



SIERRA CLUB

**SB 165 Opposition Testimony
Senate Energy & Natural Resource Committee
Adam Rissien, March 21, 2018**

Good afternoon, Chairman Balderson, Vice-Chair Jordan, Ranking Member O'Brien and members of the Senate Energy & Natural Resource Committee. The Sierra Club Ohio Chapter offers the following testimony in opposition to Senate Bill 165. Sierra Club is the nation's largest grassroots-led environmental organization with over 180,000 members and supporters in the state of Ohio. Our mission is to explore, enjoy and protect the planet.

Our opposition to SB 165 stems from concerns over potential contamination to Ohio's rivers, streams and lakes from the sale and surface application of oil and gas well waste fluids, commonly called "brine" derived from the production, operation or plugging of these wells. The following outlines our main objections and we urge the committee not pass this fundamentally flawed bill.

Key Points:

- **SB 165 is unnecessary.** The Ohio Department of Natural Resources under the Division of Oil and Gas currently authorizes use of processed and untreated oil and gas well waste fluids for deicing roads. The Ohio Revised Code, 1509.223, specifies requirements for the transportation and application of "brine," including the location, date, time and amounts disposed at each location. Nature Pure LLC currently has the ability and authorization from the chief to use AquaSalina under this provision. However, SB 165 will allow waste fluids to be spread by anyone, in any amount and location, rather than by "registered brine haulers" who have to follow all the protocols listed in the Revised Code. Any utilization of "brine" must retain this regulatory oversight.

- **SB 165 lacks any specification for documentation that is supposed to demonstrate the safety of processed “brine.”** The bill allows the Ohio Department of Transportation to approve or accept any documentation for a “commodity” without listing any requirements, such as safe levels of the numerous chemicals and contaminants those commodities may contain.
 - Specifically, there is no section in the Revised Code or Administrative Rules specifying any process for ODOT to approve the uses of such commodities, rather the department relies on “best practices” that lack adequate measures or controls on the application of brine from petrochemical operations.
 - The ODOT is not the proper agency to protect Ohio’s natural resources or the health of people exposed to processed brine. Rather that duty should properly fall to the Ohio Department of Natural Resources, the Ohio Environmental Protection Agency, and the Ohio Department of Health.

- **Processed brine can still contain heavy metals, semi-heavy metals, and radiologicals (TENORM) that pose unnecessary environmental risks.**
 - In fact, according to ODNR, third party testing of AquaSalina product samples have shown the existence of these materials.
 - A recent Duke University study showed a buildup of radioactive materials at the bottom of three Western Pennsylvania waterways from treated conventional oil and gas wastewater.¹ In an NPR news article covering the report’s release, Paul Ziemkiewicz, director of the West Virginia Water Research Institute at West Virginia University stated, “[w]hen we’ve compared conventional and unconventional brines, chemically they’re almost identical,” he said. “It would be surprising to me if radium didn’t show up.”²
 - The US Geological Survey conducted a study that showed both the Marcellus shale and the non-Marcellus reservoirs contain concerning levels of radium.
 - “The range of radium activities for samples from the Marcellus Shale (less than detection to 18,000 picocuries per liter (pCi/L)) overlaps the range for non-Marcellus reservoirs (less than detection to 6,700 pCi/L), and the median values are 2,460 pCi/L and 734 pCi/L, respectively.”³

¹ The study appears in the journal Environmental Science & Technology, and was funded by the National Science Foundation and the Park Foundation.

²<https://stateimpact.npr.org/pennsylvania/2018/01/20/study-conventional-drilling-waste-responsible-for-radioactivity-spike-in-rivers/>

³ Rowan, E.L., Engle, M.A., Kirby, C.S., and Kraemer, T.F., 2011, Radium content of oil- and gas-field produced waters

- The Natural Resource Defense Council issued a comprehensive report specific to oil & gas development in the Marcellus Shale region that found resulting "...pollutants can be dangerous if they are released into the environment or if people are exposed to them. They can be toxic to humans and aquatic life, radioactive, or corrosive. They can damage ecosystem health by depleting oxygen or causing algal blooms, or they can interact with disinfectants at drinking water plants to form cancer-causing chemicals."⁴
- Contaminant levels range widely from well to well, or even from the same well, and can change over time. There is no single treatment for brine that would render it "safe" according to a California study on hydraulic fracking.⁵
- **SB 165 lacks appropriate safeguards to ensure the safety of processed brine.** Instead it specifically restricts testing frequency and even makes such testing optional. Starting at line 37 on page 2, the bill states that Chief of the ODNR Division of Oil and Gas, "*may* establish reporting and testing requirements as are reasonably necessary...", and "*may* at reasonable times collect samples of the commodity," but "shall not collect more than four samples of a commodity annually." **Testing should not be optional or restricted.** The bill also lacks any requirements for the testing protocols for the commodities to demonstrate their safety to ODOT.
 - SB 165 should require sampling and testing rules be promulgated that require, at a minimum four samples, and then as many as necessary to ensure public health and safety, and prevent any groundwater contamination or degradation of waters of the state.
 - Such samples and testing rules should direct that testing be conducted by an Ohio-EPA certified lab.
 - Adequate testing and sampling is especially important given the proprietary nature of chemical additives that makes safe treatment particularly challenging.
- **SB 165 egregiously restricts the chief's authority over processed brine used for commodities.** Specifically, at line 44 on page 2, the bill states. "[t]he

in the northern Appalachian Basin (USA)—Summary and discussion of data: U.S. Geological Survey Scientific Investigations Report 2011–5135, 31 p. (Available online at <http://pubs.usgs.gov/sir/2011/5135/>)

⁴ <https://www.nrdc.org/sites/default/files/Fracking-Wastewater-FullReport.pdf>

⁵ See

<http://documents.latimes.com/sthttps://stateimpact.npr.org/pennsylvania/2018/01/20/study-conventional-drilling-waste-responsible-for-radioactivity-spike-in-rivers/udy-hydraulic-fracking/>

chief shall

not adopt any rules, policies, or procedures establishing or imposing additional requirements applicable to commodities that have met the demonstration requirement of division (B) of this section.”

- The uncertainty and evolving risk associated with the use of processed brine as a commodity is substantial and concerning.
- The current lack of specificity and oversight to obtain a permit allowing for processed brine to be used as a commodity is more than risky, and one that will likely need addressing should SB 165 become law. A fact that this provision seems to anticipate, not by directing the chief to proactively take action, but instead, by preventing any rulemaking whatsoever, essentially tying the chief’s hands.
- We urge subsection (E) be replaced with clear direction for the chief to coordinate with the appropriate state agencies, namely Ohio EPA and Ohio Dept. of Health to promulgate rules that will prevent damage or injury to public health, safety, or the environment. This includes establishing numeric criteria that any processed “brine” must meet and show in documentation.

Given that processed “brine” can already be used as deicer under current Revised Code, it seems the intent of SB 165 is to remove ODNR oversight and allow the unfettered sale of oil and gas well waste fluids. As it stands, SB 165 lacks adequate provisions to ensure public health and safety, or to protect the environment. It fails to include any measurable criteria necessary to show the “brine” is safe. It also does not provide sufficient sampling and testing provisions, and it fails to account for the presence of heavy metals, semi-heavy metals, and radiologicals. Finally, it unnecessarily restricts the chief’s authority. For these reasons, we urge the committee to vote against passing SB 165.