

Testimony for HB1401

Representative Marvin E. Nelson, District 9

House Energy and Natural Resources Committee

Representative Todd Porter, Chairman.

HB1401 is to have the Environmental Division develop monitoring of special waste. That's what oilfield waste is called because by law it isn't hazardous waste. Develop standards for ground water and special waste, and if found, to develop plans about what to do to prevent contamination.

Emphasis would be on the legacy of the saltwater leaching pits used not so many years ago. For a long time they were unlined. Then there was a period where liners were required, but when they were no longer going to be used, many had what is called spidering done. That is taking a backhoe and digging trenches out from the pit to quickly leach the waste into the surrounding land. Much like a septic drainfield.

There they sit. Creating a brown zone of dead farmland. Clearly they are contaminating the shallow diffuse water but what are they doing to deeper water. What are they doing to drinking water, to stock water, and to wetlands? We really don't know.

So the first part of any problem is finding out if there is a problem, then measuring the problem and then we could proceed with mitigation or cleanup.

Traditional ways of delineation are slow, expensive and very limited in scope.

I would say that I think it can be done quickest and most accurately if we start with electromagnetic machines that show salts through their high conductivity.

The USGS has done some of this using helicopter flown EM machines. They've used a frequency domain machine that can read to about 200 feet. The Sheridan County, Montana USGS study was done partly that way. They originally used it to trace contamination of home water wells that came from a long ways away. Movement of a half mile is pretty common.

There is also the EM31 for ground that does a one dimensional image for 20 feet or so depending on conductivity. After that an ohmmapper could be used to provide a three dimensional image of the contamination to approximately 30 foot depth.

Where contamination goes still deeper time domain machines can go to hundreds if not thousands of feet. The technology is much quicker and lower cost than drilling wells and testing water.

The online testimony has a copy of a presentation by Ed Murphy, state geologist about the various studies that have been done. For those of you who haven't already seen it, it's a very good self-explanatory presentation.

There is also a USGS study of about 30 wetlands where they predict how long under natural conditions it would take them to return to pre oil conditions. Acute toxicity from 2045 to 2113, chronic from 2069 to 2160 and background from 2126 to 2275. That assuming no continuing contamination and that surface wetlands that occasionally flush.

Now let's take a look from above



1997 Murphy

2 pits, notice trees



2016 Murphy

Trees gone, saline area greatly expanded. Can see gathering pipeline locations.





1995 Renville

Before oil development. After pits were used.



2021 Renville

Salts showing, pipelines. Problems aren't limited to pits.