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ODNR’s Own Testing Confirms Worst Fears - Oil and Gas Brine contains Cancer-Causing Radioactivity

Beginning in April, 2017, the Ohio Department of Natural Resources (ODNR) has been testing “brine” from conventional and horizontal oil/gas wells as well as brine coming to Ohio from out of state wells. The results revealed that all sources of waste contain high levels of Radium-226 and Radium-228, both cancer-inducing forms of radioactivity. Radium is especially treacherous because it is soluble in water. The human body treats it like calcium and deposits it into the skeleton where it causes painful debilitating tumors, broken bones and cancer that often metastasizes into other parts of the body. About half of all bone cancers result in death (NIH).

ODNR tests show combined Radium-226 and Radium-228 in all 151 samples. 148 of these samples exceed the 120 pCi/L Environmental Discharge Limit.

Julie Weatherington-Rice is extremely concerned that the laboratory analysis processes used for these samples are old and designed for drinking water. In comparison studies with more modern analytical process it has been found that using these old processes can report numbers that are biased low. These numbers would be higher if more modern analysis were to be used.

Some Ohio brine samples had combined Radium 226 and 228 levels as high as 9,602 Picocuries per liter. Oil and gas brine from conventional wells is currently being spread on roads as a deicer or for dust suppression.

One deicer product, AquaSalina, made from conventional brine, has also been tested by ODNR and ODH and exhibits the same dangerously high levels of Radium. Numerous ODOT Counties, and County, City and Township Road Departments are using this product all winter.

Jenny Morgan, Citizens Pollution Watch calls on all Ohio road departments to immediately stop using all oil and gas brine and brine-based products on the roads. While this latest round of radiation testing shows extremely high levels of Radium 226 and 228 members of the brine working group have been calling for the banning of road spreading of brine for 30 or more years.

Roxanne Groff, Athens County’s Future Action Network emphasizes how important it is that AquaSalina which is sold on the open market and is available at Lowes stores be pulled from the shelves and a recall notice be issued.

ODNR has long maintained that brine spreading is safe because the waste used is produced by conventional wells and not unconventional horizontal wells. The testing proves this is untrue

Combined (pCi/L)	Horizontal	Conventional	Out-of-state
Range	173 to 3264	66 to 9602	54.6 to 9798
Rad-226 (pCi/L)	Horizontal	Conventional	Out-of-state
Range	103 to 2376	3 to 9294	17.5 to 9236
Rad-228 (pCi/L)	Horizontal	Conventional	Out-of-state
Range	70 to 1814	6 to 2340	37.1 to 1091

Teresa Mills, Buckeye Environmental Network also calls on Ohio Governor Mike DeWine to use his administrative powers to immediately issue a moratorium on “brine” in any form from being spread in Ohio. Citizens also call on the Ohio Legislature to pass legislation that would permanently stop this threat to public health.

Exposure to even low levels of radium can result in an increased incidence of bone, liver, and breast cancer. The EPA and the National Academy of Sciences' Committee on Biological Effects of Ionizing Radiation has stated that radium is a known human carcinogen.

Once spread into the environment, radium migrates via air, water, and living things, contaminating water, soil, crops and other vegetation, wildlife, livestock, and pets as well as humans. The radioactivity will persist in the environment for millennia. The half-life of radium 226 is 1600 years.

Additional information:

All 151 samples tested exceed the federal drinking water standard of 5 pCi/L [picocuries per liter]

All 25 Horizontal wells exceeded both the Environmental Discharge Limit and Federal Drinking Water Standards.

All 118 Conventional wells exceeded the Drinking Water Standard. 115 exceeded the Environmental Discharge Limit.

All 8 Out-of-state wells exceeded the Drinking Water Standard. 7 of the 8 exceeded federal Environmental Discharge Limits.

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