

**From:** Partridge, George (EEC)  
**To:** [Hendricks, Todd \(EEC\)](#)  
**Subject:** FW: RCRA  
**Date:** Monday, February 22, 2016 10:32:00 AM

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Todd;

As you were talking with me a couple of minutes ago this came in.

Thought you might like to see it!

Thanks for stopping by!

George

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**From:** Pendergrass, Curt (CHFS DPH)  
**Sent:** Monday, February 22, 2016 10:30 AM  
**To:** Higginbotham, Jeri (EEC); Partridge, George (EEC)  
**Cc:** Anderson, Danny J (EEC); Garrity, Patrick (EEC)  
**Subject:** RE: RCRA

Thank you Jeri for looking into this issue. Did the EPA have no problems with the radiochemical analysis for Ra-226/228 in the water on top of the FBP sludge using the EPA's method 901.1 water safe drinking water analysis method rather than an approved EPA method for soils that Patrick indicated would have been more appropriate? Using the EPA's website and conducting a search for acceptable Ra-226 methods in solids, I came up with the following as an acceptable method for soil analysis.

**EPA Method EMSL-19: Determination of Radium-226 and Radium-228 in Water, Soil, Air and Biological Tissue** (<https://www.epa.gov/homeland-security-research/radiochemical-method-summary?methodNumber=RadiochemicalMethod7> )

**Analysis Purpose:** Confirmatory analysis

**Technique:** Alpha counting

**Method Developed for:** Radium-226 and radium-228 in water, soil, air, biological tissues and biological fluids

**Method Selected for:** SAM lists this method for confirmatory analysis of soil/sediment, surface wipe, and air filter samples.

And what about the overriding issue of whether or not a company involved in the processing of oil and gas exploration and production "special wastes" being available to take advantage of this exemption to RCRA subtitle C? Looking at a document the EPA put together, it appears that once these E&P wastes are processed, they no longer meet the definition of "intrinsically derived from primary field operations" but rather are wastes generated from a "manufacturing process". (<http://www3.epa.gov/epawaste/nonhaz/industrial/special/oil/> ).

"According to the legislative history, the term "other wastes associated" specifically includes waste materials intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas. The phrase "intrinsically derived from the primary field operations" is intended to distinguish

exploration, development, and production operations from transportation and manufacturing operations.”

And just for everyone’s information, after our meeting last week, I reached out to our Central Midwest Interstate Low-Level Waste Compact Commissioners for their opinion on the Regional Management Plan that puts a limit on what constitutes TENORM. The CMC Regional Management Plan, adopted May 1999 does establish a baseline of 5 pCi/g and greater for TENORM contaminated wastes ([http://www.cmcompact.org/publications/Regional\\_Mgmt\\_Plan.pdf](http://www.cmcompact.org/publications/Regional_Mgmt_Plan.pdf) ).

The KY Regulator Statutes that established the CMC KRS 211.861-869 make mention of the regional management and KRS 211.859 which establishes the CMC, discusses the Regional Management Plan in Article V in KRS 211.859 which establishes the Compact (<http://www.cmcompact.org/statutes/KRS%20211.859%20Central%20Midwest%20Interstate%20Low-Level%20Radioactive%20Waste%20Compact.pdf> ). What I was wanting know from the CMC Commission is if we can hold our KY landfills and those importing this out-of-state TENORM wastes to this 5 pCi/g limit? From what I have gathered, OH, PA and WV have all promulgated TENORM regulations and used this same 5 pCi/g Ra-226 + Ra-228 as the limit for disposal of oil and gas E&P “special wastes” in non-hazardous landfills. OH I believe chose to use a 5 pCi/g over and above background limit, background being defined as 2 pCi/g statewide.

I will let you know what our CMC Commissioners say on the subject. At some point it would be nice to get the legal opinions of our attorneys on this issue as well.

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Pay your fees on line at [https://prd.chfs.ky.gov/rad\\_epay/](https://prd.chfs.ky.gov/rad_epay/)  
Be notified of proposed regulation changes <https://secure.kentucky.gov/Regwatch/>  
Dispose of unwanted sources <http://www.crcpd.org/StateServices/SCATR.aspx>



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**From:** Higginbotham, Jeri (EEC)  
**Sent:** Friday, February 19, 2016 2:01 PM  
**To:** Partridge, George (EEC)  
**Cc:** Pendergrass, Curt (CHFS DPH)  
**Subject:** RCRA

These are my notes from our 11:00 telephone conversation with Nancy McKee Perez of the USEPA concerning the applicability of RCRA to waste generated by Fairmont Brine

Processing.

The waste, as it was being transported to Fairmont Brine, was probably exempt. After it was processed, though, the sludge might be characteristic, possibly for RCRA metals. They are arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. It is also possible that it could have been characteristic for certain listed solvents. Fairmont Brine or Advanced TENORM Services should have characterized the waste for proper disposal.

Nancy asked about the water that was generated. From Fairmont Brine's website, it appears it is put to beneficial reuse, although not necessarily in the oil and gas industry.

George sent Nancy the data we have from Waste Management. We will be talking again Tuesday.

From my perusal of Waste Management's data, it does not appear that any of the RCRA metals are in concentrations that would make them characteristically toxic. Furthermore, I doubt that any of the listed solvents would be used in the industry. But did Fairmont Brine or Advanced TENORM Services ever do the testing required to know that? And how representative is the Waste Management dataset?

Jeri W. Higginbotham, Ph.D.

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