

**Ben Stout's Analysis (professor of biology at Wheeling Jesuit University):**

The sample results you sent are eerily similar to what we have seen in produced water samples from shale fracking. The material is hazardous in my opinion. WV DEP, in sampling frackwater trucks entering a local treatment facility deemed brine to be hazardous. Your results appear similar.

The combined radium and radon were below drinking water standards, which are typically (depending on the state) the same as EPA drinking water standards. Most of the radium samples of produced water we have seen exceed the standards. However, the alpha particles, which are of much greater concern, exceeded the standard in your sample. We see that in about half of the produced water samples in this area.

The heavy metals in your sample are grossly above standard. Arsenic at 3.7 mg/l exceeds the primary drinking water standard of 0.01 mg/l by a factor of 370 times. Likewise, Barium in your sample is 145 times the standard. The only other heavy metal tested that is regulated by primary standards is selenium, which was not detected.

Heavy metals regulated by primary drinking water standards are known to have human health consequences. Secondary standards are established for metals that have odor, taste, and color issues. However, iron, with a result of 780 mg/l versus a secondary standard of 0.3 mg/l, was exceeded by a factor of 2,600 times. That's ridiculous.

The results of the BTEX analysis showed a non-detect on benzene, which is good. However, the toluene result of 6.1 ppm exceeds the standard of 1ppm by 6 times. This chemical is a known carcinogen.

It is obvious from the TDS test that this is brine water from a deep shale. In my opinion it is hazardous material and should be treated as such.