

*Complaint to the*  
**Danish Mediation and Complaints-Handling Institution  
for Responsible Business Conduct**

**About the complainant**

Name: West Virginians for Sustainable Development

Homepage: [www.sustainablewv.org](http://www.sustainablewv.org)

Email: [info@sustainablewv.org](mailto:info@sustainablewv.org)

**About the company responsible for the incident**

Name: Rockwool Group International A/S and its subsidiary ROXUL USA Inc. (together, “Rockwool”)

Address: Rockwool Group International A/S -- Hovedgaden 584, 2640 Hedehusene, Denmark; ROXUL USA -- 4594 Cayce Rd, Byhalia, MS 38611, USA

**If you complain on behalf of others?**

The complaint is filed by West Virginians for Sustainable Development (WVSD). The organization’s members are residents of Jefferson County, West Virginia., USA and are directly affected by the actions of Rockwool.

The complaint is joined and supported by civil-society organizations and elected officials representing a cross section of those affected by the construction and operation of the Rockwool factory, including:

- West Virginia Delegate John Doyle
- West Virginia Delegate Sammi Brown
- Jefferson County Commissioner Jane Tabb
- Jefferson County Commissioner Ralph Lorenzetti
- Leesburg Town Council Member Neil Steinberg
- Mid-Atlantic Center for Children's Health and the Environment
- Ohio Valley Environmental Coalition
- Potomac Riverkeeper Network
- Potomac Valley Audubon Society
- West Virginia Citizen Action Group
- West Virginia Interfaith Power & Light

West Virginians for Sustainable Development (WVSD) is a non-profit volunteer organization formed under the laws of the United States. WVSD works to support socio-economic and environmentally

sustainable development in West Virginia. The organization's mission is to ensure that people, especially children and disadvantaged populations, are treated equally and fairly and live in a healthy environment as Jefferson County's economy is developed. The organization's goal is to ensure that the economic development decision making process is transparent, fair, respects human rights and includes all stakeholders.

**Do you have a mandate from the offended to proceed with this case?**

Yes

**What has happened?**

In July 2017, Rockwool announced that it would build a mineral wool manufacturing facility in Jefferson County, West Virginia. By the summer of 2018, the public had become more aware of the likely environmental and human health impacts of the factory and began organizing to block its construction and operation. This complaint to the Danish Mediation and Complaints-Handling Institution is being filed after many months of pursuing other legal and political mechanisms to stop or otherwise drastically improve the project. At this time, we have exhausted all other meaningful avenues available to us in the United States.

The complainants believe that Rockwool has neglected the recommended principles and standards of conduct associated with good corporate citizenship. Indeed, after a careful review of the *OECD Guidelines for Multinational Enterprises*, it is our contention that Rockwool has violated several of the General Policies. In sum, these violations create significant risk to the environmental and social wellbeing of Jefferson County, West Virginia and the surrounding region. Our complaint is focused on three primary areas of concern:

1. Political improprieties
2. Air quality
3. Water quality

In combination, these issues represent a breach of public trust and a violation of human rights. We believe the situation merits the attention of the Danish Mediation and Complaints-Handling Institution for Responsible Business Conduct.

**POLITICAL IMPROPRIETIES**

Rockwool has taken advantage of shortcomings in West Virginia's land use laws in order to construct a factory on a site that was never previously designated nor is currently suitable for heavy industry. The controversy surrounding the land that Rockwool chose for its factory location extends back more than fifteen years. In 2004, the corporation of Ranson (which is located within Jefferson County, West Virginia) took advantage of a loophole in the West Virginia state code allowing a municipality to annex land that is not contiguous to its existing boundaries. The controversial practice known as "pipestem" or

“shoestring” annexation enabled Ranson to incorporate a 400-acre orchard into its municipal boundaries, despite the property being located several miles north of the town’s limits. As a result of the 2004 annexation, Ranson would control future land use decisions for the orchard.

In 2009, the West Virginia Legislature acknowledged the problematic nature of pipestem annexation and passed a law preventing any future annexation of properties that were not truly contiguous to existing municipal boundaries. Unfortunately, the new law did not apply retroactively, so Jefferson Orchard remained a part of the corporation of Ranson.

In 2015, the Jefferson County Commission adopted a comprehensive plan entitled “Envision Jefferson 2035” that did not include any heavy manufacturing in the county.<sup>1</sup> The process for developing the comprehensive plan was highly transparent, included significant public input, and represents the will of the community. However, in 2017, the city of Ranson swiftly changed the zoning of the former orchard site to enable Rockwool to build a heavy manufacturing facility on the property. In this action, Ranson not only contradicted the spirit of the county’s comprehensive plan but also failed to provide proper notice of the proposed zoning change. A lawsuit has been filed by a local community group against Ranson for this action.<sup>2</sup> **[EXHIBIT 1]**

Ironically, the location of the proposed Rockwool factory at Jefferson Orchards contradicts the company’s own policy and public commitment regarding site selection. Rockwool’s 2016 annual report states, “When new factories are constructed, these will normally be located in industrial zones or well apart from major residential areas.”<sup>3</sup> Jefferson Orchards was clearly not located in an existing industrial zone, which means risks to nearby schools and residences were not properly considered as part of broader land use planning. The 2016 Rockwool annual report goes on to state, “We also operate open door policies where we engage in dialogue with local stakeholders to define neighbourhood challenges and solutions to environmental issues.” Neither the company nor the West Virginia Department of Environmental Protection held a single public hearing in the community prior to the start of construction. If Rockwool had engaged in dialogue with the community earlier in the process, the concerns of stakeholders would have been known prior to any significant investments by the company.

Ranson city manager Andy Blake seemed aware that community opposition to the Rockwool project would be severe once the environmental and human health impacts of the factory were better understood. He recommended that the company and local officials take steps to avoid public scrutiny: “I think you’re going to have people who are very concerned about the environmental air permit. The more openings there is to discretion, the more opportunities there is for a challenge... There is no place else in the country [besides Ranson] that can do this type of expedited process.”<sup>4</sup> **[EXHIBIT 2]**

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<sup>1</sup> Envision Jefferson 2035 - <http://www.jeffersoncountywv.org/county-government/departments/planning-and-zoning-department/envision-jefferson-2035-comprehensive-plan>

<sup>2</sup> JCV Files Suit Against Ranson - [https://www.journal-news.net/journal-news/jcv-files-suit-against-ranson/article\\_e4c42bdb-ae62-58f8-9211-b708d1b06d2d.html](https://www.journal-news.net/journal-news/jcv-files-suit-against-ranson/article_e4c42bdb-ae62-58f8-9211-b708d1b06d2d.html)

<sup>3</sup> Rockwool 2015 Annual Report (Page 45) - <https://studylib.net/doc/18424897/annual-report-2015---rockwool-international-a-s>

<sup>4</sup> Audio clip of Ranson City Planning Commission meeting (July 10, 2017) - <https://www.youtube.com/watch?v=LUySTVqPwR4>

Prior to the rezoning, Ranson had previously indicated that the orchard would be used as the location for a sustainable transit-oriented development with proposed residential and commercial facilities surrounding a newly imagined commuter rail station.<sup>5</sup> The city received more than \$1 million in planning grants and assistance from three federal agencies to integrate affordable housing, economic development, and transportation to build a livable community. Ranson was one of only two cities, of 1,700 who applied, to receive all three federal grants: Department of Transportation, Environmental Protection Agency, and Housing and Urban Development. Instead, in conflict with these previous commitments and public sector commitments, Rockwool has received a Land Use Restriction Agreement, which means that nearly all other types of development—such as houses, medical facilities, and places of worship—are now prohibited on properties adjacent to the proposed mineral wool factory.

**[EXHIBIT 3]**

Rockwool was fully aware of these circumstances when choosing its site location and thus bears responsibility for taking advantage of any improprieties that occurred in the zoning process. As mentioned above, the company held no public meetings before finalizing its plans for the factory, denying opportunities for stakeholder and local residents' views to be taken into account. The lack of transparency surrounding the project appears to be intentional and designed to avoid established public process.

Furthermore, Rockwool was negotiating with West Virginia Commerce Secretary Woody Thrasher regarding economic development incentives to locate the factory in Jefferson County. Subsequently, Secretary Thrasher's firm, Thrasher Engineering, was selected to perform the engineering and design work for the Rockwool project. **[EXHIBIT 4]** Rockwool has clearly engaged in business deals with the public official who was most responsible for their recruitment to the state.

Since the public has become more aware of the impacts of the Rockwool factory, numerous municipalities in the local area have adopted official statements or resolutions opposing the project. This includes Charles Town, WV; Harpers Ferry, WV; Shepherdstown, WV; Brunswick, MD; Keedysville, MD; Sharpsburg, MD; Hamilton, VA; Hillsboro, VA; Middleburg, VA; and Round Hill, VA. **[EXHIBIT 5]** More than 12,000 individuals have signed a petition asking Rockwool to halt construction.<sup>6</sup> Additionally, elections were held in November 2018, which resulted in five out of six local candidates opposing the Rockwool project being elected to office in Jefferson County. Public sentiment on the matter is clear, and the community's right to self-determination is at stake.

Nonetheless, Rockwool has continued to seek out secretive deals with the state of West Virginia to gain financial support. Using Freedom of Information Act requests to surface the information, civil-society organizations recently discovered that Rockwool participated in a state agency proceeding to authorize the issuance of \$150 million in state bonds to benefit Rockwool as well as significant tax relief, an action that was deliberately kept from public view and is in contravention of the wishes of the community.<sup>7</sup>

**[EXHIBIT 6]**

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<sup>5</sup> Northport Station Feasibility Study - <https://www.cityofransonwv.net/396/Northport-Station>

<sup>6</sup> Citizen Petition - <https://www.toxicrockwool.com/ctas/jefferson-county-wv/petition?page=604>

<sup>7</sup> Letter from Jefferson County Foundation - <https://www.documentcloud.org/documents/6466598-Rockwool-letter-to-Justice-from-JCF-JCV.html>. Media coverage - [https://www.wvgazetteemail.com/news/jefferson-residents-thought-losing-pilot-might-end-rockwool-then-the/article\\_b0848fe1-83bd-5d51-a878-332aa790e954.html](https://www.wvgazetteemail.com/news/jefferson-residents-thought-losing-pilot-might-end-rockwool-then-the/article_b0848fe1-83bd-5d51-a878-332aa790e954.html)



In addition, Rockwool has taken advantage of shortcomings in the implementation of environmental laws and regulations in West Virginia to site its factory in a manner that inappropriately and unnecessarily threatens vulnerable people and the environment.

#### AIR QUALITY

In November 2017, Rockwool submitted an air quality permit application to the West Virginia Department of Environmental Protection for construction of a mineral wool insulation factory in Jefferson County, West Virginia. The permit application indicates that the plant would be a significant source of air pollution, including 471 tons per year of volatile organic compounds; 239 tons per year of nitrogen dioxides, the building blocks of ozone; and 154 tons per year of particulate matter. **[EXHIBIT 7]** According to EPA's Toxic Release Inventory, Rockwool's only other U.S. factory – based in Byhalia, Mississippi – ranks as the *eighth most polluting facility out of 2,138 nationwide* in the nonmetallic mineral product category.

Rockwool has stated the factory will be state-of-the-art using “best available control technologies.” However, the company plans to use an outdated gas and coal fired melt rather than an electric arc melt furnace, which is being proposed for its new factory in Soissons, France. **[EXHIBIT 8]**

The company has proposed to build two 210-foot smokestacks in order to use wind currents to dilute and distribute the pollutants off-site. However, Jefferson County is situated in the northern Shenandoah Valley, and its topography produces long periods of calm wind conditions. The U.S. Environmental Protection Agency's (EPA) air dispersion model, AERMOD, that was used for approving Rockwool's permit is insufficient in that it pools hourly data into average annual events to arrive at average annual emission levels. Details such as extended periods of calm air are masked by the pooling protocol required by the AERMOD model. **[EXHIBIT 9]**

From 2008 to 2017, thirty percent of the year had wind speeds less than 3 knots (3.45 mph) which the National Weather Service classifies as “calm,” meaning there is no detectable wind motion by the instrumentation. The still air provides ample time for particulates to settle to the ground in very close proximity to the site since the Rockwool plant is proposing to operate 24-hours per day. Under these conditions, the nearby schools, businesses and residences will experience numerous episodes of fallout of the particulate matter ranging from an average of 5 hours to an extreme of 15-20 hours throughout the year. Temperature inversions are also common in Jefferson County, which means that cooler air is trapped below a layer of warm air, a meteorological phenomenon that also traps pollutants near the ground and prevents dispersion. There was no consideration given to the frequency or impact of temperature inversions in the models or results.

In addition, there are major inconsistencies between the data sets that Rockwool submitted within their air quality permit application and the data sets that were used by the West Virginia Department of Environmental Protection during the review process. Independent scientists have been unable to replicate the findings.

These air quality concerns are exacerbated by the fact that Rockwool's proposed factory will operate within 2,500 feet of an existing elementary school and within a two-mile radius of three other schools and two daycare centers, representing thirty percent of Jefferson County's school children. In October 2018, the West Virginia chapter of the American Academy of Pediatrics and the Mid-Atlantic Center for

Children's Health & the Environment released letters opposing the location of the factory due to concerns related to asthma, cystic fibrosis and cardiovascular risks in children. [EXHIBIT 10]

The location of the factory also runs contrary to guidance provided by the World Health Organization on school siting, which states, "Do not build schools within two miles of facilities that release toxic chemicals into the air or land."<sup>8</sup> Ironically, West Virginia law prohibits constructing schools near "odoriferous plants or industries;" however, there is apparently no rule prohibiting such factories being built next to an existing school.<sup>9</sup> In August 2018, the Jefferson County Board of Education asked Rockwool to halt construction on the factory until an independent human health risk assessment can be conducted.<sup>10</sup> [EXHIBIT 11] The company refused the request, and to this day, no such study has taken place. Rockwool has always been fully aware of the proximity of the existing schools and yet still decided the location was suitable for a factory.

West Virginia University Clinical Associate Professor Dr. Michael McCawley is one of the foremost air quality experts in the state of West Virginia, and he outlined his concerns with the proposed Rockwool factory during an interview with the Martinsburg Journal in August 2018:

*"In toxicology we are fully aware that it is the dose that truly makes the poison. In this case we do not know the dose yet," McCawley said. "Therefore, we cannot say with any certainty what the level of alarm should be." The exact health effects of these emissions cannot be determined without knowledge about the interaction between the emissions, weather and terrain, which according to McCawley, highlights an issue with the Air Quality Permit process. "The air permit does a poor job of answering the issue," he said. "So there is no wonder that citizens are in an uproar."*<sup>11</sup> [EXHIBIT 12]

If Rockwool intends to build a factory that is not only located outside a traditional industrial zone but also across the street from a school, the company should at least be obligated to utilize manufacturing technologies that minimize air quality risks at all reasonable cost. The cleaner electric arc melt furnace as proposed at their new facility in Soissons, France, or equivalent protections, should be the minimum acceptable option for the Ranson plant. Ideally, the company should withdraw from the location.

## WATER QUALITY

Water quality threats from the Rockwool factory are real and very serious, and the process used to locate and permit the Rockwool factory failed to adequately identify and mitigate such threats.

The Rockwool factory will include a number of above ground lagoons to hold stormwater runoff and waste materials from the mineral wool manufacturing process. Rockwool's documents refer to these as "rainwater collection ponds, reuse ponds, bioretention ponds, and basins." It is our best estimate that

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<sup>8</sup> The Physical School Environment: An Essential Component of a Health-Promoting School (page 30) - [https://www.who.int/school\\_youth\\_health/media/en/physical\\_sch\\_environment.pdf](https://www.who.int/school_youth_health/media/en/physical_sch_environment.pdf)

<sup>9</sup> West Virginia Department of Education Handbook on Planning School Facilities (page 18) - <https://apps.sos.wv.gov/adlaw/csr/readfile.aspx?DocId=51042&Format=WORD>

<sup>10</sup> Board of Education asks Rockwool to halt construction - [https://www.journal-news.net/news/local-news/jcs-boe-asks-rockwool-to-halt-construction/article\\_68fa7f70-46a3-55f7-9a5d-a559d6266d69.html](https://www.journal-news.net/news/local-news/jcs-boe-asks-rockwool-to-halt-construction/article_68fa7f70-46a3-55f7-9a5d-a559d6266d69.html)

<sup>11</sup> Expert weighs in on potential effects of Rockwool facility - [https://www.journal-news.net/news/local-news/expert-weighs-in-on-potential-effects-of-rockwool-facility/article\\_c91b97de-a5ac-530f-9a00-8e8e0a9340c3.html](https://www.journal-news.net/news/local-news/expert-weighs-in-on-potential-effects-of-rockwool-facility/article_c91b97de-a5ac-530f-9a00-8e8e0a9340c3.html)

the lagoons range from 5,000 to 72,000 square feet. The number of lagoons, areas and volume of liquids stored within them needs to be confirmed by Rockwool.

Of great concern to the health and safety of the local community is the possibility that sinkholes on the site will convey toxic waste materials into the groundwater. A spill, leaking sewer line or rupture of the lining of the above ground lagoons could allow contaminated materials to enter groundwater, where they would move quickly, contaminate water supplies, and be nearly impossible to fully remove.

Water for 80% of the Jefferson County residents, businesses and farms comes from private wells. Jefferson County geology consists primarily of karst (limestone) and includes large numbers of sinkholes. Karst is very susceptible to sinkhole formation, and sinkholes have direct connections to the groundwater which flows rapidly in karst. Additionally, Jefferson County lacks a thick 'overburden', a layer of porous stone, sand, gravel, or soil that is on top of bedrock. In other geographic areas, aquifers have more natural protections because water percolates slowly through overburden and permeable rock. No filter plus rapid access means easy contamination.

According to maps by D.H. and K. Doctor in "Carbonates and Evaporates," June 2012, Vol 27, Issue 2, the highest concentration of sinkholes in Jefferson County is located adjacent to the proposed Rockwool site and the factory site is located near the headwaters of a number of County streams. **[EXHIBIT 13]** A 1991 study by the United States Geological Survey used dye tracer tests to determine rates and directions of ground water flow within the karst aquifer near Jefferson Orchards. Dye was injected into a well in Bardane in the Elk Run watershed, and within less than two weeks the dye was also found in Rocky Marsh Spring, which feeds Rocky Marsh Run, almost 8 miles away. The dye also found its way to other springs in the county. The dye moved rapidly underground over a large landscape and took 25 weeks to clear from all locations. The study reported movement of up to 840 feet per day. Again, this indicates just how quickly contaminants could move through groundwater in Jefferson County. Furthermore, since the injection point for the dye in this study happened to be very close to the location of the current Rockwool factory site, these results are particularly relevant and alarming.

In September 2018, Rockwool was visited by inspectors for the WVDEP and cited for six violations of its stormwater discharge permit (a federal permit program), primarily for failing to report sinkholes on the construction site. **[EXHIBIT 14]** According to recent permit applications of June 22 and July 22, 2019 by Rockwool to the WVDEP, a total of at least 17 sinkholes have formed on Rockwool's property. The new sinkholes include five in the Rainwater Reuse Pond, one in the Sediment Basin #1 and one in the Grass Swale #1. Although DEP has approved a sinkhole repair plan for Rockwool, it seems reckless and needlessly risky to continue to utilize retention ponds, or to hold such large quantities of toxic materials, in a geologic setting where sinkholes are so prevalent.

Rockwool also has the potential to harm stream water quality through its sewage discharge. Rockwool has an agreement with the Charles Town Utility Board (CTUB) to discharge into the Charles Town Waste Water Treatment Plant, which then discharges into Evitts Run and the Shenandoah River. In March of this year, the WVDEP granted CTUB the authorization to accept 14,900 gallons per day of domestic wastewater from Rockwool into its system, modifying its National Pollutant Discharge Elimination Permit. This does not indicate that Rockwool's sewage will be safe, because Rockwool has itself indicated that it intends to discharge at least three times this much. In correspondence with CTUB on January 24 and February 5, 2019, Rockwool explained their capacity needs are actually 46,800 gallons per day.

Rockwool asserts that it will only discharge wastes from its reverse osmosis and water softening processes. From this, we know Rockwool's waste stream includes a high amount of chlorides, which is problematic. Chlorides and associated salinity have been shown in several published studies to harm the ability of wastewater treatment facilities to remove nutrients, and once chlorides are in a wastewater system they cannot be filtered or removed by conventional means. Salts also harm streams and aquatic life; a body of recent research has coined the term "freshwater salinization syndrome."

Rockwool has never disclosed the full suite of pollutants in its waste stream to the public. It is understandable that Rockwool cannot sample wastewater from a manufacturing plant that does not yet exist; however, that does not mean that Rockwool cannot provide information regarding its anticipated discharges. In addition to obtaining information from the treatment unit manufacturers, the company operates similar facilities in Mississippi, Ontario, and British Columbia. Information from the wastewater discharges at these facilities can help inform DEP and the public of what will be discharged to the Charles Town Waste Water Treatment Plant, and subsequently, to Evitts Run and the Shenandoah River. To the extent that the discharges from these plants will be different from the planned Jefferson County plant, it is incumbent upon Rockwool to explain what these differences are and how they affect the expected pollutant makeup of the Jefferson County plant's discharges.

This refusal to fully disclose its pollutant profile and sewage use, along with the fact that it is operating in an area of known sinkhole risk yet failed to prepare for this or to report sinkholes to the WVDEP, demonstrates that Rockwool is posing unacceptable risks to the community's surface water and drinking water supplies.

### **Documentation**

Please see the following Exhibits that support our complaint:

EXHIBIT 1: Heath, Mary Ann. "JCV Files Suit against Ranson." *The Journal*, 15 Dec. 2018.

EXHIBIT 2: Ranson City Council Notes

EXHIBIT 3: Land Use Restrictions

EXHIBIT 4: Thrasher Rockwool Connections

EXHIBIT 5: Groups Opposing Rockwool-Ranson

EXHIBIT 6: Mishkin, Kate. "Jefferson Residents Thought Losing a County Agreement Might End Rockwool. Then the State Offered a \$150 Million Deal." *Charleston Gazette-Mail*, 10 Oct. 2019.

EXHIBIT 7: Air Permit

EXHIBIT 8: Rockwool in France

EXHIBIT 9: Air Permit Flawed Modeling

EXHIBIT 10: Pediatric Health Concerns

EXHIBIT 11: Cottrill, Clarissa. "JCS BOE Asks Rockwool to Halt Construction." *The Journal*, 28 Aug. 2018.

EXHIBIT 12: Cottrill, Clarissa and Kelly, Josh. "Expert Weighs in on Potential Effects of Rockwool Facility." *The Journal*, 18 Aug. 2018.

EXHIBIT 13: Karst Documents

EXHIBIT 14: Sinkhole Violations Rockwool

EXHIBIT 15: 8 Aug. 2018 Shepherdstown Meeting

## Supplementary Information

### **What is your interest in this case?**

WVSD represents residents of Jefferson County, the area which will be affected the greatest by the proposed Rockwool factory.

### **What is of particular importance to you?**

As outlined above, the construction of Rockwool's factory in the proposed location will create significant risks to human health and the environment in Jefferson County and beyond due to air and water quality impacts. In addition, the process by which the company arrived in Jefferson County was designed to evade public input and was plagued with political improprieties and conflicts of interest.

### **How would you describe your organization's mandate to represent the offended in this case?**

WVSD and the co-signers on this complaint represent a diverse cross-section of community and governmental leaders from Jefferson County, West Virginia and the surrounding region where the Rockwool factory is currently under construction.

### **Which provisions in the OECD Guidelines have in your opinion been broken?**

Chapter II – General Policies – several of the general policies

Chapter IV – Human Rights

Chapter VI – Environment

### **What do you wish to obtain with this complaint?**

We ask that Rockwool immediately stop construction of its Ranson factory and return the site to as close to its original condition as practical.

If Rockwool refuses to do this, we request that Rockwool stop construction of the factory until the following remedies are agreed to and implemented:

1. Conduct a Human Health Risk Analysis, to be performed by an agreed upon independent third party, to determine the health risks the proposed factory poses to local residents, particularly children in the nearby schools.
2. Conduct an Environmental Impact Statement, to be performed by an agreed upon independent third party, to evaluate the potential environmental damage from the factory.

3. Reapply for an air quality permit with the West Virginia Department of Environmental Protection using complete and accurate data sources.
4. Install and operate the latest electric arc melt furnace and air pollution control technologies that are equivalent to the technologies being proposed for the company's newest factory in Soissons, France.
5. Use renewable energy sources or credits from the electric grid.
6. Install air monitor equipment in locations and in accordance with the requirements of the Jefferson County Board of Education.
7. Install noise control equipment on the factory machinery to achieve mutually acceptable noise levels within and outside the factory.
8. Install a green screen around the factory to attenuate noise from the factory and reduce the impact of noise on local residents.
9. Sources of odors from the factory to be treated to prevent detection from outside the factory property line.
10. Size outside lagoons for historic rainfall amounts. Lagoons to be designed to hold hazardous waste material and for construction on unstable soil conditions. Two layers of liners to be installed in all lagoons. Install monitoring wells to ensure long term groundwater monitoring.
11. Set aside dedicated funds to cover the costs of environmental clean-up from factory spills and accidents and at the end of the operational life of the factory.
12. The formaldehyde binder used in the manufacturing process not to be made on the Ranson site.
13. A second production line or twin factory will not be added to the Ranson factory.
14. Rockwool will commit to adherence with the OECD Guidelines in its interactions and decision-making process with West Virginian and local government officials, community organizations and local residents.

**Have you tried to deal with the problem in other forums? If yes: Please describe where and how. Give a description of any measures that have been initiated because of this. Documents like minutes from meetings or the like.**

We are answering the final two questions in combination as we believe it will be more clear to describe together our overall efforts to address concerns in other forums alongside our direct communications with Rockwool.

As noted in the complaint, the earliest that the residents of Jefferson County could have known about Rockwool was July 2017. However, since all public elected and appointed officials had signed non-disclosure statements, the public was not privy to any substantive information beyond the fact that Rockwool planned to locate a facility in the area. What was not known by the public at that time is that by the end of September of 2017, Rockwool, the state, and the local economic development authority had already signed agreements that provided tax and financial incentives to Rockwool.

When the scope of the proposed Rockwool facility became known in Summer of 2018, civil-society organizations quickly organized and public protests were carried out. The public and many elected officials representing Jefferson County and surrounding areas made their opposition known through demonstrations, as well as public comments at meetings of multiple local town councils, the Jefferson County Commission, the Board of Education and the local economic development authority. In addition, direct communications were made via letter or in person to Rockwool executives in Jefferson County, West Virginia and in Denmark requesting that Rockwool choose an alternate site that didn't create the same high risks as the Ranson site. On September 12, 2018, Rockwool threatened local officials with lawsuits of up to \$100 million if prior commitments to support the company's building on its selected site were broken. <https://morgancountyusa.org/wp-content/uploads/letter.pdf>

These sustained attempts extended to Denmark, as well. Local citizens submitted a resolution to the Rockwool Board of Directors and attended the company's Annual General Meeting in Roskilde, Denmark in April 2019. That same day, several local citizens met for two hours with the CEO of Rockwool, Mr. Jens Birgersson, imploring him to respect the will of the majority of the citizens. Unfortunately, that meeting has not resulted in any changes to the project. The shareholder resolution that was submitted is found at the link below.

[https://cdn01.rockwoolgroup.com/siteassets/investors/agm/documents/en/rockwool-agm-2019\\_complete-proposals.pdf?f=20190306051548](https://cdn01.rockwoolgroup.com/siteassets/investors/agm/documents/en/rockwool-agm-2019_complete-proposals.pdf?f=20190306051548)

There are countless articles and links that detail the events and steps taken to communicate with the company and ultimately to stop the project: <https://www.toxicrockwool.com/posts?page=1&>

Below we provide additional links highlighting items of note:

On August 8, 2018 Rockwool executives and selected state, federal and local officials held a closed meeting to deal with the groundswell of opposition to Rockwool. Representatives of the public or civil-society organizations were not allowed to attend even after they requested to do so. **[EXHIBIT 15]**

In the fall of 2018, the Jefferson County Board of Education asked Rockwool to cease operations until a human health risk assessment was completed. Rockwool refused. Rockwool and the Board of Education entered into an agreement to search for a firm to carry out this assessment. After failing to find a suitable company, the Board of Education informed Rockwool they planned to withdraw from the tax incentive agreement:

[https://p18cdn4static.sharpschool.com/UserFiles/Servers/Server\\_481531/Image/Parents/Public%20Information/HHRA%20Response%20FULL.png](https://p18cdn4static.sharpschool.com/UserFiles/Servers/Server_481531/Image/Parents/Public%20Information/HHRA%20Response%20FULL.png)

In June of 2019, a petition with over 13,000 unique signatures was presented to the Governor of West Virginia requesting his aid in stopping Rockwool. He has never responded.

<https://www.wvpublic.org/post/jefferson-co-group-delivers-petition-calling-gov-justice-halt-rockwool-construction#stream/0>

In July of 2019, two West Virginia State Delegates along with two board members of Jefferson County Vision met with the West Virginia Secretary of Commerce. The purpose of the meeting was to ask the Secretary of the department responsible for recruiting Rockwool to assist Rockwool in leaving or to convince Rockwool to convert to cleaner technology. The deputy executive director of the West Virginia Development Office, Todd Hooker, was directed to take such action by the current Secretary of Commerce, Mr. Gaunch. No further word has been heard from Mr. Hooker's about this request, but in early October it was discovered that on May 2, 2019 the West Virginia Economic Development Agency had already entered into an agreement to issue up to \$150 million in bonds for Rockwool and to provide relief from state and local taxes for 10 years as part of the arrangement.

Time and again Rockwool has insisted we speak to our local politicians. Local citizens have done so, and now many local officials have also voiced their concern. But in West Virginia, a small number of government officials, especially at the state level, have repeatedly worked with the company to undermine the will of the community. We will continue to use democratic processes available to us to urge our state and local government to deliver remedies; however, we also must appeal to the Mediation and Complaints Handling Division to assist us in our attempts to reason with Rockwool.

**Have you been in contact with the company you are complaining about? If yes: Please describe what happened and what the results were. If possible, please provide documentation like minutes or the like.**

Please see the response to the previous question.



# Exhibit 1

[https://www.journal-news.net/journal-news/jcv-files-suit-against-ranson/article\\_e4c42bdb-ae62-58f8-9211-b708d1b06d2d.html](https://www.journal-news.net/journal-news/jcv-files-suit-against-ranson/article_e4c42bdb-ae62-58f8-9211-b708d1b06d2d.html)

## JCV files suit against Ranson

By MARY ANN HEATH [mheath@journal-news.net](mailto:mheath@journal-news.net) Dec 15, 2018



CHARLES TOWN — Jefferson County Vision has filed a lawsuit against the city of Ranson, alleging the city failed to provide adequate public notice when it modified its zoning ordinance and its zoning map to allow for heavy industrial use at Jefferson Orchards.

Jefferson Orchards is the site of Rockwool, a stone wool manufacturing facility currently under construction in Ranson. Jefferson County Vision — a not-for-profit group that opposes the construction of Rockwool — is alleging that Ranson misused “smart zoning” in order to allow for

heavy industry at the Rockwool site, and that it was done without proper notice.

The lawsuit was filed Thursday, according to a press release from Jefferson County Vision.

A zoning change was approved by Ranson City Council in early September of 2017, according a Journal article published shortly after. According to that article, the zoning change was sought by the current owners of the Jefferson Orchards site, the Rolston family.

“The zoning change allows greater industrial use of the orchard site, which was zoned as a mixed residential and commercial use,” a Sept. 6, 2017, Journal article said.

According to a memo and timeline posted by Ranson City Council online, the city was required to follow four steps for land development. These include consistency with a comprehensive plan and appropriate zoning; submission and approval of a land development plan; submission and approval of a site plan with construction/engineering drawings; and submission and approval of a horizontal and vertical building permit.

Pursuant to state and local code, these steps would also require public hearings — a point the city of Ranson noted in its online memo.

“Pursuant to both state code and local code, several of these steps include public hearings — which were advertised and held — and approvals all held in posted open sessions of the Planning Commission and/or City Council,” the memo states.

According to the timeline that accompanies the posted memo, the Planning Commission held a public hearing for a zoning amendment for Jefferson Orchards in March 2012. At that time, Jefferson Orchards was zoned under “smart code new community PC resolution,” according to the

memo.

The change was then forwarded to council for two readings. On the same day — March 26 — the Planning Commission held a public hearing for Jefferson Orchards Land Development Plan and Plat, or LDPP.

According to the city of Ranson's website, the city has requested federal funding for the development and implementation of SmartCode planning, zoning and incentives system to direct growth around the Green Corridor, the downtown brownfields revitalization area and undeveloped areas outside of the urban core.

SmartCode zoning would ensure future development in that region would be traditional neighborhood, mixed-use and green-focused development, according to Ranson's website.

In June 2017, a special district workshop was brought to the Planning Commission for changes.

According to the online memo, on June 19, the city received a "sufficient Jefferson Orchards LDPP and zoning application."

On July 10, 2017, a public hearing was held for "zoning text changes," the memo said.

"(Ranson City Manager) Andy Blake gave the Planning Commission a presentation about Roxul," the memo said. "The presentation included a description of the company, what they do and the products they make. Andy informed the commission that at the next meeting there would be a rezoning packet and a land development plan and plat packet presented."

According to the memo, a first reading of an ordinance amending and re-enacting the official zoning map of the city of Ranson was held on Aug. 15, 2017; a second reading was conducted on Sept. 5, 2017. It appears it was adopted by council on the same day.

According to West Virginia state code, public hearings and meetings with notice must be held in order to receive public input. After a study and report on zoning are completed, and before the governing body enacts a proposed zoning ordinance, the governing body is required to hold at least two public hearings and give public notice, according to state code.

The same code requires that public notice be given in a local newspaper of general circulation in the area affected by the proposed zoning ordinance — at least 14 consecutive days prior to the public hearing. The notices are published as a Class II legal advertisement, according to state code.

The paper of record in Jefferson County is The Spirit of Jefferson. Officials at that paper were unable Friday to confirm whether ads were published in accordance with state code.

According to the release from Jefferson County Vision, zoning changes in the city of Ranson should be declared void because the city failed to give adequate public notice.

“There’s a reason everyone in our community was stunned to learn about Rockwool this summer: the change to heavy industry was never the plan for Jefferson Orchard, and the city of Ranson failed to adequately notify the public, as required by law,” Jefferson County Vision Board Member Amanda Foxx said.

Foxx said in 2012, Ranson spent about \$100,000 in federal taxpayer grants in order to rezone Jefferson Orchard into a sustainable community plan. Jefferson County Vision also alleges that in 2017, Ranson misused smart zoning in order to allow “heavy industry” and that it was done without proper notice.

Calls to Blake were not returned Friday.

# Exhibit 2

July 10<sup>th</sup>, 2017

JCDA Member Presenting to Ranson Planning Commission:  
Change zoning to limit public “challenge” of Rockwool

JCDA Member: “The site plan, which was, submitted on 6/30 for comments... We expect, with this team shortly after, this does not require a public hearing, but we’re expecting at the August meeting to be presenting that to the planning commission as well. So you can review that then. What that does then on this particular project, and what we’re capable doing as a city, is that all of this work can be done with a single public hearing and you can see this through in 3 months. There’s nowhere else in the country that you can do this type of expedited process...”

JCDA Member: “I think frankly by the time this project’s over...I don’t think this room is going to be empty. I think you are gonna have people who are against the natural gas line coming in, and you’re gonna have people that are very concerned about the environmental air permit. The more opening there is to discretion, I think the more opportunity there is for a challenge.

I would like - if we’re gonna do this - what’s the difference between 90 and 120 (feet tall) when it comes down to it, on a district that’s only unto itself? ...we increase that by-right, there’s no discretion anymore. A second plant comes in with a building permit...you check the box and go on with life. Otherwise, frankly they’re gonna be looking at me...(discretion)...and I’m gonna have the public here sayin, well what gives you the...why should you be the one to decide? And frankly, while I’m willing to take that position...why? We’re here doing a customizable SDI thing. They need 120, do 120, it shows a good faith compromise frankly...if we have to go to ‘em and say you know what, we don’t like your fence, it sucks. So we compromised here so you don’t have to go through a discretionary waiver process, but work with us on another topic.”

Later in the Meeting

JCDA Member: “It just seems the more stuff that’s done by-right opens us up to less bickering. I don’t...I really don’t think that this is about use... and I don’t think it’s gonna be Ranson residents that are here. I think it’s going to be...this room is not gonna be empty moving forward.

Ranson Board Member: “I agree with you. It’s just that anytime someone says a deviation or an administrative deviation, the perception is that we made some sort of concession to them when we don’t really have to.”

JCDA Member: “(Since) this code section’s already opened up... Now just really since Thursday when this came out...whether it’s at church or golf course or whatever: What’s the environmental impact? What are they emitting? What are they producing? How high are they gonna be? Is there gonna be black smoke coming out? So, if we can just put an end to that stuff...I would recommend increasing it (building height) by-right”

Later

Ranson Board Member: “Have we received any information on how their other builds were (received) by the public? Did they have any test stories, horror stories, things that a planning commission should look out for?”

JCDA Member : “I did inform them (Rockwool) on Friday, after the announcement came on Thursday...questions that...at the golf course or whatever...we did inform them, we think it's not our job to do it...they need to put out a one-page fact sheet...say here's what we're doing, here's what we did...they need to be engaged so people know what's goin' on. And they emailed back and said we absolutely agree with that, we're working on public education.”

Later

JCDA Member: “Give them what they want, they are a bazillion dollar company and we are just a tiny town.”



# Exhibit 3

[http://www.spiritofjefferson.com/news/local/article\\_d0742fdc-95bb-11e8-be7c-f74f7adbc319.html](http://www.spiritofjefferson.com/news/local/article_d0742fdc-95bb-11e8-be7c-f74f7adbc319.html)

## Rockwool restricted land use next to its Ranson plant

Tim Cook Aug 1, 2018

RANSON — When Rockwool decided last year to purchase 130 rural acres to build its insulation factory at a former orchard site in Ranson, the international Danish company took explicit legal steps to restrict activities around its future factory.

Those restrictions bar future homes, schools and health care facilities from emerging next to or near the company's 460,000-square-foot plant.

According to Jefferson County court records, a July 7, 2017 property purchase agreement between Rockwool and the corporate owner of the orchards property, Jefferson Orchards Inc., imposes specific future land-use restrictions on the Rockwool plant site. That property purchase agreement prohibits any residential development, nursing home, hospice or inpatient medical treatment facility, church or religious center or residential shelter from operating on the 130 acres Rockwool purchased as well as any “certain future lands that [Rockwool] intends to acquire” on the former orchard site.

The agreement also specifically prevents “education facilities dedicated to the education of minors” and child care businesses — among other types of businesses — from operating within 1,000 feet of the boundary line “on the eastern portion of the property.”

Rockwool officials said the legal land-use stipulations in the company's property purchase agreement involve ensuring appropriate zoning and land use around its factory site. The restrictions have nothing to do with any potential hazards at or from the factory's operations, said Leslie McLaren, Rockwool's North American corporate communications manager.

"It is Rockwool's practice to only build our factories on land that is zoned for traditional industrial use," McLaren said. "The land stipulations is all about land zoning use and has nothing to do with emissions. It is about being a good and responsible neighbor."

Ranson's broad and flexible mixed-use Smart Code zoning procedures had allowed for some possible land uses at the orchard site — including residential development and school construction — that would not be compatible on a day-to-day basis next to the Rockwool plant operating 24 hours a day, McLaren said. Surrounding all of Rockwool's factories with other commercial uses ensures the company's plants won't disrupt immediate neighbors with its ongoing industrial activities, whether that might be continual truck traffic, nighttime lighting or regular machinery noise, she said.

"It's a busy industrial manufacturing facility," McLaren said of the Ranson site. "Because we are corporate citizens that we want to be mindful of our neighbors. ... That's why we put it in. It has nothing to with emissions."

— *To read more news about the Rockwool project, please refer to this week's Spirit of Jefferson, on sale now*

# Exhibit 4

**From:** [Andy Blake](#)  
**To:** [Melany Alliston-Brick](#); [Matt Piepenburg](#)  
**Subject:** Fwd: Northport Ave  
**Date:** Wednesday, September 12, 2018 9:41:40 AM  
**Attachments:** [image001.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)  
[image012.png](#)

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**From:** Hooker, Todd E <Todd.E.Hooker@wv.gov>  
**Sent:** Wednesday, September 12, 2018 9:40:48 AM  
**To:** Peter Regenber  
**Cc:** Andy Blake; Cramer, David E  
**Subject:** FW: Northport Ave

Peter,

Good morning. I wanted to follow up on this email so that we can get the road off center.

Thrasher Engineering was working for Rockwool when they had stated that they would design the road. It is my impression that if a public body is asked to pay for the preparation of a bid document, they will need to follow a procurement process for engineering services. This will add a minimum of 30 days to the project. There will also, most likely, need to be a ad for the Request for Engineering proposals as a part of this project.

Thrasher was not employed by a public body at the time that they stated that they would design the road. If a public body is to pay for the service, it will delay progress.

I will ask Andy and Dave Cramer to weigh in on the matter.  
Todd



1900 Kanawha Blvd, E.  
Charleston, WV 25305

### Todd E. Hooker

Deputy Director, Business and Industrial Development

West Virginia Development Office

WEST VIRGINIA DEPARTMENT OF COMMERCE

(304) 558-2234 | [todd.e.hooker@wv.gov](mailto:todd.e.hooker@wv.gov)

[in](#) [twitter](#) [facebook](#) [WestVirginia.gov](http://WestVirginia.gov)

---

**From:** Andy Blake <ABlake@ransonwv.us>  
**Sent:** Wednesday, September 05, 2018 1:43 PM  
**To:** Peter Regenber <peter.regenber@rockwool.com>; Jason C. Pizatella

B014715

<JPizatella@spilmanlaw.com>; Hooker, Todd E <Todd.E.Hooker@wv.gov>; Cramer, David E <David.E.Cramer@wv.gov>

**Cc:** Melany Alliston-Brick <malliston@tooledesign.com>; Edward Erfurt <eerfurt@ransonwv.us>; Tim Stranko <wvcitylaw@labs.net>

**Subject:** FW: Northport Ave

Good afternoon.

As it currently stands, the City of Ranson has an administrative agreement with the WV DOH to bid out and construct the Rockwool road being paid for by the WVDOT so long as the City is provided a biddable engineering package. Our City engineer has informed us that we do not have a biddable package as of yet. Below is a list of items that the City needs for a biddable package. So, to me, there seems to be 2 options to get to a biddable engineering package:

1. Thrasher provides the documents.
2. The City's engineer is hired to complete these documents and the City is reimbursed by DOH as part of pre-construction costs under the approved agreement.

The longer it takes to receive these items, the longer it will take to bid out the road. We will await direction.

Thanks,  
Andy

Andrew P. Blake  
City Manager  
City of Ranson

---

**From:** Melany Alliston-Brick <[malliston@tooledesign.com](mailto:malliston@tooledesign.com)>

**Sent:** Wednesday, September 5, 2018 1:00 PM

**To:** Andy Blake <[ABlake@ransonwv.us](mailto:ABlake@ransonwv.us)>

**Subject:** Northport Ave

Andy,

Here is the summary you requested:

Outstanding items needed from the engineer of record for a biddable package:

- Electrical engineering design of the street lighting
- Special provisions (specifications) for all project elements not covered by the DOH standard specifications, and any elements where the design engineer is proposing changes to the standard measurement and payment sections of the DOH specifications (e.g. changing unit of

B014716

- measure, etc.)
- Right-of-way documentation
- Agency approvals and permits
  - WV DEP erosion and sediment control and stormwater management permit (currently awaiting payment of \$1750 fee before DEP will begin review)
  - Jefferson County approval for drainage and stormwater management facilities on Miller property, or letter from the County stating no approval is necessary

Key elements of the agreement:

- The second recital states that ROXUL and/or its agent (Thrasher) “...shall provide complete design and engineering for the roadway extension and shall obtain the agency approvals...”
- Section I states that they will submit “...plans and related documents including governmental permits and approvals, collectively referred to as the ‘Plans.’”
- Section III lists the codes and standards governing the development of the Plans. These standards include WVDOH’s Design Directives, which delineate requirements for design of street lighting, development of right-of-way documentation, and special provisions (specifications), among other things.
- Section V of the agreement states that the submission to the City and DOH will include the necessary agency permits required for the project.

**Melany Alliston-Brick, P.E.**

Civil Engineering Practice Director, North America

Toole Design Group

8484 Georgia Avenue, Suite 800

Silver Spring, Maryland 20910

[malliston@tooledesign.com](mailto:malliston@tooledesign.com)

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c 571.830.4272

[www.tooledesign.com](http://www.tooledesign.com)

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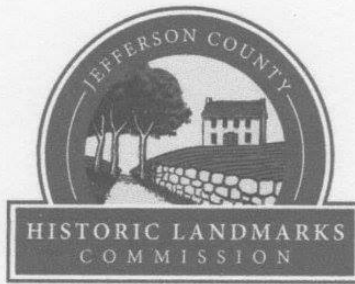
# Exhibit 5



## Citizen Organizations Opposed to Rockwool-Ranson

Listed organizations have issued public opposition statements (representative sample of statements attached)

Concerned Citizens Against Rockwool (10,000+ members)  
Eastern Panhandle Green Coalition  
West Virginians for Sustainable Development  
Resist Rockwool  
Jefferson County Vision  
Jefferson County Farmland Protection Board  
Jefferson County Historic Landmark Commission  
Jefferson County NAACP  
Appalachian Trail Conservancy  
American Academy of Pediatrics, WV Chapter  
Eastern Panhandle Protectors  
Corporation of Charles Town, WV  
Corporation of Shepherdstown, WV  
Corporation of Harpers Ferry, WV  
Loudon Against Rockwool  
Loudon County Board of Supervisors  
Loudon County Equine Alliance  
City of Leesburg, VA  
Town of Lovettsville, VA  
Town of Hamilton, VA  
Town of Hillsboro, VA  
Town of Middleburg, VA  
Town of Round Hill, VA  
Town of Purcellville, VA  
City of Brunswick, MD  
Town of Keedysville, MD  
Town of Sharpsburg, MD  
Mid-Atlantic Center for Children's Health and the Environment  
Ohio Valley Environmental Coalition  
Potomac Valley Audubon Society  
Sierra Club, WV Chapter  
WV Citizens Action Group  
WV Interfaith Power and Light  
Women's March, WV Chapter



**RESOLUTION OF JEFFERSON COUNTY HISTORIC LANDMARKS COMMISSION  
OPPOSING CONSTRUCTION OF THE ROCKWOOL PLANT KEARNEYSVILLE, WV**

DULY ADOPTED ON OCTOBER 10, 2018

WHEREAS, ROCKWOOL INC. plans to build a large industrial manufacturing plant on the former Jefferson Orchard Property off Old Route 9;

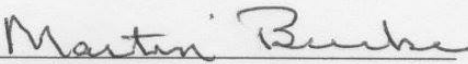
WHEREAS, ROCKWOOL'S plant will have two smoke stacks approximately 213 feet high;

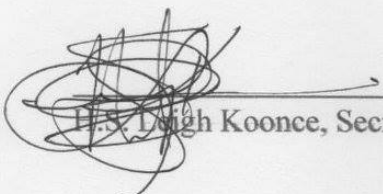
WHEREAS, ROCKWOOL is in proximity to one National Historic Landmark and twenty-four structures listed or eligible for the National Register of Historic Places;

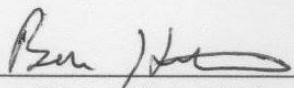
WHEREAS, ROCKWOOL'S plant will adversely effect the view shed and rural landscapes of Jefferson County;

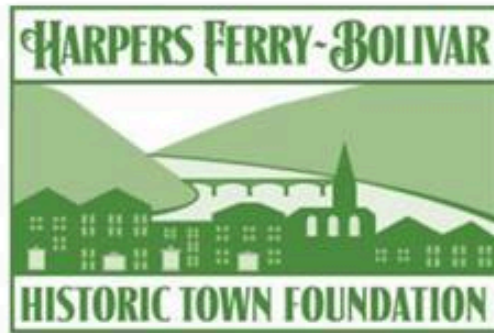
RESOLVED, that the JEFFERSON COUNTY HISTORIC LANDMARKS COMMISSION formally and vehemently oppose the construction of the ROCKWOOL plant.

---

  
Martin Burke, Chair

  
H.S. Leigh Koonce, Secretary

  
Ben Horter, Commissioner



September 13, 2018

The Harpers Ferry-Bolivar Historic Town Foundation's mission is to preserve historic resources and promote our community. We envision Harpers Ferry and Bolivar as one vibrant community with an engaged citizenry, 19<sup>th</sup> century character, and 21<sup>st</sup> century service, preserving each town's rich heritage and robust economy. Our core values include valuing the historic and natural resources of Harpers Ferry and Bolivar and recognizing that these resources need to be protected and preserved. The scenic beauty of our region along with the outdoor recreation opportunities it offers is key to ensuring this area remains vibrant and successful for our residents and visitors alike.

The proposed Rockwool facility, located in nearby Ranson, WV has raised many serious concerns among members of the Foundation's Board. The 21-story smokestacks will be emitting 470 tons of Volatile Organic Compounds and 239 tons of nitrogen oxides per year. In addition, the 460,000+ square foot facility, with twenty-four/seven operations, will create increased noise, light pollution and traffic, including staging for 100+ tractor trailers per day. In addition to health and environmental concerns, there is also the possibility of contamination to our primary water source, the Elks Run Watershed.

The Foundation understands that our area's continued popularity and attraction for visitors is dependent on our preserving our historic and environmental resources. We also join our neighbors in demanding a safe and healthy community. A factory of this size and with the potential for significant negative impact to our air, water and viewsheds, is of great concern.

Because of this, the Foundation supports the immediate stop to all work currently underway at the Rockwool site. It is imperative that further evaluation as to the impacts from the factory be undertaken. In addition, the Foundation is unlikely to support any economic development plans for our county in the future that include heavy industrial manufacturing similar in scope and size to the Rockwool facility.

PO Box 1427 ★ Harpers Ferry, WV 25425

[www.historicharpersferry.org](http://www.historicharpersferry.org)



# City of Charles Town

101 East Washington Street, P.O. Box 14, Charles Town, WV 25414  
Phone: (304) 725-2311 ♦ Web: [www.charlestownwv.us](http://www.charlestownwv.us)

## RESOLUTION

### Charles Town City Council Statement Regarding the Proposed Rockwool Facility

**WHEREAS**, the City of Charles Town Council enacted a Zoning Ordinance, Zoning Map and Subdivision and Land Development Ordinance in 2012 that eliminated previously permitted industrial uses in the City of Charles Town; and

**WHEREAS**, in 2018 the City of Charles Town Council adopted the Historically Hip 2040 Comprehensive Plan with significant public input and in which heavy industrial development in the City was not envisioned or desired; and

**WHEREAS**, the Jefferson County Commission and the elected bodies of four of Jefferson Counties' five municipalities, including the City of Charles Town, have expressed agreement that heavy industry is not acceptable or desired within their comprehensive or master plans; and

**WHEREAS**, the City of Charles Town Council believes that this proposed heavy industrial facility will negatively impact the County's tourism industry, agricultural production and the ability to attract new residents and sustainable businesses to Jefferson County and Charles Town; and

**WHEREAS**, the City of Charles Town operates a municipal public utility chartered by the State of West Virginia; and

**WHEREAS**, regardless of any future action the City of Charles Town may take related to sewer access or the financing of the construction of any sewer infrastructure to the proposed Rockwool site.

**NOW THEREFORE BE IT RESOLVED**, the City of Charles Town Council believes the Rockwool facility should be located in an area in which the majority of residents expressed, through the narratives of their comprehensive or master plans, the desire for and acceptance of heavy industry.

Adopted the 22<sup>nd</sup> day of January, 2019.

  
\_\_\_\_\_  
Scott Rogers  
Mayor

Attest:

  
\_\_\_\_\_  
Daryl Hennessy  
City Manager/Clerk



## **CORPORATION OF SHEPHERDSTOWN**

104 NORTH KING STREET  
P.O. Box 248  
SHEPHERDSTOWN, WEST VIRGINIA 25443-0248  
TEL: (304) 876-2312  
FAX: (304) 876-1473

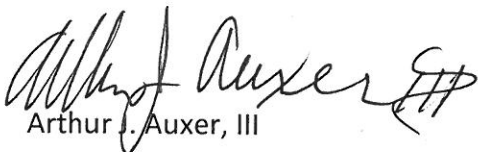
September 12, 2018

A position letter on the proposed Rockwool Plant to be constructed in Jefferson County, West Virginia

The Corporation of Shepherdstown is known for its commitment to protecting the environment. Therefore, after hearing the concerns from its residents and greater community members, the Corporation of Shepherdstown expresses its strong opposition to the Rockwool Plant that has been proposed to be built in Jefferson County. Heavy industry and all that it brings are in direct conflict with our vision, principles and comprehensive plan.

The Shepherdstown Community believes the Rockwool Plant is a present threat to the health, safety and welfare of our citizens, natural resources, and wildlife.

Finally, the Shepherdstown Community is committed to educating the public on the potential threat of the Rockwool Plant to our natural resources, air quality and public health. The Shepherdstown Town Council votes to support our community and Eastern Panhandle neighbors in opposing the Rockwool Plant.



Arthur J. Auxer, III

Mayor





# Corporation of Harpers Ferry

1000 WASHINGTON STREET • P.O. BOX 217

**Harpers Ferry, West Virginia 25425**

304-535-2206 • FAX 304-535-6520

**Wayne Bishop**

MAYOR

RECORDER  
KEVIN CARDEN

TOWN CLERK  
NANCY CUMMINS

BOOKKEEPER  
DEBBI KELLY

## COUNCIL MEMBERS

BARBARA HUMES  
HARDWICK S. JOHNSON, JR.  
CHARLOTTE THOMPSON  
ED WHEELLESS  
MIDGE FLINN YOST

## **Corporation of Harpers Ferry's Position and Action Concerning the Proposed Rockwool Major Stationary Source of Hazardous Air Pollution**

The Corporation of Harpers Ferry is strongly opposed to the Rockwool plant that has been proposed for Jefferson County. Heavy industry, and this plant in particular, are in direct conflict with both our comprehensive plan and our vision.

We believe the Rockwool plant is a present threat to the health, safety, and welfare of our citizens and natural resources. We are prepared to take necessary steps against Rockwool, in order to protect our people and our natural resources, to the fullest extent of the law.

Further, we instruct the Harpers Ferry representative to the JCDA, Karan Townsend, to represent the will of our citizens and elected officials by opposing any proposed bonds that would support infrastructure to the proposed Rockwool site, including an upcoming third reading and vote on the same.

Finally, we are taking action to educate all of our citizens and neighbors on the Rockwool threat. We support the citizens who are opposing this project, and

**Historic District**  
**Where The Shenandoah Meets The Potomac**

encourage our neighboring municipalities to join us in keeping heavy industry and Rockwool in particular out of Jefferson County.

Signed:

Mayor Wayne Bishop

Kevin Carden, Recorder

Town Council Members: Barbara Humes

Hardwick Johnson

Ed Wheelless

Charlotte Thompson

Midge Flinn Yost



# Loudoun County Equine Alliance

Serving The Loudoun County Equine Community

September, 2018

The Loudoun County Equine Alliance (LCEA) shares your concerns about the construction of the Rockwool manufacturing facility in Ranson, WV. We thank you for requesting that our county take a closer look at this project and examine options for action. We are working within the Loudoun equine industry to obtain more information on the potential effects here.

Our concerns are:

- **Air quality for horses and riders, especially those performing at highly aerobic** activities such as those in training for competition for various horse sports, as many horses in Loudoun County are. We are making inquiries among our equine veterinary community, including veterinarians at the Marion duPont Scott Equine Medical Center, to gather specific data on this subject.
- **The subsequent effects on Loudoun's equine industry if detrimental effects from the plant are established or even perceived by the public.** These could include loss of horse population, reduction of attendance at competitions, reduced value of horse properties, and the subsequent harm to businesses that support the equine industry, such as hay producers, feed suppliers, veterinarians and equine hospitals. The equine industry in Loudoun has been shown to have an annual economic impact of \$181 million per year.
- **The spillover effects on Loudoun's equine industry of the plant's harmful effects on the Thoroughbred racing industry** in our area. The racetrack at Charles Town has been calculated to have an annual economic impact of over \$191 million in Jefferson County (WV) alone, and is the only Thoroughbred racetrack in the region. (There are currently no operating Thoroughbred racetracks in Virginia.)
- **The negative impact the Rockwool plant could have on all sectors of Loudoun's rural economy** (vineyards, B & Bs, agricultural producers, etc.) which are all dependent on beautiful vistas, clean air, excellent growing conditions, etc., and are interdependent on each other.
- **The potential for this Rockwool installation to become the first of many heavy industrial uses** in an area within close proximity to our precious rural countryside.

Again, we appreciate and support your efforts to examine the issue of Rockwool's potential impact on our county.

Sincerely,

Kelly Foltman, DVM, LCEA President

Michelle King, LCEA Vice President

Marion Lee, LCEA Secretary

Stephanie Jennings, LCEA Treasurer

Louise Cotulla, LCEA Board Member

Emily Houston, LCEA Board Member

Christie Kimberlin, LCEA Board Member

Tori Sullivan, LCEA Board Member

Janet Vandervaart, LCEA Board Member



The Town of  
**Leesburg,  
Virginia**

PRESENTED: December 11, 2018

RESOLUTION NO. 2018-158

ADOPTED: December 11, 2018

A RESOLUTION: AUTHORIZING THE MAYOR TO SEND A LETTER OF SUPPORT FOR LOUDOUN AGAINST ROCKWOOL

WHEREAS, in April 2018, the State of West Virginia issued a permit allowing the release of 392 tons of potentially hazardous air pollution per year to the Rockwool Corporation for a proposed mineral wool manufacturing plant to be located in the City of Ranson, Jefferson County, West Virginia; and


WHEREAS, the proposed Rockwool plant site is located just ten miles from Loudoun County; and

WHEREAS, residents of Jefferson County, West Virginia, and Loudoun County, Virginia have organized to appeal for reconsideration of the Rockwool air permit, citing air pollution concerns; and

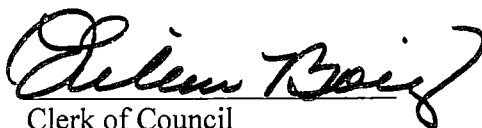
WHEREAS, representatives from Loudoun Against Rockwool made a presentation to the Leesburg Town Council on November 13, 2018, and requested that the Council send a letter in support of their request to halt the construction of the plant until a comprehensive study of the environmental impacts to Virginia is completed.

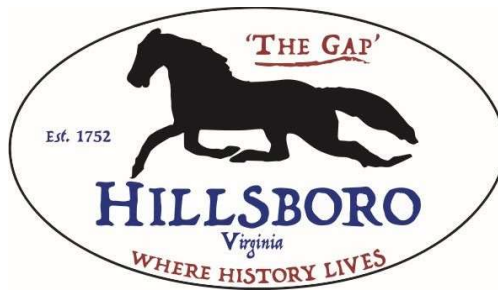
THEREFORE, RESOLVED, by the Council of the Town of Leesburg in Virginia, the Mayor is authorized to send a letter in support of Loudoun Against Rockwool.

PASSED this 11<sup>th</sup> day of December, 2018.

  
Kelly Burk, Mayor  
Town of Leesburg

ATTEST:

  
Clerk of Council



**Resolution 2018-10-004:**

**REQUESTING VIRGINIA COMMONWEALTH AND LOUDOUN COUNTY  
AUTHORITIES AND STATE AND FEDERAL LEGISLATORS USE ANY AND ALL  
LEGAL POWERS TO HALT CONSTRUCTION OF THE ROCKWOOL FACILITY IN  
JEFFERSON COUNTY, WEST VIRGINIA, PERMITTED TO EMIT 392 TONS OF  
HAZARDOUS POLLUTION ANNUALLY INTO THE AIR RESIDENTS OF THE TOWN  
OF HILLSBORO AND LOUDOUN COUNTY MUST BREATHE**

**MOTION: Moskal**

**SECOND: Oxman**

**WHEREAS**, the historic Town of Hillsboro and nationally recognized Hillsboro Historic District is situated in the gap of the Short Hill Mountains in the rural Northwest quadrant of Loudoun County, surrounded by mountain side forests and historic and productive farmlands, recreational and scenic attractions, and

**WHEREAS**, the Town of Hillsboro has been at the forefront in the efforts to preserve the Greater Hillsboro historic assets, conserve and support the area farmlands and rural essence, and protect the environmental quality of the area, and the revitalization of the area's economy that is based on agricultural production, agro-tourism and recreational-based tourism, and

**WHEREAS**, in the past 15 years the Greater Hillsboro area has seen the establishment of more than a dozen vineyards and wineries, farm breweries, numerous small specialty farming operations and a continuation of centuries-old traditional farming and livestock operations, all dependent on clean air and water, and

**WHEREAS**, the Greater Hillsboro area has seen a significant growth of tourism and the expansion of leisure travel accommodations to encompass the largest concentration of bed & breakfast inns in Loudoun County, hosting thousands of visitors seeking to enjoy the rural surroundings and recreational activities as well as the mountain vistas and clean air, and

**WHEREAS**, the northwest quadrant of Loudoun County is culturally and economically dependent upon an environment free from excessive air and water pollution that would harm its citizens' health, degrade its agricultural products, inhibit and discourage tourism and devalue its citizens' quality of life and property values, and

**WHEREAS**, the Town of Hillsboro is situated within five miles of the West Virginia border and within 10 miles of the city of Ranson, West Virginia, and the Greater Hillsboro area fully abuts and shares a 17-mile border with Jefferson County, West Virginia, and

**WHEREAS**, the prevailing winds reaching the northwest quadrant of Loudoun County bring with it air and any pollution contained therein directly from Jefferson County, West Virginia, impacting the people, water, livestock and plants in Loudoun County, and

**WHEREAS**, the State of West Virginia has granted the Rockwool corporation a permit for the release of 392 tons per year of hazardous air pollution, to be emitted from a proposed manufacturing plant in the Town of Ranson, West Virginia, approximately 10 miles from the Town of Hillsboro, and

**WHEREAS**, currently the measured hazardous air pollution emitted in Jefferson County, West Virginia and Loudoun County, Virginia is negligible, and

**WHEREAS**, the 392 tons per year of hazardous air pollution to be permitted by the State of West Virginia will be most concentrated and have the most direct and detrimental impact on the health of the Virginian citizens of the Town of Hillsboro and Loudoun, its agricultural products, its businesses and its natural attributes so dependent on clean air and water, and

**WHEREAS**, the State of West Virginia, the County of Jefferson, West Virginia, and the Town of Ranson, West Virginia, have provided financial assistance and forgivable loans to the Rockwool corporation to encourage the establishment of this facility in close proximity to the Town of Hillsboro and Loudoun County, Virginia, and

**WHEREAS**, thousands of residents of Jefferson County, West Virginia, and Loudoun County, Virginia, have organized to appeal for reconsideration of the permit for the release of 392 tons per year of hazardous air pollution from the Rockwool facility and,

**WHEREAS**, the health of the citizens and economy of the Town of Hillsboro and Loudoun County will be directly imperiled by the action of emitting 392 tons of hazardous air pollution annually into the air that the residents of and visitors to the Town of Hillsboro and Loudoun County must breathe, and

**WHEREAS**, it is the duty and obligation of the elected and appointed officials of the Town of Hillsboro, Loudoun County and Commonwealth of Virginia to exercise any and all powers to protect the life, health and wellbeing of their citizens,

**NOW, THEREFORE, BE IT RESOLVED** by the Hillsboro Town Council that the Town of Hillsboro requests the Governor and Attorney General of the Commonwealth of Virginia, the Loudoun County Board of Supervisors and the Town of Hillsboro's state and Federal legislative representatives take any and all legal action to immediately bring to a halt the construction of the Rockwool facility until a more comprehensive study of the impact on Virginia has been completed, including a designated geographic impact zone for air quality, drinking and ground water sources, and

**BE IT FURTHER RESOLVED**, if in the event the facility becomes operational, a monitoring plan including baseline and recurring air quality sampling be implemented and all costs of study and monitoring are borne by Jefferson County or the State of West Virginia.

**VOTE:**

**AYES:** Vance, Moskal, Marasco, Oxman, Forbes

**NAYS:** None

**ABSTENTIONS:** None

**ABSENT FOR VOTE:** Johnston

**APPROVED** October 29, 2018

  
\_\_\_\_\_  
**ROGER L. VANCE, MAYOR**

**ATTEST:** \_\_\_\_\_

  
**CLAUDIA FORBES, ACTING RECORDER**

**TOWN OF HAMILTON  
LOUDOUN COUNTY, VIRGINIA**

**RESOLUTION:** 2018-17    **PRESENTED:** December 10, 2018    **ADOPTED:** December 10, 2018

**A RESOLUTION:** REQUESTING VIRGINIA COMMONWEALTH AND LOUDOUN COUNTY AUTHORITIES AND STATE AND FEDERAL LEGISLATORS USE ANY AND ALL LEGAL POWERS TO HALT CONSTRUCTION OF THE ROCKWOOL FACILITY IN JEFFERSON COUNTY, WEST VIRGINIA

**WHEREAS,** the northwest quadrant of Loudoun County is culturally and economically dependent upon an environment free from excessive air and water pollution that would harm its citizens' health, degrade its agricultural products, inhibit and discharge tourism, and devalue its citizens' quality of life and property values, and

**WHEREAS,** the Town of Hamilton is situated within 16 miles of Ranson, West Virginia and,

**WHEREAS,** the prevailing winds reaching Hamilton and the northwest quadrant of Loudoun County bring with air and any pollution contained therein directly from Jefferson County, West Virginia, impacting the people, water, livestock, and plants in Loudoun County, and,

**WHEREAS,** the State of West Virginia has granted Rockwool Corporation a permit for the release of 392 tons per year of hazardous air pollution, to be emitted from a proposed manufacturing plant in the Town of Ranson, West Virginia, and

**WHEREAS,** currently the measured hazardous air pollution emitted in Jefferson County, West Virginia and Loudoun County, Virginia is negligible, and

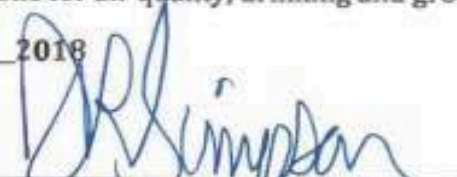
**WHEREAS,** the 392 tons per year of hazardous air pollution to be permitted by West Virginia will have direct and detrimental impact on the health of the citizens of Loudoun County, its agricultural products, its businesses, and its natural attributes so dependent on clean air and water, and

**WHEREAS,** thousands of residents of Jefferson County, West Virginia, and Loudoun County, Virginia have organized to appeal for reconsideration of the permit for the release of 392 tons per year of hazardous air pollution from the Rockwool facility, and

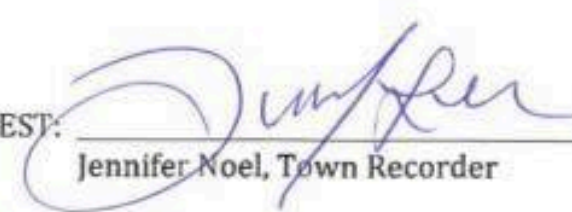
**WHEREAS,** the health of the citizens and economy of the Town of Hamilton and Loudoun County will be imperiled by the action of emitting 392 tons of hazardous air pollution annually into the air that the residents and visitors to the Town of Hamilton and Loudoun County must breathe,

**THEREFORE, BE IT RESOLVED** by the Hamilton Town Council that the Town requests the Governor and Attorney General of the Commonwealth of Virginia, the Loudoun County Board of Supervisors, and the Town's state and federal legislative representatives take any and all legal action to bring an immediate halt to the construction of the Rockwool facility until a more comprehensive study of the impact on Virginia has been completed, including a designated geographic impact zone for air quality, drinking and ground water sources.

**ADOPTED THIS** 10<sup>th</sup> **DAY OF** December **2018**

  
\_\_\_\_\_  
**David R. Simpson, Mayor**

**ATTEST:**

  
\_\_\_\_\_  
**Jennifer Noel, Town Recorder**



Jeffrey A. Cline, *President*  
Terry L. Baker, *Vice President*  
Krista L. Hart, *Clerk*



Wayne K. Keefer  
Cort F. Meinelschmidt  
Randall E. Wagner

100 West Washington Street, Suite 1101 | Hagerstown, MD 21740-4735 | P: 240.313.2200 | F: 240.313.2201  
WWW.WASHCO-MD.NET

June 7, 2019

West Virginia Department of Environmental Protection  
22288 Northwestern Parkway  
Romney, WV 26757

Re: Proposed Rockwool Factory Ranson, WV

To the West Virginia Department of Environmental Protection:

The Washington County Board of County Commissioners would like to convey the concerns of citizens which approached the Board on record in its June 4, 2019 meeting. These citizens, and organizations they represent, shared several potential impacts surrounding the proposed Rockwool Factory in Ranson, West Virginia.

Citizens have expressed concern over the 21 story exhaust stacks, the potential effects of factory exhaust upon nearby schools as well as citizens of all ages, at least nine different categories of air pollution from the proposed factory, and Volatile Organic Compounds anticipated from the proposed factory.

We, the Washington County Board of County Commissioners, would like to support various efforts taken to meet or improve our air quality in Washington County. With this communication, we endeavor to be attentive to the concerns of our constituents and any potential detriment to air quality in Washington County.

Sincerely,

BOARD OF COUNTY COMMISSIONERS OF  
WASHINGTON COUNTY, MARYLAND

By: Jeffrey A. Cline  
Jeffrey A. Cline President

Cc: Board of County Commissioners  
Robert Slocum, County Administrator  
Dan Divito, Director, Division of Environmental Mgmt



# THE CITY OF BRUNSWICK MARYLAND

1 WEST POTOMAC STREET · BRUNSWICK, MARYLAND 21716 · (301) 834-7500

October 11, 2018

At their October 9, 2018 meeting, the Mayor and Council of Brunswick voted unanimously to strongly oppose the proposed construction of the Rockwool Plant in Jefferson County, West Virginia.

After hearing the concerns of residents of our town and those of neighboring towns, we feel heavy industry such as the proposed project will bring detriment to the environment and those that live in the surrounding areas.

Brunswick is known for the Potomac River and the C&O Canal Towpath. People frequent our small city to bike, hike, camp, and generally enjoy nature. We feel this project is a potential threat to the health, safety, and welfare of our citizens, visitors, natural resources, and wildlife.

Sincerely,

Jeffrey T. Snoots

Mayor, City of Brunswick

Council Members: Nathan Brown, John Dayton, Vaughn Ripley, Tom Smith, Andrew St. John, Angel White



# TOWN OF KEEDYSVILLE, MARYLAND

*"Where Northern Thrift and Personality Blend with Southern Charm and Hospitality"*

P.O. Box 359  
19 South Main Street  
Keedysville, MD 21756  
301-432-5795  
[www.keedysvillemd.com](http://www.keedysvillemd.com)



*Ken Lord, Mayor*  
*Barry Levey, Assistant Mayor*  
*Gina Ellis, Council Member*  
*Judy Kerns, Council Member*  
*Matthew Hull, Council Member*

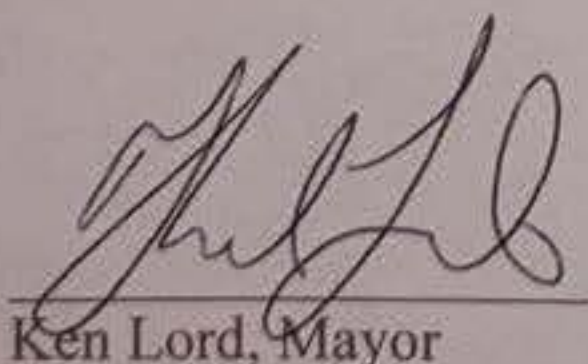
October 24, 2018

Re: Proposed Rockwool Plant

The Town of Keedysville is a quiet pleasant community in southern Washington County, Maryland. The Mayor & Council are committed to maintaining the beautiful and healthy environment found here, for the residents of the town and its visitors.

After hearing concerns expressed by our residents and information presented by Concerned Citizens Against Rockwool concerning the Rockwool plant, the Mayor & Council of Keedysville voted unanimously on September 5<sup>th</sup> to join neighboring jurisdictions in Maryland, Virginia and West Virginia in expressing our opposition to this facility. We are deeply concerned by the potential long-term threats to air and water quality this plant represents, not just for the Eastern Panhandle, but our entire region. The impacts of such a facility have the potential to reach far beyond the jurisdiction in which it was built.

Therefore, the Mayor and Council of Keedysville join many surrounding jurisdictions in the Eastern Panhandle and beyond in expressing our strong opposition to the construction of the Rockwool plant.



Ken Lord, Mayor





Town of Sharpsburg  
106 E Main Street  
PO Box 368  
Sharpsburg, MD 21782  
301-432-4428  
[www.sharpsburgmd.com](http://www.sharpsburgmd.com)  
[townofsharpsburg@comcast.net](mailto:townofsharpsburg@comcast.net)

### **Sharpsburg, Maryland Statement of Opposition against Proposed Rockwool Ranson Factory**

At our Town Meeting on September 10, 2018, the town of Sharpsburg, Maryland was informed by a group of concerned citizens about the plans for the proposed Rockwool factory in Jefferson County, WV. This site would be located just 13 miles from our historic town.

Sharpsburg is the second oldest town in Washington County, Maryland. We are historic because the Battle of Antietam was fought here, and at the nearby Antietam National Battlefield. Thousands of visitors frequent our town annually, creating much vehicular and foot traffic. We have pedestrian crosswalks and congested intersections. Sharpsburg is a 25 mile per hour zone, and there is a school within the town limits.

Our Mayor and Town Council have many unanswered questions about the proposed Rockwool factory and the introduction of more heavy industry to our region in general. We are concerned about the negative impacts this would have on the environment, the potential for increased traffic, and the subsequent effects on our citizens' public health and quality of life. There also seems to be a genuine potential for adverse effects on the local tourism economy.

It seems clear to us that Sharpsburg, Maryland has nothing to gain from Rockwool or any increase of heavy industry. Sharpsburg, therefore, will stand firm in its support of our neighboring municipalities who have opposed this project, including Harper's Ferry, WV and Shepherdstown, WV. We are committed to educating our citizens about the project, and we encourage other neighboring municipalities to join us in opposition.







# Potomac Valley Audubon Society

[www.PotomacAudubon.org](http://www.PotomacAudubon.org) | P.O. Box 578, Shepherdstown, WV 25443 | 304-676-3397

To: Jefferson County Officials and Community Members  
From: Potomac Valley Audubon Society  
Re: Opposition Statement on Rockwool Plant proposed for Jefferson County, WV

The Potomac Valley Audubon Society (PVAS) has served Berkeley, Jefferson and Morgan Counties in West Virginia since its founding in 1982 as a chapter of the National Audubon Society. We currently have 828 household members; 301 of those households are located in Jefferson County. Our mission is “preserving, restoring, and enjoying the natural world through education and action.” The organization provides leadership in environmental, conservation, and natural history concerns in our region. We manage four nature preserves in the Eastern Panhandle totaling over 500 acres, provide science education to over 8,000 school children annually, serve children in our community through our nature camp programs, and offer adult programs focused on natural history. We participate in efforts to save natural habitat locally and in other areas of WV and provide assistance to citizens in monitoring conservation actions in our community.

Rockwool would set a dangerous and unnecessary precedent for air pollution and water pollution in Jefferson County. Placement of a heavy industry and a new major source of air emissions of pollutants in the heart of Jefferson County goes against our mission. We want to see air quality and habitat preserved so that the residents of the county, particularly children, can enjoy the outdoors in a healthy environment, not one that is characterized by potentially dangerous levels of carcinogens and other hazardous pollutants.

## Our main concerns stem from:

- 1. Threats to Air Quality:** PVAS encourages people to be outdoors. The addition of emissions from Rockwool to air quality in Jefferson County poses a threat to all residents but particularly to the most vulnerable in society—the children, the elderly, and those with compromised respiratory systems.
- 2. Threats to Water Quality:** PVAS is concerned that atmospheric deposition of pollutants originating at Rockwool will contaminate streams and wetlands. We are further concerned about the viability of onsite wastewater settling ponds. WV does not have a good record of regulating slurry ponds at mountaintop removal sites where leakage from ponds has poisoned local aquifers, wells, and streams.
- 3. Threats to Streams, Wetlands, and Rare Marl Marshes:** The health of streams, wetlands, and marl marshes and the valuable habitat they support is dependent on the elevation of the water table. Rockwool proposes to withdraw 125 thousand gallons of water per day at first and up to 500 thousand gallons of water per day in the future. The internal underground drainage systems in karst areas like we have in Jefferson County are very sensitive to extraction. Removing this much water from the aquifers can have very serious and unpredictable adverse consequences. Lowering of water tables can affect the hydrologic equilibrium of local streams as well as wetlands, including rare marl marshes, at substantial distances from the point of extraction. The potential impact is loss of critical wetland and riparian habitat for threatened and endangered species of plants and other forms of wildlife.

*A proud partner of the United Way of the Eastern Panhandle  
and the Combined Federal Campaign (#29061).*



4. **Threats to Endangered, Threatened, and Rare Species:** In addition to the twenty-seven rare species found in our local marl marshes, there is one federally-listed Threatened Species identified in Jefferson County: the Madison Cave Isopod. This isopod, a small crustacean that lives in groundwater, has been documented in three locations in Jefferson County including two sites near Rockwool. We are not aware that Rockwool has investigated the environmental impact that its proposed pumping will have on this important Threatened Species. There are other species of great concern found in streams, marshes, fields and ridges in our area. For example, the WVDNR identified several "High Quality and State Mussel Streams" in Jefferson County including Evitts Run, Bullskin Run, Elks Run, and Long Marsh Run. The USFWS and the WVDNR also maintain lists of species of concern. The Baltimore Checkerspot butterfly and Sedge Wren have also been identified at our Cool Spring Preserve, and are both conservation species of concern. As far as we know, Rockwool has not investigated the environmental impact that its proposed atmospheric emissions and pumping will have on other species of concern.

5. **Threats to Migratory Birds:** PVAS has a particular interest in not only the indigenous bird populations, but migratory birds as well. Positioned on the Atlantic Flyway and immediately to the east of the Allegheny Front, many migrating birds take advantage of the winds that waft off the mountains and ridges of the Appalachian range to mitigate the challenges to their biennial long-distance flights. By definition, all migratory birds are protected under the Migratory Bird Treaty Act, which not only protects the birds themselves but also sets stipulations to protect habitats necessary for the birds' survival. The air emissions from the Rockwool plant, especially particulate matter, will create hazards to migrating birds using the Atlantic Flyway. We are not aware that Rockwool has investigated the potential impact of its emissions on migrating birds.

In light of these threats, and the fact that Rockwool has not fully investigated the potential environmental impacts that we mention, we urge you to reject the siting of the Rockwool plant and to choose a path of development more compatible with protecting human health and the conservation of the natural resources and sensitive habitats found in Jefferson County.

Sincerely,



Suzanne Offutt, Board President



West Virginia Chapter  
P. O. Box 4142  
Morgantown, WV 25404

Roxul, USA, a subsidiary of the Rockwool Group, is building a facility for the manufacture of mineral wool in Jefferson County, West Virginia. The manufacturing process will depend upon burning coal and natural gas to liquify basalt rock, which will then be spun into long, thin fibers to be used in insulation.

West Virginia Sierra Club opposes the construction of the Rockwool facility and the production of mineral wool in Jefferson County, WV.

This project raises concerns about the factory's potential adverse effect on quality of life, health, and the local economy. According to the permit, the company estimates that each year, the facility will emit over 359 tons of hazardous air pollutants, including carbon monoxide, nitrous oxide, particulates, sulfur dioxide, volatile organic compounds, sulfuric acid, and lead. The greenhouse effect of the factory's emissions will be the equivalent of 152,934 tons of carbon dioxide.

The factory will have two tall smokestacks intended to disperse these emissions. However, Jefferson County is subject to temperature inversions, which reduce or prevent dispersal.

Four schools are nearby, including an elementary school less than half a mile away from the factory. Parents, teachers, pediatricians, and the school board are concerned about health impacts on the students. Furthermore, 60 to 90 trucks will pass the school daily, delivering materials and shipping product out. Medical professionals have also expressed concerns over harm to susceptible adults.

In addition, Rockwool has not produced a clear estimate of the amount of water that will be discharged into the local sewer system, or the nature of the waste materials that it will contain. The effluents will enter a local stream and make their way to the Chesapeake Bay, creating a setback in its recovery.

This area is prone to the development of sinkholes, as the rock underneath is a porous limestone that tends to collapse. In fact, after construction began, a new sinkhole developed on the site of the factory. These sinkholes allow contaminated surface water to enter the groundwater.

This factory, if allowed to go into production, would be West Virginia's second largest emitter of volatile organic compounds. It will harm the Chesapeake Bay. Through the combustion of coal and natural gas, it will add to the greenhouse effect. It will transform the local area from a rural community to an industrial zone, damaging the quality of life in Jefferson County and nearby counties in Virginia and Maryland.

For all of these reasons, the West Virginia Sierra Club finds the construction and operation of this facility unacceptable. Construction should be halted and the Rockwool Group should withdraw from Jefferson County.

Aileen Curfman  
Co-Chair  
West Virginia Sierra Club

# Exhibit 6

[https://www.wvgazettemail.com/news/jefferson-residents-thought-losing-a-county-agreement-might-end-rockwool/article\\_b0848fe1-83bd-5d51-a878-332aa790e954.html](https://www.wvgazettemail.com/news/jefferson-residents-thought-losing-a-county-agreement-might-end-rockwool/article_b0848fe1-83bd-5d51-a878-332aa790e954.html)

## Jefferson residents thought losing a county agreement might end Rockwool. Then the state offered a \$150 million deal.

By Kate Mishkin Staff writer Oct 10, 2019

As a Jefferson County judge evaluated a deal between local officials and Rockwool, state officials offered the company their own proposal.

[According to the deal, signed by the chairman of the Economic Development Authority and Rockwool May 2](#), the state would issue \$150 million in bonds to buy property from Rockwool, the company building a controversial stone wool manufacturing plant in the state's Eastern Panhandle. The Gazette-Mail obtained a copy of the deal this week.

The deal is similar, in part, to the so-called [PILOT \(payment in lieu of taxes\) agreement](#) that allowed the Jefferson County Development Authority to acquire the 130-acre property and lease it back to Rockwool. The City of Ranson and Jefferson County's board of education, sheriff, assessor and county commission all signed.

In an effort to kill the project, residents challenged the PILOT agreement in Jefferson County Circuit Court arguing the company should have to pay the same taxes every other citizen. But a judge said he couldn't rule because the lack of a vote by the county development authority rendered the PILOT just a proposal, not a binding agreement.

Had the Jefferson County Development Authority signed it, the property would have been exempt from state property taxes only if considered a public property, the judge said in his August decision.

Residents thought that quashing the PILOT agreement might mean Rockwool would go away. The state's offer proved otherwise — a deal residents and some public officials didn't learn about until this week. The revelation came only after they filed a public records request.

[This week, they wrote to about 20 public officials](#), including Gov. Jim Justice and the EDA itself.

“It looks to me like Economic Development Authority is simply acting on its own to do what the Jefferson County Development Authority thought it did, but which [Jefferson County Circuit] Judge Hammer said it didn’t do, which is to give away that property tax break,” said John Doyle, D-Jefferson.

The plant has been a focal point for residents, who have protested, filed lawsuits and made five-hour trips en masse to Charleston. For residents who found out about the state’s \$150 million deal five months after Rockwool and the EDA signed it, the agreement is just another reason to be skeptical.

“It’s not a PILOT because it’s not a ‘payment in lieu’ but it does seem to provide them tax alleviation as well as a massive loan for 150 million,” said Christine Wimer, president of the Jefferson County Foundation, a citizen group that sent the letters.

According to the [EDA’s website](#), the body is “charged with the responsibility to develop and advance the business prosperity and economic welfare of the State of West Virginia,” by offering financial assistance, including loans, direct financing and operating leases to industrial and commercial developers. The board is run by nine members, all appointed by Gov. Jim Justice, who has publicly supported Rockwool.

When it’s built, Rockwool will manufacture stone wool insulation at its factory, using milled coal and natural gas to melt rock, creating a lava-like material that’s spun into woolly fibers. This plant has clearance to build two 200-foot stacks and other smaller stacks and would use between 100,000 and 125,000 gallons of water a day. The company says it [plans to create 150 jobs](#). Rockwool has secured other funding from the state, including a \$2.2 million forgivable loan, [outlined in a 2017 memorandum of understanding](#).

Two citizen groups said as much in letters sent Wednesday to public officials.

“Usually, packages like this are used to entice companies to an area with demonstrable need of economic development,” the letter says. “However, Rockwool was, at the time of the May 2, 2019 meeting, clearly already committed to building in Jefferson County and did not require new state commitments of \$150 million in bonds to entice it.”

“We have received the letter and at this time what can be said is that the West Virginia Economic Development Authority conducted an open public meeting, that was properly posted on the Secretary of State’s website, to discuss this financing and they voted to approve it,” Brian Abraham, general counsel for Gov. Jim Justice, said in a statement provided to the Gazette-Mail. “This project has obtained the proper permits and continues to move forward under the scrutiny of the Department of Environmental Protection to make sure that the terms of those permit [sic] are being followed.”



The EDA did not respond to a request for comment Thursday.

In a statement, Michael Zarin, a spokesman for Rockwool, said the company looked forward to “delivering on the economic commitments we have made to the local community.”

“To support our investment, our expectation remains that JCDA will fulfill the commitments it undertook in the original PILOT agreement. The WVEDA resolution provides additional assurance that the tax incentives that have been committed will be delivered,” Zarin said.

Residents should have been more widely informed about the agreement, Doyle said.

“It may be legal, but it is certainly wrong,” Doyle, who received a letter Wednesday afternoon, said. “If you’re going to give away property taxes going to a county, that county should be required to give its permission.”

He noted that this loss in property taxes could pull funds from schools across the state, adding that the EDA “snookered the people of West Virginia and, in particular, the people of Jefferson County.”

“It’s an attempt to obfuscate what is really happening so that the people don’t fully understand it: What is happening is that Rockwool is getting a \$150 million loan at a low interest rate and doesn’t have to pay \$60 million in property taxes,” said Doyle, referring to a figure he said came from Rockwool North America’s president.

[When Judge Hammer threw out the lawsuit in August](#), Shaun Amos, president of Jefferson County Vision, the citizens group, said the ruling was a step toward “removing Rockwool from our community once and for all.”

A spokesman for Rockwool said “We are fully confident that relevant authorities will deliver the promised economic incentives.”

By that point, state authorities and Rockwool had already signed their \$150 million agreement.

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Reach Kate Mishkin at

kate.mishkin@wvgazettemail.com, 304-348-4843 or follow

@katemishkin on Twitter.

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**Kate Mishkin**

Environment Reporter

# Exhibit 7

## **AIR QUALITY PERMIT NOTICE**

### **Notice of Application**

Notice is given that Roxul USA, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a PSD Construction Permit for a mineral wool insulation manufacturing facility to be located at 365 Granny Smith Lane, Kearneysville, WV 25430. The latitude and longitude coordinates are: 39.37754, -77.87844.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be:

Nitrogen Oxides (NO<sub>x</sub>): 239 tons per year  
Sulfur Dioxide (SO<sub>2</sub>): 148 tons per year  
Carbon Monoxide (CO): 74.1 tons per year  
Volatile Organic Compounds (VOCs): 472 tons per year  
Filterable Particulate Matter (PM<sub>fil</sub>): 130 tons per year  
Particulate Matter <10 microns (PM<sub>10</sub>): 154 tons per year  
Particulate Matter <2.5 microns (PM<sub>2.5</sub>): 134 tons per year  
Carbon Dioxide Equivalents (CO<sub>2e</sub>): 153,000 tons per year  
Sulfuric Acid Mist (H<sub>2</sub>SO<sub>4</sub>): 16.4 tons per year  
Lead (Pb): <0.01 tons per year  
Total Hazardous Air Pollutants (HAPs): 393 tons per year  
Mineral Fiber HAPs: 113 tons per year  
Methanol (CH<sub>4</sub>O): 104 tons per year  
Phenol (C<sub>6</sub>H<sub>5</sub>O): 98.9 tons per year  
Formaldehyde (HCHO): 67.6 tons per year  
Carbonyl Sulfide (COS): 1.7 tons per year  
Hydrogen Fluoride (HF): 1.7 tons per year  
Hydrochloric Acid (HCL): 1.3 tons per year  
Hexane (C<sub>6</sub>H<sub>14</sub>): 0.3 tons per year  
Benzene (C<sub>6</sub>H<sub>6</sub>): 0.1 tons per year

Startup of operation is planned to begin on or about October 2019. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57<sup>th</sup> Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the 22th day of November, 2017.

By: Roxul USA, Inc.  
Ken Cammarato  
Vice President and General Legal Counsel  
4594 Cayce Road  
Byhalia, MS 38611

# Exhibit 8

## Rockwool: the results of the consultation

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[levase.fr/actualites/rockwool-le-bilan-de-la-concertation](http://levase.fr/actualites/rockwool-le-bilan-de-la-concertation)

Alex DUPONT

The Rockwool Group, a rock wool producer for insulation, will make its final decision to build a manufacturing plant in the Plateau Ploisy-Courmelles area in the summer of 2019. All detailed studies and authorization applications will then be filed before public inquiry in early 2020. The time is indeed only for feasibility studies, but **the group has taken the initiative to propose a prior consultation of five public meetings, conducted by a neutral sponsor of the national commission of the public debate.** "This voluntary consultation is intended to inform the population about the project and to answer all questions," explains Maurice Laboue, director of the Rockwool project in Soissons. But also to collect opinions and hear suggestions to enrich the project, then we will make it evolve according to these exchanges before continuing the studies. "



The leaders of the Rockwool group exchanged with the people here at the closing meeting in Cuffies.

## THE PROJECT

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Rockwool is a Danish-based group founded in 1937, world leader in rockwool. It represents 11,000 employees in 45 factories in 39 countries. It manufactures insulating panels from eruptive rocks, minerals, raw materials and secondary materials.

A French subsidiary was created in 1978 in Saint-Eloy-les-Mines in Auvergne. The genesis of the Soissonnais project was born with Rockwool's desire to create a new factory in France. On the one hand, the successive developments of the Saint-Eloy-les-Mines plant no longer make it possible to increase its production capacity. On the other hand, the group sees development prospects in the French market and in the Paris region in particular, but also in Belgium, the Netherlands and the United Kingdom.

In fact, the leaders of Rockwool have positioned themselves on a possible implantation in the Soissonnais for several reasons: "The proximity of the markets to limit the distances of transport; the land prepared to receive industrial equipment on the Plateau BIA; a large available space of 39 hectares to consider future developments; a quality road connection with the RN2; the favorable reception of the communities. "

The plant would be organized as follows: a reception and storage site for raw materials; buildings dedicated to the production of rock wool with an electric oven; a logistics area for the shipment of finished products; a building dedicated to administrative services and employees.



A first project of factory defined by Rockwool, attention this sight of the buildings is not definitive.

According to the characteristics of the plant, the group plans to produce 110,000 tons of rock wool per year, corresponding to the complete insulation of about 80,000 individual houses. The plant will be built with three chimneys, the main one is under study to not exceed 50 (164 Feet) meters, and thus keep the aerodrome of Soissons - Courmelles on its current ground. It will generate traffic of about 100 trucks per day on the Plateau area (200 allers -retours) except

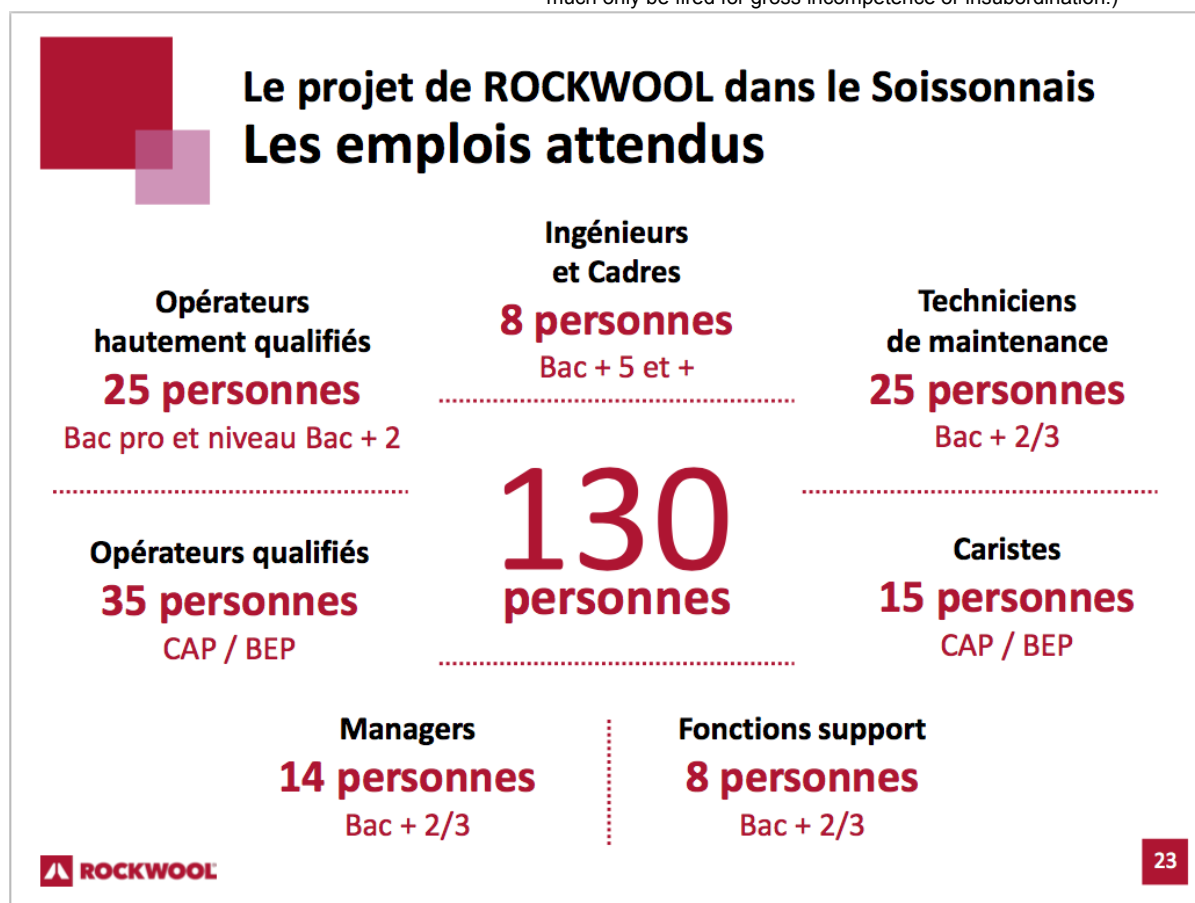
on weekends. Namely that the current traffic on the RN2 is greater than 19 000 vehicles per day during the week. It is also announced 130 to 150 direct jobs and 300 to 400 indirect jobs.

## Employment and economic benefits

Rockwool Group announces that its project will create jobs. During the construction of the plant on the one hand, with 80 people mobilized on average for 18 months, and peaks to 300 people. And especially in the activity phase, with 130 to 150 direct jobs created. These jobs are for CAP graduates at BAC + 5 for driver positions, skilled workers, line managers, administrative staff and engineers. Rockwool shows a willingness to recruit locally and is modeled on its Saint-Eloy-les-Mines plant where 90% of employees live within 30 km.

The group will also adopt the same salary policy, according to the collective agreement "careers and materials": 97% of employees have a contract CDI; job bonuses, 13th month, vacation bonuses, seniority bonuses; a participation paid each year and which can represent up to two months salary ...

(Excellent salary, benefits, and job guarantee. Basically guaranteed a job til a worker retires or is given early retirement. A worker can pretty much only be fired for gross incompetence or insubordination.)



In terms of economic development, Rockwool sees a project vector of 300 to 400 indirect jobs. It will be mobilized in several sectors:

- Logistics (for raw materials and finished products): from 6 to 7 million euros per year by working with several regional carriers.
- Guarding, cleaning, laundry and maintenance of green spaces.
- Purchase of local raw materials: wooden pallets, plastic films, dolomite, foundry slag  
...
- Maintenance: from 3 to 4 million euros per year of estimated external expenses.

Other spin-offs on the territory are evoked: accommodation (especially during the construction phase), catering, public transport, the mobilization of training centers or commercial development.

## Waste

Rockwool certifies a very reduced production of waste. Patrice Foury, the safety, environment, quality and sustainable development manager states that "rockwool waste represents the majority of waste, and it will be 100% recycled in the electric oven. Other waste is plastics and pallets that will be recycled or recovered, and maintenance activities, processed in a suitable way. In addition, the scrap obtained during the merger is resold to steel mills. "

## The water

The water consumption for the soissonnais project is estimated at 10 m<sup>3</sup> / h maximum, ie 80 000 m<sup>3</sup> / year, which represents the annual water consumption of 700 households. It is used for binder dilution, cooling and equipment washing.

The water will come from the recovery of rainwater (between 5 and 30% depending on the rainfall) and the drinking water supply network, but no pumping station is planned. On the other hand, internal processing and reuse of industrial water is planned. Releases to the wastewater system will come from sanitary and water softening treatment.

## Atmospheric releases

The Rockwool Mill on the Plateau BIA will operate with an electric oven. For Patrice Foury, the safety-environment manager: "This fusion process divides the amount of CO<sub>2</sub> by 7 compared to a coke oven (note: coal). We will also implement the best available techniques in terms of filters, burners and abatement. " (Melt furnace emissions greatly reduced)

At the exit of the chimneys of a rock wool plant, we find these discharges: nitrogen dioxide, sulfur dioxide, dust, ammonia, phenol, formaldehyde and VOC (volatile organic compounds).

On the occasion of the prior consultation meetings, the group leaders presented the measurements of the discharges from the Saint-Eloy-les-Mines plant in comparison with the limit values. However, that Saint-Eloy does not have the same characteristics as the project



soissonnais since the Auvergne plant is located in a bowl in the heart of town, it operates with three production lines including two coke ovens and produces 240 000 tons of rock wool. As a reminder, the Soissonnais plant would be located high up on the Ploisy-Courmelles plateau, it would work with a single electric production line to produce 110,000 tonnes of rockwool. (Much better air dispersion)

In 2018, Atmo Auvergne-Rhône-Alpes (the federation of approved air quality monitoring associations in France) studied air quality in Saint-Eloy-les-Mines and published its conclusions.

## Saint-Éloy-les-Mines : une usine au cœur de la ville



35

**Nitrogen dioxide:** " Nitrogen dioxide levels, pollutant mainly related to car traffic, can be considered low. "

**Fine Particulate Matter (PM10):** " PM10 suspended particle readings are consistent with those usually recorded in the region, with real spatial homogeneity. "

**Sulfur dioxide:** " Sulfur dioxides levels are very low, the lowest recorded since the implementation of monitoring campaigns in the municipality. "

**Phenol, formaldehyde and ammonia:** " The levels are homogeneous and do not reveal any truly quantifiable impact from the plant. [...] The values are well below the thresholds recommended by the reference organizations [...]"

In fact, the leaders of Rockwool boast of having "a very small impact on the air quality in Saint-Eloy-les-Mines" and see in Soissons less waste because of the use of electricity and not fossil energy and a much lower production in all cases. They specify, however, that the concentrations and volumes of releases on the soissonnais project will be determined precisely in the forthcoming impact study, carried out for the public inquiry.

(Impact study made public prior to factory approval)

## The nuisance management

Throughout the public meetings, Matthieu Biens, the marketing and development director of Rockwool, and the project director Maurice Laboue recalled that before setting up the plant, the group must necessarily follow an authorization process that passes by producing an impact assessment file in several areas (water, waste, wildlife, traffic, noise, light, smells, health, etc.), a hazard study file, and then file by the State services and the Regional Health Agency, followed by the public inquiry and finally the issue of a prefectural decree with its environmental requirements.

(Must do an Impact Assessment, Hazard Study, File with State and Regional, Provide Public Inquiry, and get local permission.)

## The noise

The noise sources of the plant will be related to the manufacturing process (turbines, extractors ...) and conveyors; logistic flows of trucks and forklifts. Relative to its situation on the Plateau ZAC, Rockwool states that "the nearest dwellings are 800 meters away and the area has a green screen to attenuate the spread of noise". In addition, the group intends to use its products "to reinforce sound protections, silencers on the most noisy equipment and equipment designed to block sources of noise inside buildings. In terms of logistics flows, delivery, loading and shipping schedules will be day and week.

(1/2 Mile away)

(No nights or weekends)

## Dust / light / smell

According to Rockwool: "All possible sources of dust are captured and / or filtered". The sources of dust on the site - excluding stack releases - come from raw materials (rocks) and finished products (fibers), knowing that the unloading stations of raw materials will be covered.

Regarding light pollution, the group announces that "the main activity is concentrated inside buildings when external lighting is limited to safety lighting and stocking of products. Reduction measures will still be considered with downlighting, automatic shutdown and LED lighting.

When it comes to smells, the managers say: "Around Rockwool sites, no smell is perceptible. Sources of potential odors could come from the coke oven but this will not be the case here because of the use of electricity."

(No Sulfur Dioxide Odors)

## electricity

The plant will have a power requirement of up to 30 MW, including 20 MW for the electric furnace. A connection will therefore be necessary for the high-voltage grid operated by RTE. A connection procedure is in progress. At this stage, it is envisaged to create a direct underground link between the Soissons-Notre-Dame substation and the Rockwool substation to be created in the plot. The cables will be buried at 1.50 m depth and invisible after work.

## The landscape



### Première piste d'implantation générale des bâtiments



45

In its project on the Plateau BIA, Rockwool plans the electrical fusion building at a height of approximately 30 m with other buildings at a maximum height of 15 m. For the three chimneys: the group works so that the "fiberizing" chimney does not exceed the 48/50 m with a diameter of about 3.5 m. The "fusion" chimney: 35 to 40 m with a diameter of less than 1 m. The chimney "cooking / cooling": about 30 m and a diameter of about 2 m. At the exit of the chimney, a plume will be visible on the chimney "fibrage" according to the meteorological conditions.

(Shorter Smokestacks)

To promote the plant's integration into the landscape, the group considered measures: "Architectural work to be carried out in the context of the completion of the environmental permit application and building permit applications; a landscaping integration of chimneys that must take into account the requirements of aviation safety; the desire to implement complementary landscaping. "



## People's questions in Rockwool

On the occasion of the closing meeting of February 5th, the guarantor of the preliminary consultation, François Desmazière, established that **300 people in total participated** in the five successive meetings in Courmelles, Belleu, Soissons, Chaudun and Cuffies. During the discussions during which the public was able to express themselves and ask questions about the project, the guarantor counted 130 interventions. To these are added three contributions: those of the community of residents of Berzy-le-Sec, Chaudun, Courmelles, Missy-aux-Bois, Soissons and Vauxbuin, the collective of residents of Dommiers and the Electricity Transmission Network (TEN). It should be noted that only 405 visitors went on the website of the preliminary consultation opened since December 18th. François Desmazière received only 5 questions and 4 opinions.



The public intervened a lot during the consultation, as here in Chaudun.

The consultation certainly had the merit of debating several points and concerns. Here are the main interventions:

### Will the plant be classified Seveso?

*Maurice Laboue (project director): "The plant will not be classified Seveso because **it will not manufacture its binder**, unlike the Saint-Éloy-les-Mines site. "* (Rockwool Ranson will be manufacturing its binder)

## Is the toxicity of the binder important and what are the safety conditions necessary for storage?

*Maurice Laboue: "The binder will be stored in silos, with retention ponds that will enhance safety. Regarding the binder, its base is formalin, a product that actually requires some precautions. However, the main exposure risks of the population vis-à-vis formalin are inside each home. "*

(Formalin = Formaldehyde)

## Will the rejects go to the valley and densify the fog?

*Bernard Combel, member of the Soissons Wings: "When a cyclonic disturbance arrives from the west, coming from the Atlantic, it makes smoke rise. In case of anticyclone, they will fall back to the ground. However, in the event of a high pressure, the winds are coming from the northeast or the east and are heading west, which will remove smoke from Soissons. In both cases, therefore, there will be no consequences. "*

(Much better air dispersion factors)

## What are the consequences of ammonia and phenol on crops such as wheat or rapeseed?

*Patrice Foury, Environmental Manager: "In the case of phenol, the impact on the ground and in the atmosphere is so low that it is not measurable. Concerning ammonia, dispersion is strong and ammonia is an element already present in the atmosphere since it is generated by the decomposition of plant materials, animal digestions, fertilizers, organic activities. The precise impact of the Rockwool plant will be evaluated in future studies. "*

## Is the temperature of the releases from the chimney high?

*Maurice Laboue: "The exhaust air is generally warm, about 50 degrees, and humid. The visibility of the smoke depends on the outside temperature: if the air is cool, the smoke is visible; at medium temperature, it is almost not visible. "*

## What impact would the proposed plant have on organic crops in the area?

*Jean-Marie Carré, President of GrandSoissons Agglomération: "I have done research and many organic productions are active in the region of Saint-Éloy-les-Mines. No obstacle to their activity has been generated by the Rockwool plant. "*

In the case of a chimney 50 meters below Saint-Eloy-les-Mines, the aerodrome is not likely to be moved and the height of the chimney increased in the long term?

*Maurice Laboue: "In Saint-Éloy-les-Mines, the chimney is 85 meters high because the plant is located in the city. In the Soissonnais, the constraint vis-à-vis the aerodrome is not to exceed 202 meters altitude: the chimney must not go beyond 47.5 meters to allow cohabitation. Given the site configuration, winds, and hot air studies that have been conducted, the first dispersion model is satisfactory. The decision on cohabitation with the aerodrome is the responsibility of the Directorate General of Civil Aviation. "*

(The old factory has a 279 foot tall smokestack, which helps send the emissions farther away)

## What will be the cost of the electrical connection and who will pay?

*Aurélien Lespinasse (RTE): The cost has not yet been stopped but it will be assumed by the customer, namely Rockwool.*

(Multiple modeling for air dispersion. I believe we haven't even had one model completed)

## Where do the raw materials come from?

*Maurice Laboue: "For the time being, this parameter has not been set yet. A priori, the volcanic rock will come from the East of France, the Vosges or the Ardennes. The milkman will probably come from the north of France. If dolomite is used, sites are in the Paris basin. Regarding bauxite, used in very small quantities, Rockwool will probably get supplies in Sardinia or Greece. "*

## Is it envisaged to use transport from Soissonnais?

*Maurice Laboue: "As far as possible, Rockwool will use local carriers that are more relevant to this mission. "*

## What are the development ambitions of Rockwool?

*Maurice Laboue: "A second production line is not planned by Rockwool. However, the development on the plot can be directed to a processing workshop to produce derivatives. "*

(Rockwool already has a twin factory planned same site)

## The provisional timetable

The project manager Maurice Laboue announced that Rockwool will make its final decision to expand into the ZAC du Plateau in the middle of this year 2019. The public inquiry will be held during the 1st and 2<sup>nd</sup> quarters of 2020. Then depending on the permissions Prefectural, the construction of the plant could begin as early as mid-2020 for 1 year and a half, with the goal of starting production in early 2022.

# Exhibit 9

## ***Critical Modeling Flaws in the Rockwool-Ranson Air Quality Permit: Effects of Calm Air Events on Particulate and Ozone Pollution***

Author: David Michael Glenn, PhD; Director (retired), USDA-ARS-Appalachian Fruit Research Station, Kearneysville, WV.

### **Summary**

As stated in the Rockwool air quality permit application, Rockwool-Ranson will emit 154 tons/year of particulate matter as well as 471 tons/year of volatile organic compounds (VOC's) and 239 tons/year of nitrogen dioxides (NOx's), the building blocks of ozone. Primary pollution abatement measures rely upon 64 meter smokestacks to use wind currents to dilute and distribute the pollutants off-site. However, local wind characteristics in Jefferson County do not support this strategy. These local characteristics differ significantly from Milton, Ontario and Byhalia, MS where Rockwool has existing and similar plants. This plan for mitigation of particulate and gaseous emissions with 64 meter smokestacks provides insufficient mitigation in Jefferson County given the wind behavior and prevalence of calm winds for extended periods of time throughout the year. These data do not support the premise of Rockwool that a 64 meter smokestacks will distribute and dilute its emissions with no effect on the populace and businesses of Jefferson County.

### **Introduction**

In Charles Town, West Virginia, the windier part of the year lasts for 6 months, from November through April, with average wind speeds of approximately 7 miles per hour. The calmer time of year lasts for 6 months, from May through October with average wind speed of approximately 5 mph. In fact, significant portions of the year are classified as "calm" or "still" in which there is no detectable wind motion by the instrumentation. From 2008 to 2017, 30% of the year had wind speeds less than 3 knots (3.45 mph) which the national Weather Service (NWS) classifies as calm or still. The predominance of still air occurs at night, but night or day, the still air provides ample time for particulates to settle to the ground in very close proximity to the site since this plant will operate 24 hours per day, seven days a week. Under these conditions, nearby schools, businesses, and homes will experience fallout of the particulate matter, ranging from an average



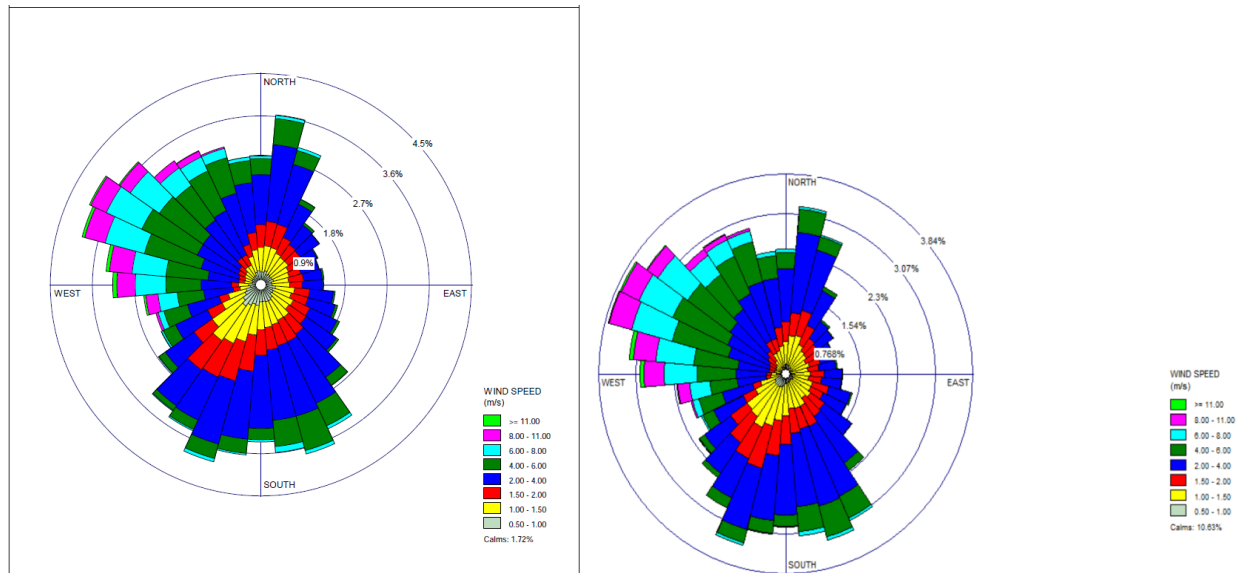
of 5 hours to an extreme of 15-20 hours throughout the year. Ozone pollution is an additional concern. Ozone is a heavy gas and will settle to the ground. During the daylight hours from March to October when light and temperature conditions are conducive for ozone production (8 AM to 6 PM) due to the VOC and NO<sub>x</sub> emissions, calm air occurs an average of 1.5 hours of each day, but calm periods can occur for 6-8 hours. These are conditions typical of the spring frosts, inversions, and sultry days that occur in Jefferson County. Calm wind conditions would allow ozone to be generated at the top of the 64 meter smokestacks and settle nearby, potentially affecting ozone-sensitive groups such as children and the elderly. This ozone would also result in a significant reduction of soybean yield in nearby farms due to direct ozone damage.

The data presented here show that calm or still air periods in Jefferson County were not adequately accounted for in the air modeling analysis performed by ERM for the Rockwool-Ranson air quality impact assessment. In a memo dated March 2, 2019, West Virginia Department of Environmental Protection (WVDEP) personnel stated that they had reviewed and replicated the air quality impact analysis prepared by ERM and submitted by Roxul in support of PSD R14-0037. It is my allegation that the error was not recognized by WVDEP personnel because they did not replicate the AIRMINUTE process with KMRB data. This failure provided faulty data for AERMOD and this negates the AERMOD interpretation used in the approval of the permit application.

## **Analysis**

A key component of the air quality impact analysis is the AERMOD analysis of emission dispersion. AERMOD utilizes AERMET for its meteorological input and AERMINUTE provides the specific sources of meteorological data. AERMINUTE filters the Automated Surface Observation System (ASOS) 1 minute and 5 minute data to flag missing data and minimize the number of 'calms' in the hourly wind speeds and directions. The execution of AERMINUTE is straightforward with no variation. The 1 and 5 minute ASOS files for the Martinsburg site KMRB for 2012-2016 are downloaded into the AERMINUTE control file and executed. The key output is HOURFILE.csv which contains the hourly wind speed and direction formatted for processing by AERMET in stage 2 of the process. Additional outputs include i) good\_records.dat, ii) bad\_records.dat, and iii) check\_records.dat files. The check-records.dat file contains data that might be confirmed/modified and added to the database.

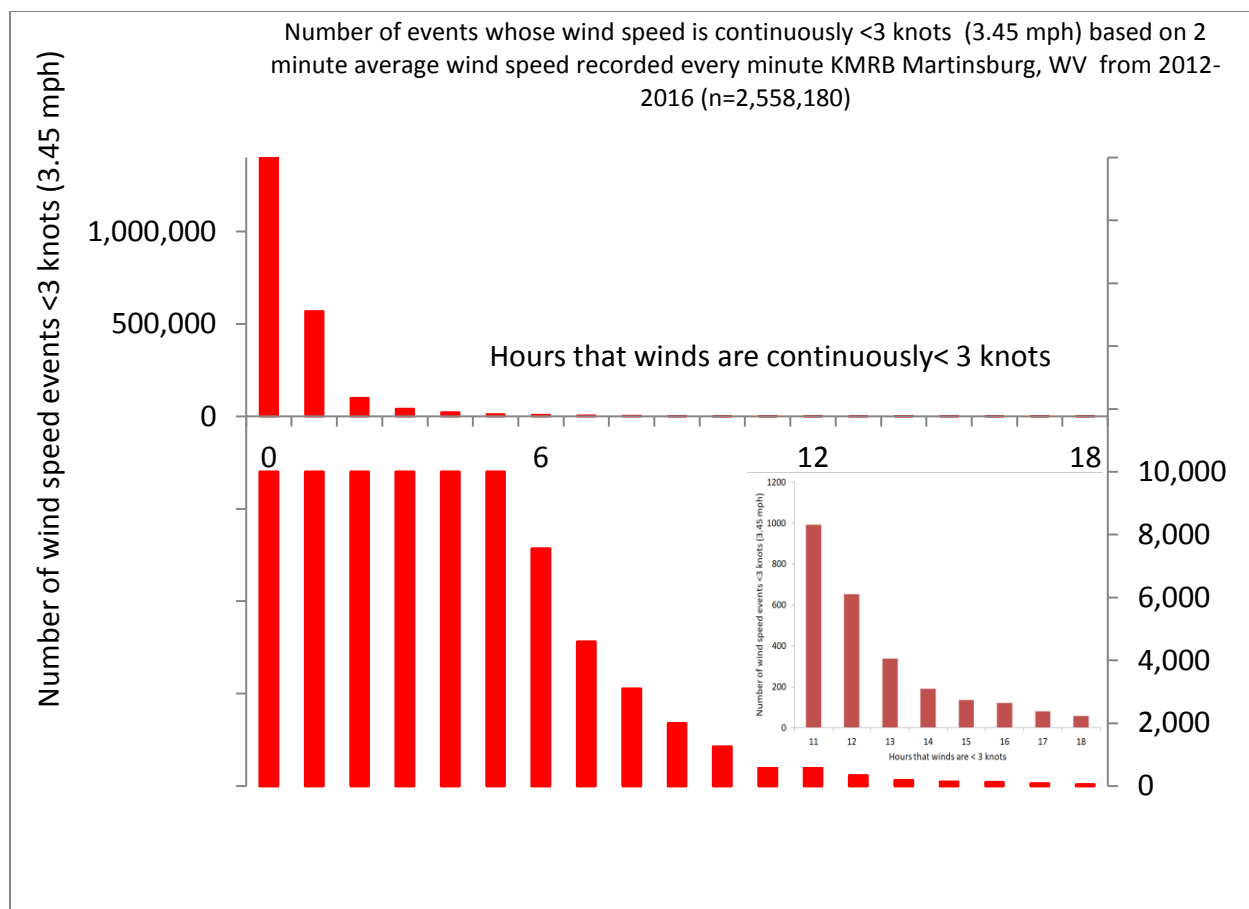
Surprisingly, the hourly data collected from AERMINUTE and used to generate the wind rose in the Roxul air quality permit (Figure 3.4 page 30) differs from what I can generate in a single parameter, i.e., calms (**Figure 1**).



**Figure 1. Calculated wind rose: Roxul Air Quality Permit (left) and Glenn (right)**

The pattern of wind speeds greater than 0 is consistent between the two figures with the exception of calms which differ from 1.78% vs 10.63%. The pattern of 10.63% calms meet the requirements to be used in AERMOD, as generated by AERMINUTE. Further, the check\_records.dat file is empty indicating there is no confusion as to whether records meet the standard or fail the standard.

The wind speed frequency of all the non-missing KMRB 1 minute data indicates that 29.99% of the data are <3 knots. Periods of continuous winds <3.45 mph (3 knots) occurred for 10, 12, 14, 16 and 18 hours 1254, 653, 189, 120 and 57 times, respectively, in the 2012-2016 period (**Figure 2**).



**Figure 2. Number of events in which wind speed is continuously <3 knots (3.45 mph) based on 2 minute average wind speed recorded every minute in Martinsburg, WV from 2012-2016 (n=2,558,180)**

The Roxul permit states a 64 meter smokestack will be used to disperse pollutants. Assuming upward movement to 250', these time periods would allow PM5 and 10 to reach ground level in Jefferson county in all instances and between 120 and 57 occurrences would allow PM2.5 to reach ground level in Jefferson county or nearby states using the settling times established for these particle size distributions (**Table 1**).

**Table 1. Relationship between particle size and settling rate of PM 1 to PM10 using Stokes Law to calculate settling rate in air.**

Particle size (microns)	Settling rate (cm/s)	Settling rate (ft/hr)	Time to deposit from 250' (hours)
1	0.06	7.1	35.2
2.5	0.15	17.7	14.1
5	0.3	35.4	7.1
10	0.6	70.8	3.5

## **Conclusions**

The difference in calm or still air is significant in that the occurrences of calm periods poses PM2.5 and ozone risks to crops, animals, and humans, especially young children and sensitive individuals. The use of 64 meter smokestacks will not effectively disperse PM or ozone pollution from Rockwool-Ranson a significant number of times in the year and will pose a significant health hazard to the citizens and schools near the facility and in the county.

The ERM air quality impact assessment was faulty and the error was not recognized by WVDEP personnel because they did not replicate the AIRMINUTE process with KMRB data. This failure provided faulty data for AERMOD and negates the AERMOD interpretation used in the approval of the permit application.

# Exhibit 10



## West Virginia Chapter of the American Academy of Pediatrics INCORPORATED IN WV

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Rockwool's entrance into Jefferson County, West Virginia, has been accompanied by opposition by many and support by a few. But more than anything, it has brought up questions.

- Questions about the future of a rural community on the outskirts of Washington DC.
- Questions about how politics plays into poverty.
- Questions about negotiating health over industry, or vice versa.

These are questions that are hard to answer.

Thankfully, there are certain facts that cannot be questioned.

The location of the Rockwool plant in Ranson is across the street from North Jefferson Elementary School. It is within 2 miles of 4 public schools housing 30% of Jefferson County's student population, as well as several daycare centers.

- The placement of the plant to within 2 miles of 4 public schools goes against the recommendations of the Environmental Protection Agency and The World Health Organization, who both state that schools should not be located near heavy industry. The WHO specifically states that schools should not be within 2 miles of heavy industry. ([www.who.int/school\\_youth\\_health/media/en/physical\\_sch\\_environment\\_v2.pdf?ua=1](http://www.who.int/school_youth_health/media/en/physical_sch_environment_v2.pdf?ua=1))

The facility has been approved for heavy toxic emissions, with smokestacks 21 stories high. In Rockwool's air quality application, it states that there will be large amounts of particulate matter per year (154 tons of PM10 and 134 tons of PM2.5).

- The American Heart Association concluded that exposure to particulate matter air pollution contributes to cardiovascular morbidity and mortality and long term exposure reduces life expectancy. (<https://www.ncbi.nlm.nih.gov/m/pubmed/20458016>)
- Ongoing research in the US, Canada, Italy and China has linked elevated PM2.5 exposure during pregnancy to premature delivery and low birth weight. The association has been replicated in multiple studies.

This plant will make Rockwool the #2 biggest polluter in the entire state of West Virginia.

- And yet, Rockwool's Clean Air Permit was given without a hearing in the community in which the plant would be built. No evaluation of the impact of the toxic emissions on the nearby schools has been conducted.

Unfortunately, this leads to more questions:

- How did Rockwool get approval to build this plant across the street from an elementary school when there is scientific evidence of the harm caused by toxic emissions and particulate matter air pollution?
- How does the addition of 150 jobs compare to the detrimental effect this plant will have on already established businesses and livelihoods based in agriculture and tourism?
- How is land that was zoned to be for mixed use residential become rezoned for industrial use

- How did this plant make it through the application review process without questions of public welfare and safety being addressed?

As pediatricians in Jefferson County, West Virginia, we see how poverty affects our patients on a daily basis. Some of our patients miss appointments because they do not have transportation. Other patients fail to gain weight or develop properly due to food scarcity. Many do not go outside due to not having access to safe neighborhoods or play spaces. And many of their parents have little time for anything else besides work and sleep-and most definitely do not have the energy to read notices in the local newspaper, speak to officials or hold their politicians accountable.

Once the Rockwool plant is open, we wonder if our patients will go outside less frequently due to concerns about air quality. Will they have access to clean local water? Will we be treating more asthma exacerbations? More cystic fibrosis exacerbations? Who will speak for these children? Do we need to witness the harm done to them before we act?

The good news is that the Rockwool plant is not a done deal. There are ways to stop Rockwool from opening the Ranson plant. Rockwool still needs approvals of the water bond, the sewer bond and the building permit to proceed. There is a grassroots citizen group that is actively opposing the Rockwool plant and has undertaken a legal fight.

We can speak for the children of the Jefferson County starting right now.

For more information, please go to <https://www.toxicrockwool.com> or join the Facebook group Concerned Citizens Against Rockwool.

Sincerely,

Christine Whitman, MD  
Pediatrician  
Member of the West Virginia Chapter, American Academy of Pediatrics

Eleanor Smith, MD  
Pediatrician  
Member of the West Virginia Chapter, American Academy of Pediatrics

Dear Ms Christina Mabe-Stork

I am Jerome A. Paulson, MD, FAAP. I am the pediatric consultant to the Mid-Atlantic Center for Children's Health & the Environment, also known as MACCHE. MACCHE is the Pediatric Environmental Health Specialty Unit (PEHSU) that serves, West Virginia, Pennsylvania, Delaware, Maryland, Virginia and the District of Columbia. Your inquiry has been referred to us by Dr Susan Buchanan of the PEHSU serving the Great Lakes area, the Great Lakes Center for Children's Environmental Health.

I understand that you are concerned about the development of an industrial facility near the local elementary school that will use coal as the source of power. You have told us that the plant is expected to use 84-90 tons of coal per day and release 152,935 tons carbon dioxide equivalent per year, 238.96 tons nitrogen oxide per year, 147.45 tons sulfur dioxide per year, 67.7 tons of formaldehyde per year, several hundred tons of atmospheric particulate matter per year, as well as various volatile organic compounds. You also indicated that the plant will employ two, 213 foot tall smoke stacks.

While the information that you have provided is not sufficient to perform a full environmental impact assessment, I agree that there is reason for concern.

Some of the local impact will be decreased by the tall smokestacks. While not preventing the production of the pollutants they will disperse some of them far downwind from the local community and compromise the health of the populations downwind.

One of my colleagues at MACCHE has developed some maps of your local area. The first map indicates that there are several elementary, middle and high schools within 5 miles of the Rockwool factory site. In addition, there are many churches and child care centers within 5 miles of the factory. The second map adds in potential farm land. We do not have information about what that land is actually used for; but we would be concerned about contamination of the land itself or contamination of crops grown for human or animal consumption.

I certainly agree that the increase in the pollutants in the local atmosphere will present health threats not only to the children in the elementary school, but to the community as a whole. That said, it is important to recognize that given the physiologic, anatomic and behavioral differences between children and adults, children are often at greater risk of adverse health impacts of pollutants than are adults. Some of the concerns that I have are as follows. This is not meant a complete list of toxic chemicals that may be released by the factory.

1. Overall air pollution. It is well documented that children growing up in areas with greater amounts of air pollution are likely to show decreased lung function as young adults relative to children growing up in areas of less pollution. There is increasing evidence that air pollution is neurotoxic to children in utero and to young children.



2. Particulate air pollution. Particulate pollution can certainly exacerbate asthma in both children and adults. In adults, exposure to particulate pollution is associated with increased risk of heart attack and stroke. There is increasing evidence that particulate air pollution is neurotoxic to children in utero and to young children.
3. Oxides of nitrogen and sulfur. Both oxides of nitrogen and oxides of sulfur form acids in the presence of moisture in the air. These acids can irritate the eyes and nose. More importantly, when inhaled, these acids irritate the lining of the bronchi and precipitate asthma attacks. There is increasing evidence that oxides of nitrogen are neurotoxic to children in utero and to young children.
4. Mercury. The burning of coal releases mercury. Because mercury is relatively heavy, it precipitates out of the atmosphere relatively close to the source. If there are rivers and lakes near by, that mercury is converted to methyl mercury and is incorporated into the tissue of fish. If those fish are caught and eaten the mercury is toxic to the brain. This is particularly worrisome for the children in utero of women who are pregnant and young children.
5. Formaldehyde. Formaldehyde rapidly disperses and breaks down in the air. If there are high formaldehyde levels within the factory, the primary risk is to the workers. Formaldehyde can increase the risk of asthma, and, most importantly, is a known human carcinogen. Again, the risk of cancer would primarily be observed in workers exposed to high levels of formaldehyde.
6. Carbon dioxide. While the carbon dioxide may not present an immediate health risk to local children or adults, it certainly contributes to worsening of climate change on a global scale. We are seeing increased severe weather events as a result of climate change. Climate change is causing changes in infectious disease patterns. It has increased the length and severity of the allergy season, as well as increasing other health risks.
7. Ozone. The factory will release ozone and chemicals which promote the formation of ozone in the atmosphere. Ozone is hazardous to all people; and presents special risks to people with asthma or other lung diseases, older adults, people of all ages who exercise or work hard outside, and babies and children. Ozone irritates the mucous membranes of all people and can cause asthma attacks in those who are predisposed.
8. Phenol. Phenol is another chemical that can irritate the mucous membranes and the lungs. In animals, long term, repeated exposures to phenol in the air can cause more serious health problems including neurologic, cardiac pulmonary and liver damage.

I agree with you that it is not prudent to build this plant so close to an elementary school. You may use this letter as you see fit in your efforts to raise concerns. While there is not a West Virginia Chapter of Moms Clean Air Force (<https://www.momscleanairforce.org/>), the national organization may be helpful; and you may want to consider starting a West Virginia Chapter. Also, I would suggest contacting the West Virginia chapter of the American Lung Association (<https://www.lung.org/about-us/local-associations/west-virginia.html>). I know that the Sierra Club of West Virginia (<https://www.sierraclub.org/west-virginia>) has raised

concerns about the Rockwool plant as has the West Virginia Chapter of the American Academy of Pediatrics (<https://www.wvaap.com/>).

Please let me know if there is any additional information that I can provide.

Sincerely,

**Jerome A. Paulson, MD, FAAP**

Pediatric Consultant to the Mid-Atlantic Center for Children's Health and the Environment

Toll free number: [1-866-622-2431](tel:1-866-622-2431)

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site: [kidsandenvironment.georgetown.edu](http://kidsandenvironment.georgetown.edu)

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# **Exhibit 11**

[https://www.journal-news.net/news/local-news/jcs-boe-asks-rockwool-to-halt-construction/article\\_68fa7f70-46a3-55f7-9a5d-a559d6266d69.html](https://www.journal-news.net/news/local-news/jcs-boe-asks-rockwool-to-halt-construction/article_68fa7f70-46a3-55f7-9a5d-a559d6266d69.html)

## JCS BOE asks Rockwool to halt construction

CHARLES TOWN— The repeated outcry against the building of the Rockwool facility in Ranson—a factory that will produce stone wool used in building insulation for housing and other industrial projects— sparked the Board of Education to formally ask Rockwool to halt its construction plans until results from an independent Human Health Risk assessment are received. [...]

By Clarissa Cottrill Aug 28, 2018



Journal photo by Adranisha Stephens

CHARLES TOWN— The repeated outcry against the building of the Rockwool facility in Ranson—a factory that will produce stone wool used in building insulation for housing and other industrial projects— sparked the Board of Education to formally ask Rockwool to halt its construction plans until results from an independent Human Health Risk assessment are received.

More than 60 parents and community members were in attendance at the meeting Monday night to continue their protest about environmental concerns regarding the Rockwool facility.

Nancy Gregory, local resident, shared her concerns with the board Monday night.



“At the Shepherdstown town council presentation in question and answer, Mr. Ogilvie presented Rockwool industry as being mostly innocuous. He presented the company as being a good community neighbor,” Gregory said. “In light of that, I asked if he would be willing to get independent, economic and environmental impact studies and based on those results, if he would set aside a fund to pay for pollution related damages over time and pay for damage prevention measures in the meanwhile. It required a yes or no answer. Despite asking four times, the answer was only that he was providing environmental information to the Board of Education. That is what I would expect from a politician who doesn’t want to answer a question, not a good community neighbor with a low impact business that would have nothing to hide.”

John Doyle, resident of Shepherdstown, said the plant will bring job loss into Jefferson County.

“I oppose Rockwool not only because of what it is going to do to our air. I am in favor of jobs for Jefferson County and I am in favor for factory jobs, but not factory jobs that pollute,” Doyle said. “We have tremendous potential for increased jobs in tourism and in agriculture. I am afraid

something like Rockwool is going to chase those jobs away. We will end up with fewer jobs as a result of Rockwool coming.”

Will Sutherland, another concerned citizen, shared his thoughts about Rockwool with the board.

“I had a dream last night that Rockwool released a statement saying, ‘Out of great respect for the citizens of Jefferson County, West Virginia, we have decided not to build our new factory in Ranson. Jefferson County is a beautiful and historic place and although we would love to be a part of it, we have listened, watched and determined our factory simply does not align with the direction Jefferson County is growing,’” Sutherland said. “That’s just a dream, but I feel like that dream was positive, because I have spoken to most of the people at Rockwool and they are very nice people.”

During the meeting, the board asked many questions in regards to air quality, pollution, traffic concerns and child safety. They also formally asked that construction halt while the independent assessment took place.

Michael Zarin, vice president of group communications at Rockwool, spoke to the board in regards to their pollution concerns Monday night.

“There has been a reference to industrial sludge. There won’t be any of that, so no need to worry,” Zarin said. “Rockwool having industrial slag as a main ingredient is also not correct, volcanic rock is the main ingredient. We are also allowed to use what is called ‘Blast Furnace Slag.’ We will use that in some quantities. It’s actually environmentally reasonable and friendly.”

Zarin also addressed questions about decreased air quality in the county.

“One of the major concerns that the school board and the community has brought up is air quality, especially the impact on children,” Zarin said. “Federal air quality and sector specific standards for mineral wool, or MACT—Maximum achievable control technology—protects the health of the public, including sensitive populations such as children, the elderly and asthmatics. The standards also protect against decreased visibility as well as damage to animals, crops, vegetation and buildings.”

Zarin said the standards must be met under worst-case conditions.

“Those conditions include operating 24/7, 365 days a year, producing a product that pushes the maximum volume through the production process in the shortest time,” Zarin said. “Rockwool emissions will be significantly below these strict standards. These are not standards that Rockwool sets, but they are standards that we have to comply with. The EPA concluded that these emission limits from mineral wool factories provides an ample margin of safety to protect human health and the environment.”

Trent Ogilvie, Rockwool North American President, said the company uses “Best Achievable Control Technologies,” which are used to keep emissions below federal and state limits. He also discussed particulate matter results in relation to the plant.

“There’s been quite a few questions about particulate matter. Our maximum concentration is 1/6 of these national quality air standards. For PM<sub>2.5</sub>, we are at 1/6 of the standards,” Ogilvie said. “These are maximum concentrations of a worse case scenario designed to protect the most vulnerable in society—the children, elderly and asthmatics. Formaldehyde has also been mentioned. Right now, each of you is breathing out formaldehyde. This is a naturally occurring compound. You are breathing out formaldehyde in one millionth of a gram in a cubic meter of air. At the closest school to our plant, North Jefferson Elementary, our impact will be approximately 1/5 of the air we exhale. The United Nations World Health Organization sets a standard of 98 for indoor air quality in a typical room like this. Our plant impact is just 2/10 of that standard.”

During the presentation, representatives of Rockwool also outlined safety measures called ‘Emergency Risk Management,’ plans for training local emergency service personnel in the event of a containment spill while transporting materials, fires or any other environmental hazard at the plant.

According to the Rockwool group, training will be provided by the company in the event there is an on-site emergency.

“We will collaborate with the community and stakeholders to ensure that we monitor the right things, ensure that we meet the EPA guidelines and that Rockwool will be monitored by a third party,” Ogilvie said. “The data will be available to the public.”

Gary Kable, board member, proposed that a committee be created, involving local community members and medical experts.

“We board members are just as concerned as other people in the county,” Kable said. “To signal to the public that you sincerely wish to work with the community, some accommodations have to be made on both sides. In order to earn these folk’s belief in what they are hearing and seeing, you need to have a group formed that will sit down together and decide on these questions that are up. If you don’t do that, you don’t have credibility with the people of Jefferson County. Right now they don’t trust you.”

Ogilvie said he doesn’t believe construction needs to be stopped to earn citizens’ trust. However, if once the study is complete and there are still concerns, production at Rockwool could be halted.

“You asked us to participate in an independent health risk assessment and we said yes,” Ogilvie said. “We are committed to this work. The school board has asked that we hit the pause button until the assessment is completed. We understand the school board’s desire for an abundance of caution. We are entirely confident that the additional studies will reaffirm that our emissions will be safe for children and the community. But, if contrary to our expectations the health assessment was to raise legitimate concerns, we will have the time to make any adjustments that would be required—even if that means delaying the project.”



# **Exhibit 12**

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[https://www.journal-news.net/news/local-news/expert-weighs-in-on-potential-effects-of-rockwool-facility/article\\_c91b97de-a5ac-530f-9a00-8e8e0a9340c3.html](https://www.journal-news.net/news/local-news/expert-weighs-in-on-potential-effects-of-rockwool-facility/article_c91b97de-a5ac-530f-9a00-8e8e0a9340c3.html)

## Expert weighs in on potential effects of Rockwool facility

By CLARISSA COTTRILL and JOSH KELLEY [ccottrill@journal-news.net](mailto:ccottrill@journal-news.net) RANSON — Since July, concerned citizens from Jefferson County and beyond have spoken out at local government meetings against the impending Rockwool facility and its potential impacts on residents' health and the environment, but one state expert has weighed in on the issue. According to the West Virginia [...]

By Matt Welch Aug 18, 2018

By CLARISSA COTTRILL

and JOSH KELLEY

[ccottrill@journal-news.net](mailto:ccottrill@journal-news.net)

RANSON — Since July, concerned citizens from Jefferson County and beyond have spoken out at local government meetings against the impending Rockwool facility and its potential impacts on residents' health and the environment, but one state expert has weighed in on the issue.

According to the West Virginia Department of Environmental Protection Air Quality Report, the chemicals to potentially be emitted from the two 21-story tall smoke stacks include formaldehyde, sulfur-dioxide, lead, carbon monoxide, soot, large and small particulate matter and sulfuric acid.

While there has been public outcry, the actual effects of these emissions are up in the air, according to West Virginia University Clinical Associate Professor Dr. Michael McCawley.

“In toxicology we are fully aware that it is the dose that truly makes the poison. In this case we do not know the dose yet,” McCawley said. “Therefore, we cannot say with any certainty what the level of alarm should be.”

The exact health effects of these emissions cannot be determined without knowledge about the interaction between the emissions, weather and terrain, which according to McCawley, highlights an issue with the Air Quality Permit process.

“The air permit does a poor job of answering the issue,” he said. “So there is no wonder that citizens are in an uproar.”

Those protesting the Rockwool facility that will produce stone wool used in building insulation for housing and other industrial projects have voiced concerns about the risk of cancer from the emissions and the impact on children’s health because of its proximity to North Jefferson Elementary School.

“This is an issue of not only public safety, but environmental safety,” said Regina Hendrix of the Eastern Panhandle Chapter of The Sierra Club at a Jefferson County Commission meeting this month. “You’re either going to have hundreds of families staying, or hundreds of families leaving. I am not the first one to say it tonight, but I certainly won’t be the last.”

### Expert opinion

Knowing what chemicals are among pollutants and how they are regulated can help the public understand the emissions coming from Rockwool and how people, animals and the environment will be affected, according to McCawley.

McCawley spent more than 27 years as a Public Health Service Officer with the Centers for Disease Control and Prevention and at the National Institute for Occupational Safety and Health, studying miners’ health, occupational respiratory disease, aerosol measurement and ultrafine particles,

according to WVU's website. He has experience working with wood dust, volcanic ash, diesel, coal mine dust, silica and beryllium.

“With the majority of these chemicals, these companies must tread carefully with how much of these pollutants they emit,” he said. “Some, like formaldehyde, are not regulated by the WVDEP, but are regulated by the federal government.”

The chemicals Rockwool will emit are slated to comply with federal regulations, according to a statement the company release earlier this month.

“Once up and running, we will continuously monitor and report on our operations to ensure ongoing compliance with all regulatory requirements,” the statement said.

The upcoming Rockwool facility will have to demonstrate compliance to the federal limits for phenol, formaldehyde and menthol within 180 days of being operational, according to a press release from the company.

Rockwool Group North America President Trent Ogilvie said his team has been working with local authorities on establishing the Ranson facility between a series of closed meetings with city, county and state officials Aug. 8.

“We have followed all regulations to ensure that we are well below the regulation standard,” he said. “We see the regulation standards and we try to go below those to make sure we have a bugger in case something should happen. With (Volatile Organic Compounds) like formaldehyde, we will only allow 0.23 micrograms per meter cubed. This is 10 times lower than Virginia’s standard.”

According to information supplied from Rockwool, the company uses “Best Achievable Control Technologies,” which are used to keep emissions below federal and state limits.

Other information from the company said although the state of West Virginia does not require “air modeling” – a mathematical simulation of how pollutants are dispersed in the atmosphere – the U.S. Environmental Protection Agency passed the MACT, or Maximum Achievable Control Technology, standards in 2015. These standards placed federal limits on all mineral wool insulation manufacturers, including Rockwool, a company factsheet said.

The response the human body has to these regulated chemicals can come in the form of inflammation and the severity varies based on exposure levels, McCawley said.

“The body produces chemicals in response to irritations, like a bug bite, and in doing so can cause inflammation to occur,” he said. “The problem with inflammation is that it is the basis of almost all chronic diseases like heart and lung disease, but it can also greatly affect those that suffer from asthma and other problems.”

In addition to the issue of inflammation, McCawley said VOCs provide support for the public’s concerns about cancer risks.

“The VOCs are one of the primary sources of cancer risk, especially benzene,” he said. “The VOCs, however, are not usually counted among the National Ambient Air Quality Standard criteria air pollutants. Among the NAAQS pollutants, the particulate matter would pose the highest cancer risk, all things being equal, though possibly not have as high a potential as VOCs for potency as a carcinogen.”



A carcinogen is defined by the CDC as a cancer-causing agent often either in the environment or in the workplace.

Public concern of cancer risk is coupled with those who have issue with the facility being so close to North Jefferson Elementary School, Wildwood Middle School and T.A. Lowery causing many to protest at Jefferson County Schools Board of Education meetings.

“How (the emissions) affect kids will depend on weather and terrain,” McCawley said. “It is fairly complicated to predict. Children’s risk of exposure is similar to the risk of cancer ... it all depends on the amount of exposure. Too much means they’ll get sick fast. A little exposure means they just got exposed to some chemicals ... it is still bad regardless.”

## Protests continue

While the risks of these exact levels of emissions remain questionable, the public outcry to Rockwool in recent weeks has been continuous. Crowds between 30 and 300 showed up at several Jefferson County Commission, Charles Town City Council and JCBOE meetings to voice their concerns. The Sierra Club, Citizens Concerned With Rockwool, Eastern Panhandle Protectors Group and other organizations have come out against the project.

“I speak for many when we say that there will be a lot of families moving out if Rockwool moves in,” resident and online group member Leigh Smith said at an Aug. 8 Charles Town City Council meeting. “I am not going to have my kids growing up and going a school 2 miles away from that facility.”

Rockwool’s plans to open its Ranson location was announced in July 2017, according to Journal reports. This will be Rockwool’s second facility in the U.S. The first is located in Byhalia, Mississippi.

Government officials and bodies have also joined the conversation. The JCBOE has asked the facility to conduct a Human Health Risk assessment to learn more facts in order to support or reject the project.

Jefferson County Commissioner Jane Tabb has also come out in opposition to the project.

“After listening to concerned citizens, doing my own research and much soul searching, I can no longer support the Rockwool project due to air quality issues,” she said in a statement. “The Rockwool plant location has the potential to impact a large number of school age children and others with health issues. I do not feel that the Clean Air standards are adequate to avoid negative impacts to our citizens and visitors. I acknowledge that Rockwool has met all the legal requirements to proceed with the project. However, the air quality issues are a game changer for me and I will work to turn this around.”

While the exact effects of pollution from Rockwool remain unknown, McCawley said this highlights an issue in the permit process and he feels the public is justified in its reaction.

“Until there is political pressure to change how permitting is done, nothing is going to change,” he said. “People should; therefore, protest loud and long, throw up roadblocks every change they get and exact a political price from the regulators who allow any new sources of pollution.”

Another step forward to McCawley would be to practice transparency and have more sampling sites for projects like this set up, including some run by the WVDEP, Rockwool and oversight groups.

“If the plant is interested in being a good neighbor it should be interested in doing so transparently and openly with the community,” he said. “There is no perform solution but there may be, for the time being, ones that are better than what we’ve got.”



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# Exhibit 13



# Spatial analysis of geologic and hydrologic features relating to sinkhole occurrence in Jefferson County, West Virginia

Daniel H. Doctor · Katarina Z. Doctor

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**Abstract** In this study the influence of geologic features related to sinkhole susceptibility was analyzed and the results were mapped for the region of Jefferson County, West Virginia. A model of sinkhole density was constructed using Geographically Weighted Regression (GWR) that estimated the relations among discrete geologic or hydrologic features and sinkhole density at each sinkhole location. Nine conditioning factors on sinkhole occurrence were considered as independent variables: distance to faults, fold axes, fracture traces oriented along bedrock strike, fracture traces oriented across bedrock strike, ponds, streams, springs, quarries, and interpolated depth to groundwater. GWR model parameter estimates for each variable were evaluated for significance, and the results were mapped. The results provide visual insight into the influence of these variables on localized sinkhole density, and can be used to provide an objective means of weighting conditioning factors in models of sinkhole susceptibility or hazard risk.

**Keywords** Sinkholes · Spatial statistics · Karst · West virginia

## Introduction

Sinkholes form as a result of a combination of geologic, hydrologic, and anthropogenic forcing factors that interact in the subsurface. The manner and timing of interaction among the various factors will determine where, when, and how an individual sinkhole may form. These interactions are normally hidden from the scope of direct observation; thus, it is generally not possible to predict the formation of an individual sinkhole. Yet, inferences about the controls on the geographic occurrence of sinkholes can be made by examining the spatial distribution of sinkholes as well as the spatial distribution of the conditioning factors that may influence sinkhole occurrence.

A number of different spatial analytical approaches have been used to model sinkhole susceptibility. Among these, the most widely used are those based upon the proximity of neighboring sinkholes (i.e., Drake and Ford 1972; Magdalene and Alexander 1995) or sinkhole density (i.e., Brook and Allison 1986; Orndorff et al. 2000) to draw qualitative conclusions about the relations between sinkhole occurrence and geologic or hydrologic conditioning factors. Heuristic models are also utilized in which weights are assigned to factors that condition sinkhole susceptibility for risk assessment (i.e., Kaufmann 2008) or for evaluating karst vulnerability in general (Döerfliger et al. 1999). These approaches often suffer from the subjectivity of relating sinkhole occurrence to the underlying factors responsible for sinkhole formation. Galve et al. (2009) have shown that nearest neighbor and density models outperform heuristic models at predicting areas of sinkhole susceptibility; yet, because these models do not include conditioning factors in the analysis, their explanatory capability is limited.

A somewhat recent addition to the rich set of methods for spatial statistical analysis is Geographically Weighted

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Regression (Fotheringham et al. 2002). Geographically Weighted Regression (GWR) is a technique for exploring relations among variables in geographic space. The advantage of GWR over Ordinary Least Squares (OLS) regression is that a GWR analysis constructs a regression model for individual points in space, as opposed to a global multivariate regression model that assumes relations among variables are constant across a region of interest. In GWR, the independent variables considered in the regression equation are inversely weighted according to distance from the position of the dependent variable being modeled. Variables located closer to the position being modeled are weighted heavier than those farther away, with the weight inversely proportional to the distance (or, more often, to the square of the distance). The results of a GWR analysis can be used to infer the degree to which specific variables (regressors) included in the model contribute to the model predictions (estimates) at specific points in space. If variables are found to be significant contributors to the model prediction, their coefficients can be mapped to provide a visual means of inference. Modern computing allows for the efficient spatial analysis and visualization of large geographic datasets within a Geographic Information System, or GIS.

In this study, GWR was used to assess sinkhole susceptibility in Jefferson County, West Virginia, USA (Fig. 1). Jefferson County is located within the Appalachian Great Valley, a region with well-documented karst development (Dean et al. 1987, 1990; Kozar et al. 1991; McCoy and Kozar 2008). Previous work in Jefferson County by McCoy and Kozar (2008) suggested that several factors had an influence on sinkhole occurrence, such as the underlying geologic formation, distance to faults, distance to axial traces of folds, distance to fracture traces, and topographic setting. Doctor et al. (2008a) noted that proximity to faults and folds also appeared to influence sinkhole occurrence in the southern extension of the Great Valley within Virginia, as did the slope of the land surface and proximity to hydrologic features. Doctor et al. (2008b) introduced GWR as a means of quantifiably assessing sinkhole susceptibility by combining these factors within a single model, and found depth to the water table, proximity to faults, proximity to fold axes, and proximity to quarries to be significant predictors of sinkhole density in Frederick County, MD. In the present study, a similar approach is applied while introducing the use of Thiessen polygons as a means of visualizing and applying the results of a GWR analysis across a study region. The goal of this study is to demonstrate an objective methodology for assigning weights to conditioning factors that may influence sinkhole occurrence. Because of data density limitations and likely co-variance among conditioning factors, this approach may not be an effective means of directly predicting sinkhole

**Fig. 1** Maps of the study area. Four panels show (clockwise from upper left): the physiography and hydrologic features of the study area; the general geology and location of fold axes; depth to groundwater and locations of quarries; and locations of faults and fracture traces

occurrence in itself; however, this approach does provide a means of adding information about conditioning factors to predictions made through nearest neighbor analysis, cluster analysis, or other spatial statistical methods.

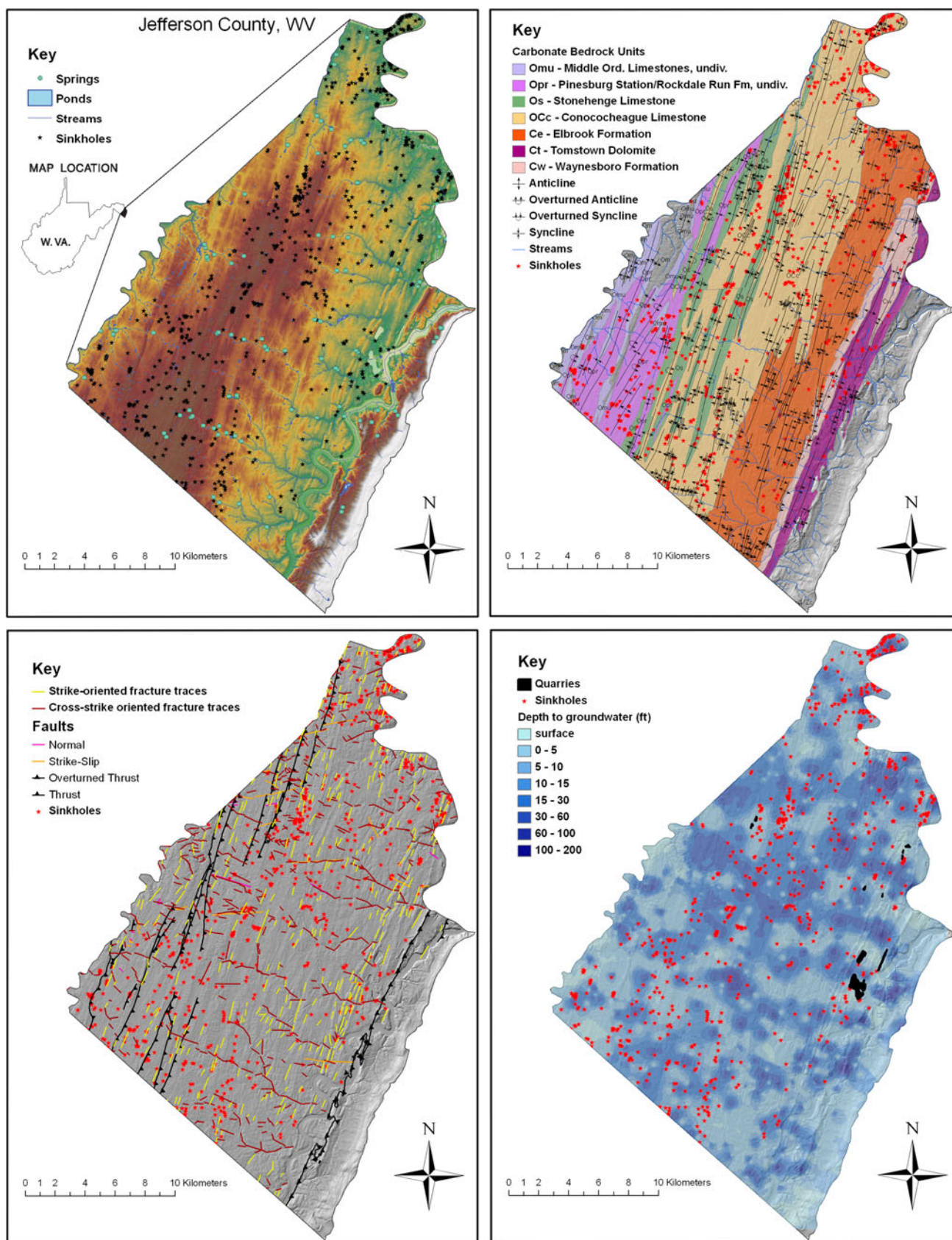
## Methods

The data for this study were obtained from published USGS datasets (Kozar et al. 1991; McCoy et al. 2005; Evaldi et al. 2009). The GWR computational analyses were conducted within ArcGIS 9.3 (ESRI 2008). The data consist of point locations of 695 sinkholes and detailed digital geologic data including faults, fold axes, and fracture traces (Kozar et al. 1991; McCoy et al. 2005). In addition, a 3 m horizontal resolution, 2.44 m root mean square error (RMSE) vertical accuracy digital elevation model (DEM) obtained from the US Geological Survey National Map Seamless Server (<http://seamless.usgs.gov/>) provided elevation data for the region. Streams and ponds were obtained from the National Hydrography Dataset (NHD), also available through the Seamless Server website. Quarry polygons were manually digitized from the DEM, assisted by aerial imagery of the region obtained in 2008 and available as an online data resource within ArcGIS 9.3 (ESRI 2008).

To conduct a GWR analysis within ArcGIS, a point or polygon shapefile or feature class is needed that contains an attribute table with the dependent variable and all of the independent variables for each sinkhole location. Input parameters are summarized in Table 1.

The dependent variable used in the GWR analysis was the sinkhole kernel density. The methods used for estimating the sinkhole kernel density at each sinkhole location as well as the values of the independent variables are described below.

The sinkhole dataset was first examined for clustering using nearest neighbor analysis. The results indicated that the sinkholes are significantly clustered ( $p = 0.01$ ), and the nearest neighbor ratio (observed mean distance/expected mean distance) was 0.59. In order to determine a length scale over which to estimate sinkhole density, the Multi-Distance Spatial Cluster Analysis (Ripleys K-function) script was used. This analysis is useful for indicating the scale at which the sinkholes are significantly spatially clustered, and the resulting L-function was plotted against lag distance to find the lag distance at which clustering occurs. Clustering occurs across a range of distance lags up





**Table 1** Variables used in the global OLS and GWR models

Type	Description	<i>p</i> value of GWR model
Dependent field	Sinkhole density ( $\text{km}^{-2}$ )	N/A
Explanatory field	Distance to nearest fault (m)	0.00***
Explanatory field	Distance to nearest fold axial trace (m)	0.03*
Explanatory field	Distance to nearest cross-strike oriented fracture trace (m)	0.03*
Explanatory field	Distance to nearest strike-oriented fracture trace (m)	0.03*
Explanatory field	Distance to nearest pond (m)	0.06n/s
Explanatory field	Distance to nearest stream (m)	0.00***
Explanatory field	Distance to nearest quarry (m)	0.00***
Explanatory field	Distance to nearest spring (m)	0.00***
Explanatory field	Interpolated depth to groundwater (m)	0.29n/s

n/s not significant

Significant at \*\*\* 0.1 % level;

\*\* 1 % level; \* 5 % level

to 1,750 m, after which it decreases with increasing lag distance (Fig. 2). The sinkhole density was estimated for each sinkhole location using the Kernel Density tool. The radius used to determine the kernel density was independently determined as the distance of maximum clustering (1,200 m) based upon the K-function analysis (Doctor et al. 2008b). The resulting point density was assigned to each sinkhole as the dependent variable in the subsequent regression analyses.

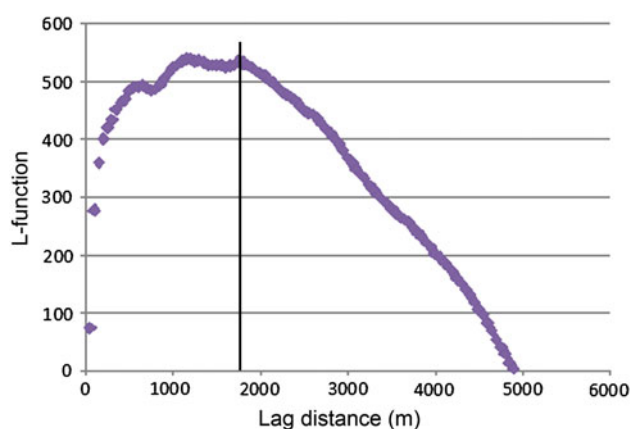
To account for the greatest amount of clustering in the regression modeling, a bandwidth of 1,750 m was chosen for the GWR analysis. This is a more conservative bandwidth than that of maximum clustering since it allows for the full range of clustering to be considered. In addition, choosing a bandwidth for the regression analysis that differs from the bandwidth chosen for the sinkhole kernel density estimation avoids possibly introducing dependence into the regression model.

Euclidean distances to the nearest features presumed to influence sinkhole density were determined. The radius

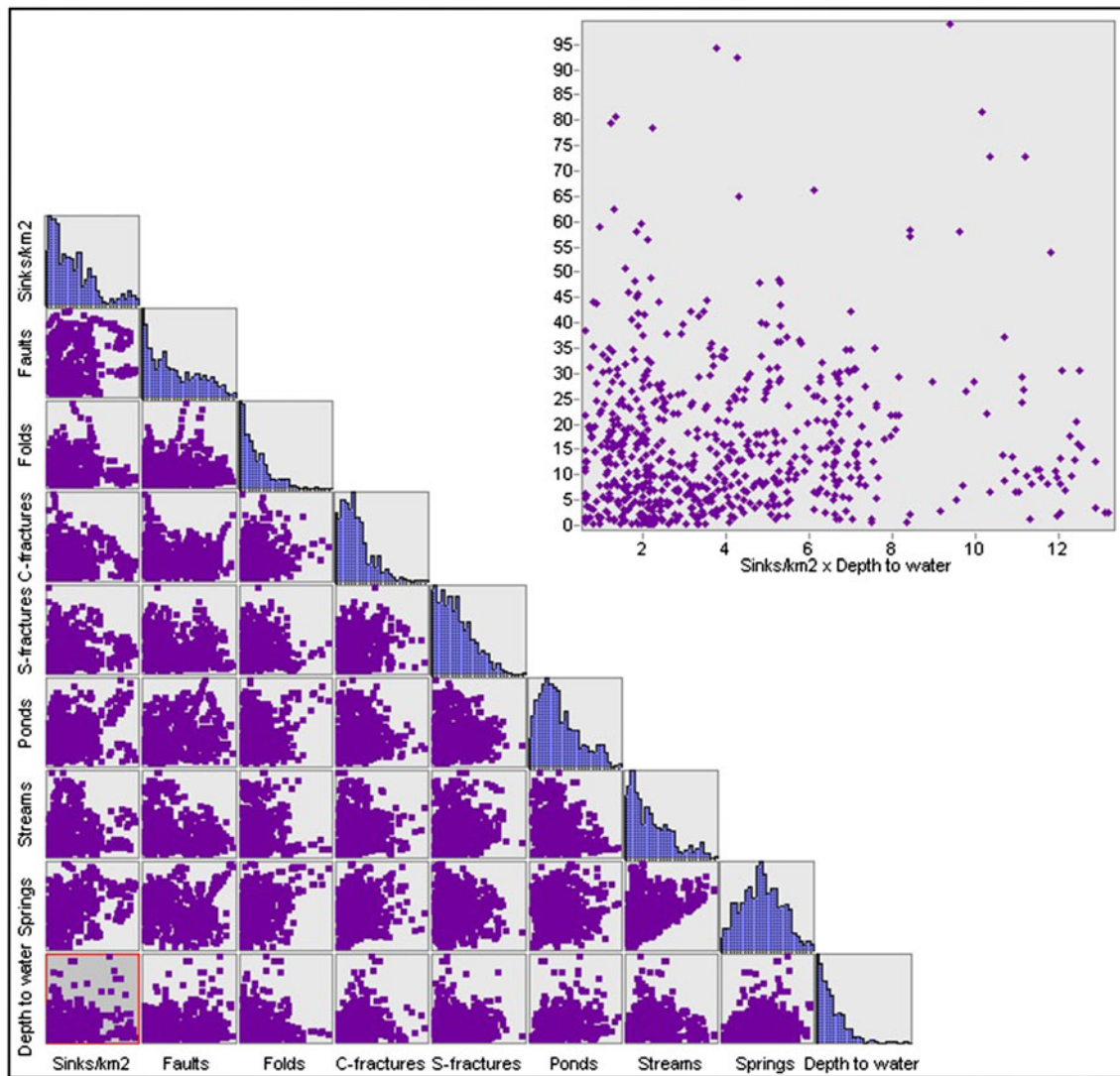
around each sinkhole used to determine the distance to the nearest fault line, fold axis, fracture trace, stream, pond, or quarry was not specified. For instance, one can see in the histogram for distances to quarries that the data are bimodal (Fig. 3). This reflects the widely spaced, infrequent locations of quarries relative to the other features considered. Depth to the water table was determined by subtracting an interpolated water table surface raster from the DEM. The data for constructing the water table surface were obtained from published well data (Evaldi et al. 2009), and from point elevations of surface water bodies (ponds and streams) assumed to represent the water table at the land surface. The water table surface was interpolated at 100 m resolution using an Inverse Distance Weighting algorithm, with a power of 2 and variable search radius that included 12 neighboring points. These parameters for the water table interpolation were chosen to be consistent with water level surfaces constructed for Clarke County, VA (Nelms and Moberg 2010), which borders Jefferson County immediately to the south. Values of the depth to water table surface were extracted at each sinkhole location and used as independent variables in the regression analyses.

Prior to performing a GWR analysis, an initial step is to evaluate the performance of the global multivariate OLS regression model (a single model for the entire study area). For this, the variables must not be collinear. For this data set, the regressors were not globally collinear, as illustrated in the scatter plot matrix (Fig. 3). However, local collinearity is likely among some of the variables—for example, between fracture orientations and faults or fold axes. For this reason, certain estimates of sinkhole density at individual sinkhole locations may be less robust than others. Although not rigorously tested here, the GWR analysis may not be an adequate means of predicting sinkhole density in itself, and instead provides insight into the varying significance of conditioning factors across the region of interest.

In the case of GWR, the scale of the analysis is affected in two ways: by the size of the region of interest, and by the bandwidth of the regression. The bandwidth is the distance



**Fig. 2** L-function plot indicating clustering with lag distance. Clustering peaks between 1,200 and 1,750 m then drops off. A distance of 1,750 m (indicated by vertical line) was chosen as a bandwidth for subsequent analyses to account for the greatest amount of clustering in the dataset



**Fig. 3** Matrix scatter plot of the variables used in the regression analyses. Note the general lack of collinearity in the variables

across which the regression is applied from each point location. For sinkholes, it is the radial distance around each sinkhole that encompasses the data used in the regression model equation for that sinkhole. Selecting the appropriate bandwidth is not a trivial problem in itself, as the results of GWR are highly sensitive to the bandwidth. The bandwidth can be a fixed distance, or it can be adaptive—that is, changing across the study region according to some prescribed criteria. Fotheringham et al. (2002) suggest that bandwidths that are adaptive may be better suited to clustered data, and can be determined based upon minimization of a cross-validation (CV) function, or by minimization of the corrected Akaike Information Criterion (AICc). However, selecting a fixed bandwidth seems to produce better model results when formulating a regression model based upon proximity data. In the use of a variable adaptive bandwidth, regression points falling beyond the bandwidth distance receive a weight of zero and are not considered; in

contrast, using a fixed bandwidth allows all data points to receive a non-zero weight, no matter how far they are from the regression point (Fotheringham et al. 2002). In addition, when using a fixed bandwidth the number of data points used for each regression need not be specified. Thus, points located in regions of low data density (fewer nearby surrounding sinkholes) may not receive a regression estimate at all, a preferable result in the face of incomplete data. Here, the bandwidth selection is based upon the K-function analysis described above, and determined by the length scale of clustering.

## Results

A summary of the results of the global OLS regression model and three GWR models are presented for comparison in Table 2. The bandwidth is the radial distance around

**Table 2** Comparison of summary results of global OLS and GWR models

	Name	Global OLS	GWR <sup>a</sup>	GWR <sup>b</sup>	GWR <sup>c</sup>
	$B$ = bandwidth (m), $N$ = # of neighbors	n/a	$B$ = 1,750	$B$ = 7,321	$N$ = 336
	Residual sum of squares (RSS)	4,625	6.21	2,186	2,076
<sup>a</sup> Fixed bandwidth defined by clustering distance	Effective number	10	38.8	49.3	51.3
	Sigma	2.60	0.43	1.84	1.80
<sup>b</sup> Fixed bandwidth defined by AICc minimization	AICc	3,312	159	2,851	2,821
	$R^2$	0.22	0.98	0.63	0.65
<sup>c</sup> Adaptive bandwidth defined by AICc minimization	$R^2$ adjusted	0.21	0.96	0.60	0.62

each sinkhole that determines the other sinkholes that will be used in the local regression. The residual sum of squares (RSS) is the sum of the squared residuals—its minimization is a goal of the model. The effective number is a measure of model complexity and is used for other calculations. Sigma is the square root of the normalized RSS. AICc is the corrected Akaike Information Criterion and is a means of comparing models, with lower values indicative of model improvement. The  $R^2$  is the model coefficient, and is a measure of goodness of fit with a value of 0 indicating no fit and 1 indicating a perfect fit.

The first GWR model used a bandwidth of 1,750 m, as determined by the K-function cluster analysis (Fig. 2). The second GWR model used a fixed bandwidth determined by minimizing the AICc. The third GWR model used a variable bandwidth with a fixed number of neighboring sinkholes for the regression, also determined by minimizing the AICc. The results show that the GWR model using a fixed bandwidth determined by the scale of sinkhole clustering provides the best fit and substantial improvement over the three other models in all measures of model performance.

Thiessen polygons were used as a means of illustrating a unique “zone of influence” around individual sinkholes. Thiessen polygons define an area around a sinkhole point location such that any position located within the polygon is closer to the enclosed sinkhole than to any other sinkhole in the study area. One advantage of this property of the Thiessen polygons is that it allows assigning the estimated parameter coefficients believed to influence the location of the sinkhole to the area outlined by the polygon. Thus, Thiessen polygons provide a convenient means of spatial visualization for examining the parameter estimates of the GWR model. The parameter estimates can be thought of as weights of influence on the estimated sinkhole density for the area within the polygon, assuming the density throughout the polygon area is equivalent to the density at the location of the enclosed sinkhole.

Maps of several parameter estimates are shown in Fig. 4. The maps include only those Thiessen polygons of sinkholes whose parameter estimates are statistically significant at the 95 % confidence level ( $t$  value greater than 2.58). Polygons at the edges of the study were also

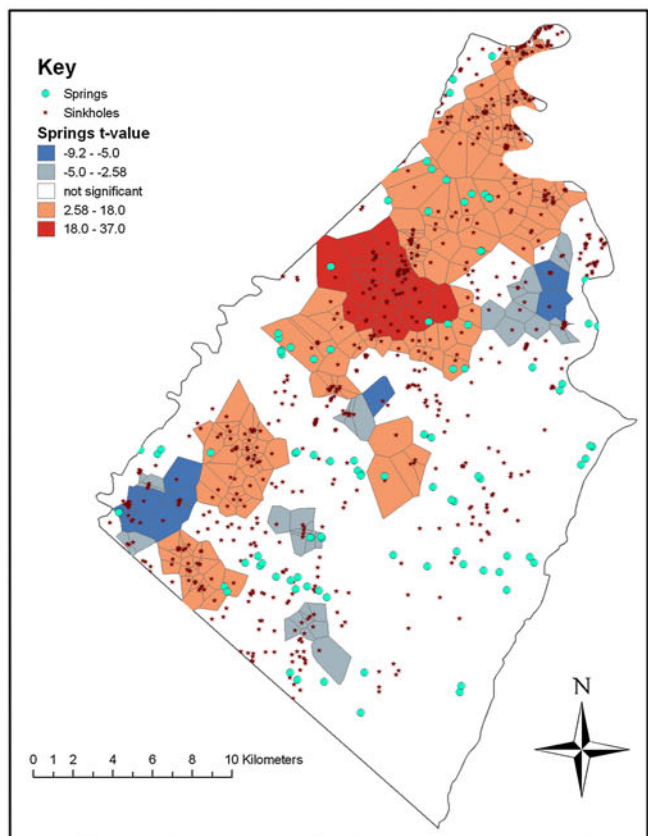
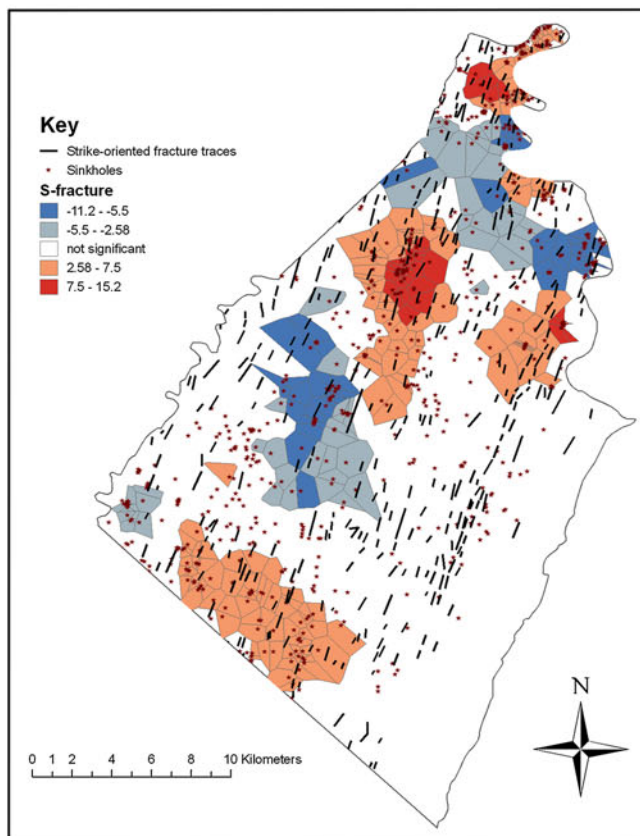
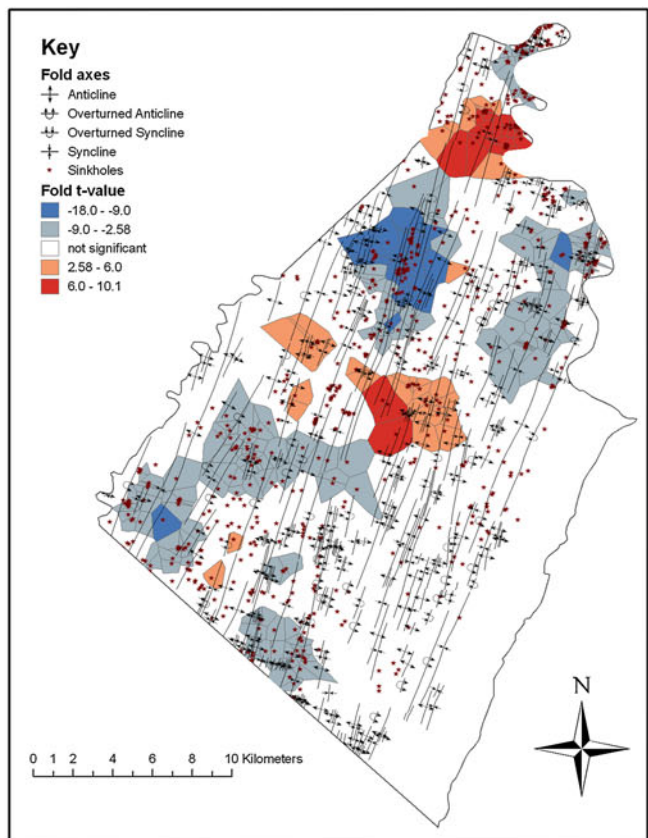
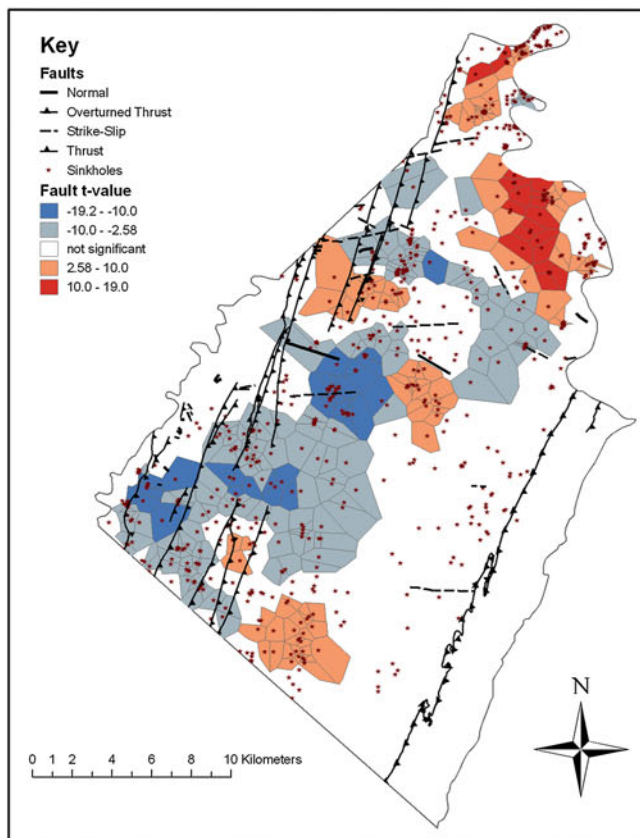
eliminated to remove spurious results of edge effects. The polygons are colored according to significance and sign. Polygons with blue and grey colors (negative sign) indicate the parameter coefficient is negatively correlated with sinkhole density at that location, while orange and red colors (positive sign) indicate a positive correlation with sinkhole density. Since all regressor data are distances from the sinkhole (except depth to groundwater), a negative correlation indicates that closer conditioning features (faults, folds, fracture traces) have a greater influence on sinkhole density at that location. Therefore, dark blue colors in the parameter maps can be interpreted as areas where the conditioning features have more influence on sinkhole density.

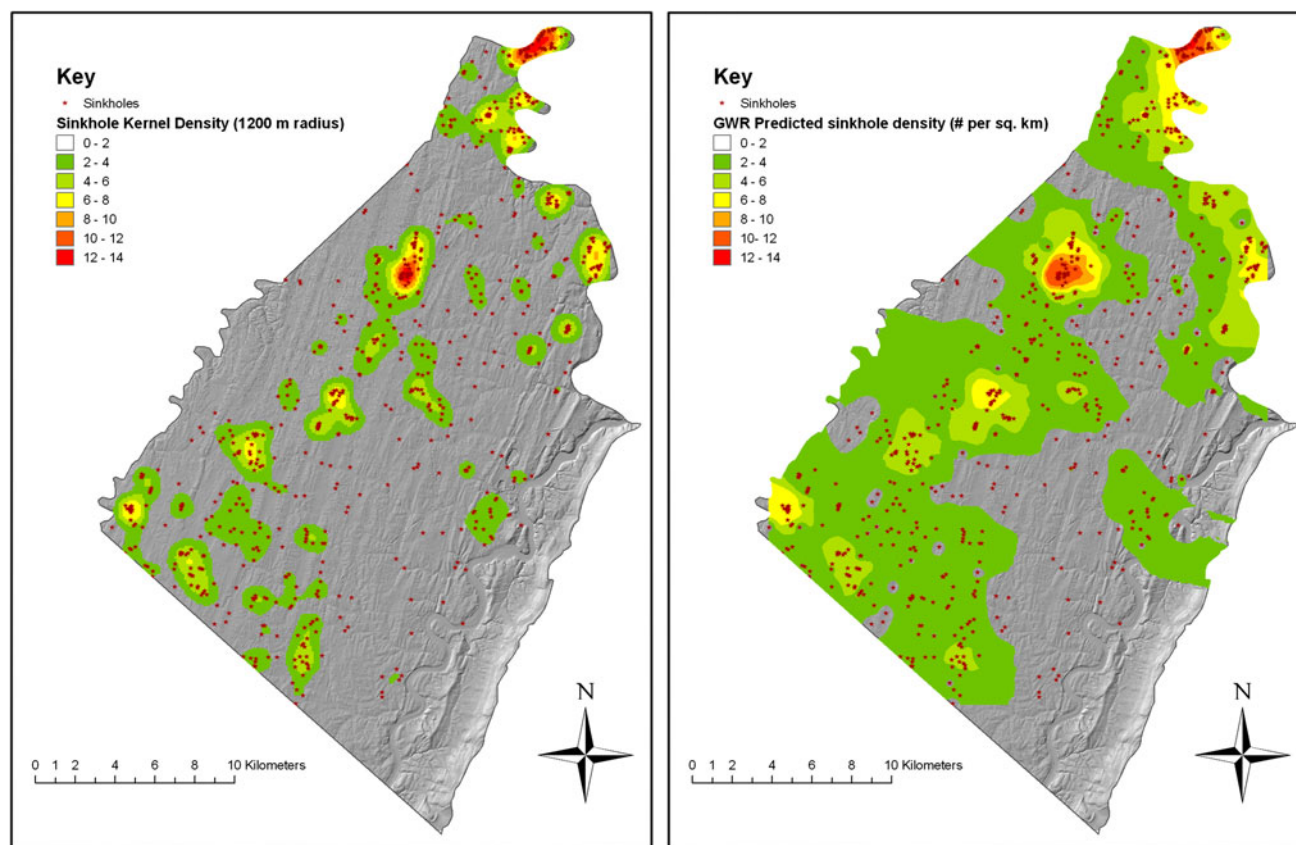
In areas where distances to faults are strongly negatively correlated to sinkhole density, faults occur near to sinkhole clusters; conversely, clusters of sinkholes far from faults show a strong positive correlation between distance and sinkhole density (Fig. 4). Similarly, areas of strong negative correlation between distance to fold axes and sinkhole density show dense clustering of sinkholes in close proximity to closely spaced fold axes, while areas of low sinkhole density far from fold axes are positively correlated. Thus, a quantitative, visual frame is given within which to interpret what would seem to be an intuitive interpretation.

The original sinkhole density data and the predictions of sinkhole density resulting from the GWR model that employed a fixed bandwidth determined by clustering distance are shown in Fig. 5. The similarity between the two data sets is the result of the excellent fit of the GWR model; the major difference is that most areas of the predicted sinkhole density are expanded. The predicted areas of sinkhole density along the boundaries of the study area may be spurious due to “edge effects” resulting from a

**Fig. 4** Maps of  $t$  values of selected parameter estimates (clockwise from upper left): faults, folds, springs, and strike-oriented fracture traces. Blue colors indicate that the estimated sinkhole density is inversely correlated to distance from the conditioning features (or, positively correlated with nearness of features), while red colors indicate the opposite correlation







**Fig. 5** Maps of input sinkhole density (# per square km) and predicted sinkhole density resulting from the GWR analysis. Note similarity between the two maps, with some expansion of the predicted sinkhole density obtained from the GWR results

lack of data outside the boundary affecting the interpolation.

## Discussion

Galve et al. (2009) compared various models of sinkhole susceptibility, and concluded that models based on nearest neighbor and density analysis—which consider only relations among sinkholes—provided better results than heuristic or probabilistic models that incorporate geomorphic, geologic, or other conditioning factors that may influence sinkhole formation. Although nearest neighbor and density models of sinkhole susceptibility perform well, they provide little objective explanatory information about why sinkholes occur where they do. A possible reason for poor performance of heuristic models is that weights assigned to variables in a heuristic scoring system are usually based upon experiential knowledge of spatial associations among variables (Kaufmann 2008; Galve et al. 2009). Such knowledge is often subjective, precluding model comparisons among study areas or among different researchers. An objective, widely applicable method for assigning such weights is therefore desirable. Multivariate OLS regression

provides such a method, but does not perform well in cases where spatial relations among variables are highly non-stationary (varying across the study region). Multivariate OLS regression on positions located in geographic space presents the problem of violating the assumption of independence among variables, since the values of variables located closer to one another are more likely to be similar. This potentially results in spatial autocorrelation, and may lead to erroneous parameter estimates and unreliable significance tests. However, when examining the spatial relations among sinkholes and possible conditioning factors, spatial dependency among variables is the very information targeted for extraction from the analysis. While global regression models are more prone to suffer from spatial autocorrelation, GWR analysis can account for these relations without suffering from the pitfalls of spatial autocorrelation (Fotheringham et al. 2002).

The results show that a GWR model that uses clustering distance as a guide for bandwidth selection performs best. The resulting predictions of sinkhole density fit very well, with an overall adjusted  $R^2$  value of 0.96. Local  $R^2$  values ranged from 0.98 to 0.72; we note that several regression points located in areas of very low sinkhole density had insufficient data to provide a regression estimate. A Monte



Carlo test for significance indicated that only two of the nine variables were not significant below the 5 % level; these were distance to ponds and depth to the water table. Distance to ponds may have suffered from the fact that some of the sinkhole locations directly coincided with pond locations; conversely, because some ponds may be anthropogenic as opposed to natural features, their overall distribution may not have any direct bearing on sinkhole distribution. Although for this preliminary study no attempt was made to distinguish natural from anthropogenic ponds, future analyses will take this into consideration. Depth to water may not have been significant as a result of the coarse spatial distribution of the well data used to interpolate the ground water surface. Moreover, a smoothly interpolated water table surface across such a large area is likely to have a high associated uncertainty in a karst terrain. Therefore, depth to water may be an unreliable variable at the scale of this analysis, but may be appropriate where better data exist to constrain the variable estimates at unknown points.

The spatial analysis conducted here provides a means of exploring the spatial dependencies among sinkhole density and nearby geologic and hydrologic features at point locations. A distinction must be made between conducting this kind of exploratory analysis, and an analysis which seeks to estimate the probability of sinkhole occurrence. Probabilistic determinations fall under the realm of risk analysis, which requires an approach that evaluates sinkhole formation through time (Kaufmann 2008). The utility of the approach shown here is that it provides a means of objectively weighting the parameters within a heuristic model, such as that employed by Galve et al. (2009), or Kaufmann (2008). The results demonstrate how GWR can be used to objectively map the influence of particular geologic and hydrologic features, and to eliminate variables which have little significance. This provides explanatory power to the model, while incorporating the sinkhole density as the predictive base for a susceptibility map. Breaking the study region into Thiessen polygons around individual sinkholes allows for the parameter estimates associated with each sinkhole regression model to be applied within a particular zone of influence surrounding a sinkhole. In this way, objective weights on conditioning factors may be applied across a study region for future models of sinkhole susceptibility that incorporate geomorphic, geologic, hydrologic, or anthropogenic information. This approach ought not be used casually to assign heuristic weights. For instance, Thiessen polygons with an area that exceeds that of a circular region with radius prescribed by the bandwidth used for the analysis (the distance of maximum clustering), should be considered as having an insufficient data density for robust weight assignment. Future work will focus on developing and

validating such models as additional sinkhole data become available in this study region.

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# Exhibit 14

STATE OF WEST VIRGINIA  
Department of Environmental Protection  
Environmental Enforcement  
NOTICE OF VIOLATION

Violation No **W18-19-047-TAG**

To the Operator or Agent of:

Facility Name: **RAN 5 Project** Permit No. **WVR108876**

Permittee or Individual: **ROXUL USA INC.**

Located at or near: **Ranson,** in **Jefferson** County

Representative: **KENNETH J. CAMMARATO** Date: **09/11/18** Time: 3:00pm

Address / phone number: **4594 CAYCE RD, BYHALIA, MS 38611 / 6628514734**

Whereas, an inspection of the above named operation by the undersigned, duly authorized agent of the Secretary, at which the following described condition or practice exists, in violation of Chapter **22**, Article **11**, Section(s) **1 et. Seq.** of the Code of West Virginia and/or Section(s)  of the Rules and Regulations and/or Section(s) **(D., F., & G.)** of the Permit referenced above promulgated thereunder in that you: **Have violated the following terms and conditions of WV/NPDES General Water Pollution Control Permit No. WV0115924, Registration No. WVR108876:**

- 1. Section D.1. - Permittee has failed to properly operate and maintain all systems of treatment and controls- Drop inlets near the central area of the project are in need of maintenance.**
- 2. Section G.4.e.2. - Permittee has failed to properly implement controls: Filter sock improperly installed. SWPPP plan calls for triple stack filter sock at the end of the rock outlet protection for sediment basin 1.**
- 3. Section G.4.e.2.A.ii.c. - Permittee has failed to provide inlet protection for sediment control structure near the forebay of SB 1.**
- 4. Section G.4.e.2.A.ii.f. - Permittee has failed to protect fill slopes near the forebay of SB 1.**
- 5. Section G.4.e.2.A.i.b. - Failed to provide interim stabilization on areas where construction activities have temporarily ceased for more than 14 days. Area noted was near the forebay of Basin 1.**
- 6. Section F.2.a. - Failed to report noncompliance, which may have endangered health or the environment, to the designated WVDEP spill alert telephone number (800-642-3074). Sinkhole was observed in basin 1 and was not reported.**

The following corrective measures were discussed with you at the time of this inspection. I spoke with Chip Mullenex on 09/25/18 of findings:

**Take measures to correct the aforementioned violations.**

Within **20** days provide a written response to the inspector named below, at the address indicated, detailing the actions taken to abate this violation.

Received by:

**Sent Certified Mail--70180040000047937006**

Signature

Title



Duly Authorized Agent /  
Inspector

**304-703-5320**  
Telephone

**Tommy.a.george@wv.gov**  
E-mail

**Send Response to the Inspector at the address indicated below:**

WV Department of Environmental Protection  
Environmental Enforcement / WW  
22288 Northwestern Pike, Romney, WV 26757-8005

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ROXUL USA INC.  
Attn: KENNETH J. CAMMARATO  
4594 CAYCE RD  
BYHALIA, MS 38611



7018 0040 0000 4793 7006

2. Article Number

Service Label

7018 0040 0000 4793 7006

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

☒ Agent  
☐ Addressee

B. Received by (Printed Name)

*J. M. [Signature]*  
J. M. [Signature]

C. Date of Delivery

10-1-10

D. Is delivery address different from item 1?

If YES, enter delivery address below: ☐ Yes ☒ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Mail Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

USPS TRACKING#



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

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United States  
Postal Service

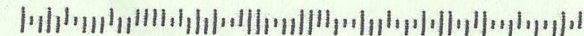
**RECEIVED**

Office of Mining & Reclamation **WV DEP**

**OCT 04 2018**

Environmental Enforcement  
1159 Nick Rahall Greenway  
Fayetteville, WV 25840

**FAYETTEVILLE**



# Exhibit 15





## **MEDIA STATEMENT**

August 8, 2018

“Today, we met with representatives from several local, state and federal agencies in Jefferson County to share information about the ROCKWOOL facility in Ranson and to better understand the concerns of area residents.

We appreciate the time they spent with us to bring these concerns to our attention. We have committed to the attendees of today’s meeting to answer their questions and provide in-depth information regarding the process to build and operate the facility here in Ranson.

We will continue to work closely with the greater Jefferson County community to provide information and address concerns throughout the project, including making presentations to local community groups.

We welcome members of the community to join us at our Community Open House on Saturday, August 25, from 10 a.m. to 2 p.m. at the Jefferson County Community Center in Shenandoah Junction. More information can be found at [www.rockwool.com/westvirginia](http://www.rockwool.com/westvirginia).

Additionally, a significant concern raised today is the potential for the Ranson facility to use petroleum coke in the manufacturing process. ROCKWOOL is committing today that we will not use petroleum coke in the Ranson facility.”

Trent Ogilvie, President of ROCKWOOL North America

### **Those invited to the meeting today include:**

ROCKWOOL, Ranson West Virginia  
Government Stakeholder Meeting  
Date: Wednesday August 8<sup>th</sup>  
Time: 2pm – 4pm  
Location: Bavarian Inn – Terrace Room

## **PARTICIPANTS**

Mark Ferrell	Environmental Protection Agency, Mid-Atlantic Liaison
Austin Caperton	WV Department of Environmental Protection, Cabinet Secretary
Fred Durham	Director, Division of Air Quality
Joe Kessler	WV Department of Environmental Protection, Division of Air Quality, Permit Writer
Jake Glance	WV Department of Environmental Protection, Communications Director





Todd Hooker	Deputy Director, Business & Industrial Development, WV Dept. of Commerce
Joy Lewis	Manager, Business Retention & Expansion, WV Dept. of Commerce
*Samantha Smith	Director Marketing & Communications, WV Dept. of Commerce
Nic Diehl	Executive Director, Jefferson County Development Authority
Eric Lewis	President, Board of Directors, JCDA
Duke Pierson	Mayor Ranson
Andy Blake	City Manager, Ranson
Patsy Noland	County Commissioner
Stephanie Grove	Administrator County Commission
*Heather Morgan McIntyre	Executive Director Jefferson County Chamber of Commerce
*Dr. Bondy Gibson	School Superintendent
*Hans Fogle	Chief PR Officer, School Board

#### ROCKWOOL

Trent Ogilvie	President, ROCKWOOL North America
Mirella Vitale	Sr. VP, Group Management, ROCKWOOL
Michael Zarin	Vice President, Group Communications, ROCKWOOL
Peter Regenberg	VP USA Operations, ROCKWOOL North America
Mark Bromiley	VP Marketing & Business Development ROCKWOOL North America
Mark Graves	Director Factory Operations, Ranson, WV
Leslie McLaren	Corporate Communications & Stakeholder Relations ROCKWOOL North America
Chris Gilmer	Digital Communications ROCKWOOL North America

\*did not attend