: Arden Landfill 100/2, American U2-12954, Country Wide 38390/CD2/38390, Pine Grove 13655

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature: Dee Southall
Company Official (Typed Name): Dee Southall
Company Official Title: Regulatory Supervisor

Subscribed and sworn before me this 28th day of January, 2015

My commission expires 11/30/2015

[Seal]
SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 13.5

Prevegetation pH

as determined by pH test min 2

Lime Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 600 Lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

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<td>Orchard Grass</td>
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Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments:

Field Reviewed? ( ) Yes ( ) No
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No More than 3% CaCl will be used in Surface String.
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Marcellus Well Drilling Procedures
And Site Safety Plan

SWN Production Co., LLC

47 - 051 -
Well name: B & W Edge MSH 5H
Wheeling, Quad
Sand Hill, District
Marshall County, West Virginia

Submitted by: [Signature]
Date: 1/28/2015
Title: Regulatory Supervisor

Approved by: [Signature]
Date: 4/27/15
Title: Oil & Gas Inspector

Approved by:

Date: __________

Title: _______________________

SWN Production Co., LLC - Confidential

RECEIVED
Office of Oil and Gas
MAY 03 2015
WV Department of
Environmental Protection

06/19/2015
INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I
depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the
accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the
Applicant claims the right to extract, produce or market the oil or gas are as follows:

<table>
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<tr>
<th>Lease Name or</th>
<th>Grantor, Lessor, etc.</th>
<th>Grantee, Lessee, etc.</th>
<th>Royalty</th>
<th>Book/Page</th>
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SEE EXHIBIT "A"

Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the
possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP,
Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit(s) in any way overrides, replaces, or
nullifies the need for other permits/approvals that may be necessary and further affirms that all needed
permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: SWN Production Company LLC
By: [Signature]
Lts: Mike Ezell, Landman

Page 1 of 1
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<td>1-286493-000</td>
<td>Walter Lewis Hartman and Gloria Louise Hartman</td>
<td>Chesapeake Appalachia L.L.C.</td>
<td>12.50%</td>
<td>688/622</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9)</td>
<td>12-1-18.4</td>
<td>15-030515</td>
<td>Stephen M. Bartolovich</td>
<td>SWN Production Company L.L.C.</td>
<td>18%</td>
<td>Pending*</td>
</tr>
<tr>
<td>10)</td>
<td>12-1-11</td>
<td>15-030515</td>
<td>Stephen M. Bartolovich</td>
<td>SWN Production Company L.L.C.</td>
<td>18%</td>
<td>Pending*</td>
</tr>
</tbody>
</table>

*See attached
MEMORANDUM OF OIL AND GAS LEASE

This Memorandum of Oil and Gas Lease made this 11 day of March, 2015 by and between Stephen M. Bartolovich, a single man, of 451 Main St, Beckley, WV 25801-1105, hereinafter collectively called "Lessor," and SWN Production Company, L.L.C., a Texas limited liability company, 10000 Energy Drive, Spring, Texas 77389, hereinafter called "Lessee."

WITNESSETH

For and in consideration of the sum of Ten Dollars ($10.00) cash in hand paid, and other good and valuable consideration, Lessor did make and execute in favor of Lessee an Oil and Gas Lease dated 11 March, 2015, and made effective 11 March, 2015, which provides for a five (5) year primary term and an option to renew for an additional five (5) year primary term covering Lessor's interest in the following described lands:

Tax Map No: 12-0001-0011-0000

and is bounded formerly or currently as follows:
On the North by Parcel: 12-0001-0011-0000
On the East by Parcel: 12-0001-0013-0000
On the South by Parcel: 12-0001-0002-0000
On the West by Parcel: 12-0001-0010-0000

Tax Map No: 12-0001-0018-0000

and is bounded formerly or currently as follows:
On the North by Parcel: 12-0001-0011-0000
On the East by Parcel: 12-0001-0018-0003
On the South by Parcel: 12-0001-0018-0000
On the West by Parcel: 12-0001-0030-0000

Containing 58.46 acres and located in the Township/District of Sand Hill, Marshall County, State of West Virginia, for the purpose of drilling, operating for, producing and removing oil and gas and all the constituents thereof. Said lands were conveyed to Lessor by virtue of Deed dated August 10, 1973 and recorded in said County and State in Book 439, Page 300, and by Deed dated June 27, 2000 and recorded in said County and State in Book 615, Page 477. This Lease may be extended beyond the primary term by certain activities including, without limitation, conducting operations, producing oil or gas, or making prescribed payments. This Lease also grants to Lessee a Right of First Refusal to match any offer to top lease the leased premises, which right may be exercised by Lessee within fifteen (15) days after receipt of proper notice from Lessor.

This Memorandum of Oil and Gas Lease is being made and filed for the purpose of giving third parties notice of the existence of the Lease described above. The execution, delivery and recordation of this Memorandum of Oil and Gas Lease shall have no effect upon, and is not intended as an amendment of the terms and conditions of the Lease. It is the intent of the Lessor to lease all of Lessor's interest in and to the properties described herein, whether or not the tracts recited herein are properly described, and further it is understood this lease includes all rights owned by the Lessor in the properties described herein.

IN WITNESS WHEREOF this Memorandum of Oil and Gas Lease is executed as of the date first above written.

WITNESS: ________________________________

[signature]

LESSOR: ________________________________

[signature]

Stephen M. Bartolovich

RECEIVED

Office of Oil and Gas

MAY 01, 2015

SWN Production Company, L.L.C.
A Texas limited liability company

WITNESS: ________________________________

[signature]

Stephen M. Grady

WV Department of Environmental Protection

06/19/2015
ACKNOWLEDGMENT

(LESSOR)

STATE OF WEST VIRGINIA
) SS
COUNTY OF OHIO

On this the 1st day of June, 2015, before me, a notary public, the undersigned authority, personally appeared Stephen M. Bartolovich, a single man, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires:
Signature/Notary Public:
Name/Notary Public (print):

(SEAL)

CORPORATE ACKNOWLEDGMENT

STATE OF TEXAS
) SS
COUNTY OF HARRIS

On this the 1st day of June, 2015, before me the undersigned Notary Public, personally appeared Stephen M. Guidry, who acknowledged himself to be the Vice-President - Land of SWN Production Company, L.L.C., a Texas limited liability company, and that he as such officer, being authorized to do so, executed foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as Vice-President - Land.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires:
Signature/Notary Public:
Name/Notary Public (print):

(SEAL)
March 26, 2015

Ms. Laura Adkins
WV DEP Office of Oil & Gas
601 57th St., SE
Charleston, WV 25304

**RE:** SWN’s proposed B & W Edge MSH 5H in Marshall County, West Virginia, Drilling under Walnut Grove Road.

Dear Ms. Adkins:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN’s right to drill under Walnut Grove Road. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

Mike Ezell
Senior Staff Landman
SWN Production Company, LLC
PO Box 1300
Jane Lew, WV 26378
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 4/30/15

Notice has been given:
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

<table>
<thead>
<tr>
<th>State</th>
<th>WV</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>51-Marshall</td>
</tr>
<tr>
<td>District</td>
<td>9-Sand Hill</td>
</tr>
<tr>
<td>Quadrangle</td>
<td>647-Wheeling</td>
</tr>
<tr>
<td>Watershed</td>
<td>Upper Ohio South</td>
</tr>
<tr>
<td>UTM NAD 83</td>
<td>531795.5</td>
</tr>
<tr>
<td>Easting</td>
<td>531795.5</td>
</tr>
<tr>
<td>Northing</td>
<td>442853.7</td>
</tr>
<tr>
<td>Generally used farm name:</td>
<td>B &amp; W Edge</td>
</tr>
</tbody>
</table>

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

<table>
<thead>
<tr>
<th>PLEASE CHECK ALL THAT APPLY</th>
</tr>
</thead>
</table>
| 1. NOTICE OF SEISMIC ACTIVITY
| NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED |
| 2. NOTICE OF ENTRY FOR PLAT SURVEY
| NO PLAT SURVEY WAS CONDUCTED |
| 3. NOTICE OF INTENT TO DRILL
| NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED |
| WRITE WAIVER BY SURFACE OWNER (PLEASE ATTACH) |
| 4. NOTICE OF PLANNED OPERATION |
| 5. PUBLIC NOTICE |
| 6. NOTICE OF APPLICATION |

Required Attachments:
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the Operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

OOG OFFICE USE ONLY

RECEIVED
Office of Oil and Gas
MAY 1, 2015

06/19/2015
Certification of Notice is hereby given:

THEREFORE, I have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: SWN Production Co., LLC
By: Dee Southall
Its: Regulatory Supervisor
Telephone: 304-884-1614

Address: P.O. Box 1300 Jane Lew, WV 26378
Facsimile: 
Email: Dee_Southall@swn.com

Subscribed and sworn before me this 28th day of January 2015

Brittany R Woody
Notary Public

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.
Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 4/3/15
Date Permit Application Filed: 4/3/15

Notice of:

[ ] PERMIT FOR ANY WELL WORK
[ ] CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

[ ] PERSONAL
[ ] REGISTERED
[ ] METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (e), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (e)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

[ ] Application Notice  [ ] WSSP Notice  [ ] E&S Plan Notice  [ ] Well Plat Notice

[ ] SURFACE OWNER(s)
Name: Barbara Ann & William F. Edge, Jr. ET AL
Address: 1116 Virginia Street
Martins Ferry, OH 43935

Name: Mark A. Scholchase, ET UX
Address: 1800 Walnut Grove Road
Wheeling, WV 26003

[ ] SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: 
Address: 

Name: 
Address: 

[ ] SURFACE OWNER(s) (Impoundments or Pits)
Name: 
Address: 

Name: 
Address: 

[ ] COAL OWNER OR LESSEE
Name: Murray American Energy, INC. C/O Alex P. O'Neill
Address: 6126 Energy Road
Moundsville, WV 26041

[ ] COAL OPERATOR
Name: 
Address: 

[ ] SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: *** See Attachment #1
Address: 

[ ] OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: 
Address: 

*Please attach additional forms if necessary

RECEIVED
Office of Oil and Gas
MAY 01, 2015
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 6/19/15
Date Permit Application Filed: 6/19/15

☐ PERMIT FOR ANY WELL WORK ☐ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)
☐ PERSONAL ☑ REGISTERED ☐ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION
MAIL

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (e), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (e)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☐ Application Notice ☐ WSSP Notice ☐ E&S Plan Notice ☐ Well Plat Notice

☐ SURFACE OWNER(s)
Name: Wheeling Power Company
Address: 1 Riverside PL
Columbus, OH 43215
Name: Edith Adell Folmar
Address: RR 6 Box 317
Wheeling, WV 26003

☐ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: 
Address: 
Name: 
Address: 

☐ SURFACE OWNER(s) (Impoundments or Pits)
Name: 
Address: 

☐ COAL OWNER OR LESSEE
Name: 
Address: 

☐ COAL OPERATOR
Name: 
Address: 

☐ SURFACE OWNER OF WATER WELL, AND/OR WATER PURVEYOR(s)
Name: 
Address: 

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: 
Address: 

*Please attach additional forms if necessary
Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:
Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner’s and water purveyor’s right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions
Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a specified radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the well field or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying pertinent measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items
examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:
Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (3), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:
Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on a case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.
**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site [http://www.dep.wv.gov/oil-and-gas/](http://www.dep.wv.gov/oil-and-gas/) and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

1. The proposed well work will constitute a hazard to the safety of persons;
2. The plan for soil erosion and sediment control is not adequate or effective;
3. Damage would occur to publicly owned lands or resources; or
4. The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.
Notice is hereby given by:

Well Operator: SWN Production Co., LLC
Telephone: 304-884-1614
Email: Dee_Southall@san.com

Address: P.O. Box 1300
Jane Lew, WV 26378

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.

Subscribed and sworn before me this 28th day of January 2015

[Signature]
Notary Public

My Commission Expires 11/17/2015

RECEIVED
Office of Oil and Gas
MAY 01 2015
WV Department of
Environmental Protection
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<td>OH</td>
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 06/30/2015 Date Permit Application Filed: 06/30/2015

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

☐ HAND DELIVERY ☑ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well. Provided, that notice given pursuant to subsection (a), section ten of this article, satisfies the requirements of this subsection as of the date the notice was provided to the surface owner. Provided, however, that the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Wheeling Power Company Address: 1 Riverside PL Columbus, OH 43215

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:


UTM NAD 83 Easting: 531,795.5 Northing: 4,426,553.7 Public Road Access: Walnut Grove Rd. Generally used farm name:

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oilandgas/page/default.aspx

Notice is hereby given by:

Well Operator: SWN Production Company, LLC Address: PO Box 1300 Jane Lew, WV 26378 Telephone: 1-304-884-1611 Email: miah_feather@swn.com Facsimile:

Authorized Representative: Danielle Southall Address: PO Box 1300 Jane Lew, WV 26378 Telephone: 1-304-884-1614 Email: danielle_southall@swn.com Facsimile:

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.

06/19/2015
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.
Date of Notice: 01/30/2015 Date Permit Application Filed:

Delivery method pursuant to West Virginia Code § 22-6A-16(b)
☐ HAND DELIVERY ☐ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well. Provided that notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: Provided, however, that the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):
Name: Edith Adai Polmar
Address: RR 6 Box 317 Wheeling, WV 26003

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:
State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling Watershed: Upper Ohio South

UTM NAD 83
East: 531,795.5
North: 4,428,553.7
Public Road Access: Walnut Grove Rd.
Generally used farm name:

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:
Well Operator: SWN Production Company, LLC
Address: PO Box 1300
Jane Lew, WV 26378
Telephone: 1-304-684-1611
Email: michele_feather@swn.com
Facsimile:
Authorized Representative: Danielle Southall
Address: 
Telephone: 304-684-1614
Email: danielle.southall@swn.com Facsimile:

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 01/30/2015  Date Permit Application Filed: 04/23/15

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

☐ HAND DELIVERY ☐ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner’s land for the purpose of drilling a horizontal well. Provided. That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner. Provided, however, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator’s authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Mark A Schellhase ET UX
Address: 1886 Walnut Grove Rd
Wheeling, WV 26003

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:

State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

UTM NAD 83
Easting: 591,786.5
Northing: 4,429,563.7
Public Road Access: Walnut Grove Rd.
Generally used farm name:

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator’s authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: PO Box 1300
Jane Lew, WV 26375
Telephone: 1-304-884-1611
Email: micah_feather@swn.com
Facsimile:

Authorized Representative:
Address:
Telephone:
Email:
Facsimile:

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.

06/19/2015
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 01/30/2015
Date Permit Application Filed: 4/30/2015

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

☐ HAND DELIVERY
☐ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner’s land for the purpose of drilling a horizontal well. Provided, that notice given pursuant to subsection (a) section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: Provided, however, that the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator’s authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):
Name: Barbara Ann & William F. Edgo Jr ET AL.
Address: 1116 Virginia St
Marlins Ferry, OH 43935

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:
State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

UTM NAD 83 Easting: 531,765.5
Northing: 4,428,553.7
Public Road Access: Walnut Grove Rd.
Generally used farm name: 

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator’s authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:
Well Operator: SWN Production Company, LLC
Address: PO Box 1300
Jane Lew, WV 26378
Telephone: 1-304-884-1611
Email: micha_fether@swn.com
Facsimile: 

Authorized Representative: Danielle Souther
Address: PO Box 1300
Jane Lew, WV 26378
Telephone: 1-304-884-1614
Email: danielle_souther@swn.com
Facsimile: 

Oil and Gas Privacy Notice:
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.
Date of Notice: 04/09/2015 Date Permit Application Filed: 4/13/2013

Delivery method pursuant to West Virginia Code § 22-6A-16(e)

☐ CERTIFIED MAIL
☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(e), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter.
(d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):
Name: Barbara Ann & William F. Edge Jr ET AL
Address: 1116 Virginia St
Martins Ferry, OH 43935

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(e), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:
State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

UTM NAD 83
Eastings: 351,795.5
Northings: 4,429,653.7
Public Road Access: Walnut Grove Rd.

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(e), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 5th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: SWN Production Company, LLC
Telephone: 1-304-884-1611
Email: nicasa_fleischer@swn.com

Address: PO Box 1300
Jane Lew, WV 26201

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.
Date of Notice: 04/09/2015 Date Permit Application Filed: 04/30/15

Delivery method pursuant to West Virginia Code § 22-6A-16(c)
☐ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):
Name: Mark A Schellhase ET UX
Address: 1898 Walnut Grove Rd
Wheeling, WV 26003

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:
State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

UTM NAD 83
Easting: 531,795.5
Northing: 4,428,553.7
Public Road Access: Walnut Grove Rd.
Generally used farm name:

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: SWN Production Company, LLC
Address: PO Box 1300
Jane Lew, WV 26378

Telephone: 1-304-884-1611
Fax: 1-304-884-1611
Email: nicole.foather@swen.com

Oil and Gas Privacy Notice:
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.
Date of Notice: 04/09/2016

Delivery method pursuant to West Virginia Code § 22-6A-16(c)
☐ CERTIFIED MAIL
☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):
Name: Edith Adaf Folmar
Address: RFR 6 Box 317
Wheeling, WV 26003
Name:
Address:

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:
State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: SWN Production Company, LLC
Telephone: 1-304-884-1611
Email: mishal_fasha@swn.com

Address: PO Box 1300
Jamestown, WV 26375
Facsimile:

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of its regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

06/19/2015
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.
Date of Notice: 04/09/2015 Date Permit Application Filed: 04/13/15

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

☑ CERTIFIED MAIL ☐ HAND
RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Wheeling Power Company
Address: 1 Riverside PL
Columbus, OH 43215

Name:
Address:

Notice hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner’s land for the purpose of drilling a horizontal well on the tract of land as follows:

State: West Virginia
County: Marshall
District: Sand Hill
Quadrangle: Wheeling
Watershed: Upper Ohio South

UTM NAD 83
Eastin: 531,765.5
Northing: 4,428,553.7
Public Road Access: Walnut Grove Rd.
Generally used farm name:

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: SWN Production Company, LLC
Address: PO Box 1300
Telephone: 1-304-864-1611
Email: mittah_keithei@swn.com
Facsimile: 06/19/2015

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of its regulatory duties. Your personal information may be disclosed to other state agencies or third parties in the normal course of business needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP’s Chief Privacy Officer at depprivacyofficer@wv.gov.
April 10, 2015

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the B & W Edge Pad, Marshall County

B & W Edge MSH 5H

Dear Mr. Martin,

The West Virginia Division of Highways has assigned Permit #06-2015-0140 for the subject site to Southwestern Energy for access to the State Road for the well site located off of Marshall County Route 5/1 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office Oil and Gas Coordinator

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-6
File
<table>
<thead>
<tr>
<th>Supplier Name</th>
<th>Product Name</th>
<th>Product Use</th>
<th>Chemical Name</th>
<th>CAS Number</th>
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06/19/2015
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EROSION AND SEDIMENT CONTROL PLAN
FOR
B&W EDGE MSH PAD
SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

GENERAL NOTES

SOLIS. CLASSIFICATION

OUT & FILL

LIST OF DRAWINGS

STARTING FLAG LEGEND

LIMIT OF DISTURBANCE

OPERATOR

WEST VIRGINIA 811
CALL BEFORE YOU DIG!
800.245.4848
EROSION AND SEDIMENT CONTROL PLAN
FOR
B&W EDGE MILL
SAND HILL DISTRICT, MARSHALL COUNTY, WV

GENERAL NOTES
1. The boundary and topographic survey for the project area was performed by
2. Property boundaries, landowner information and road crossings shown on this plan
3. Existing structures, trees, lines and roadways have been located per available online
4. The horizontal datum is WGS 1984 NAD83.
6. The project is located in West Virginia.
7. The project is located in the Sand Hill District, Marshall County, WV.
8. The project is located in the B&W Edge Mill area.
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