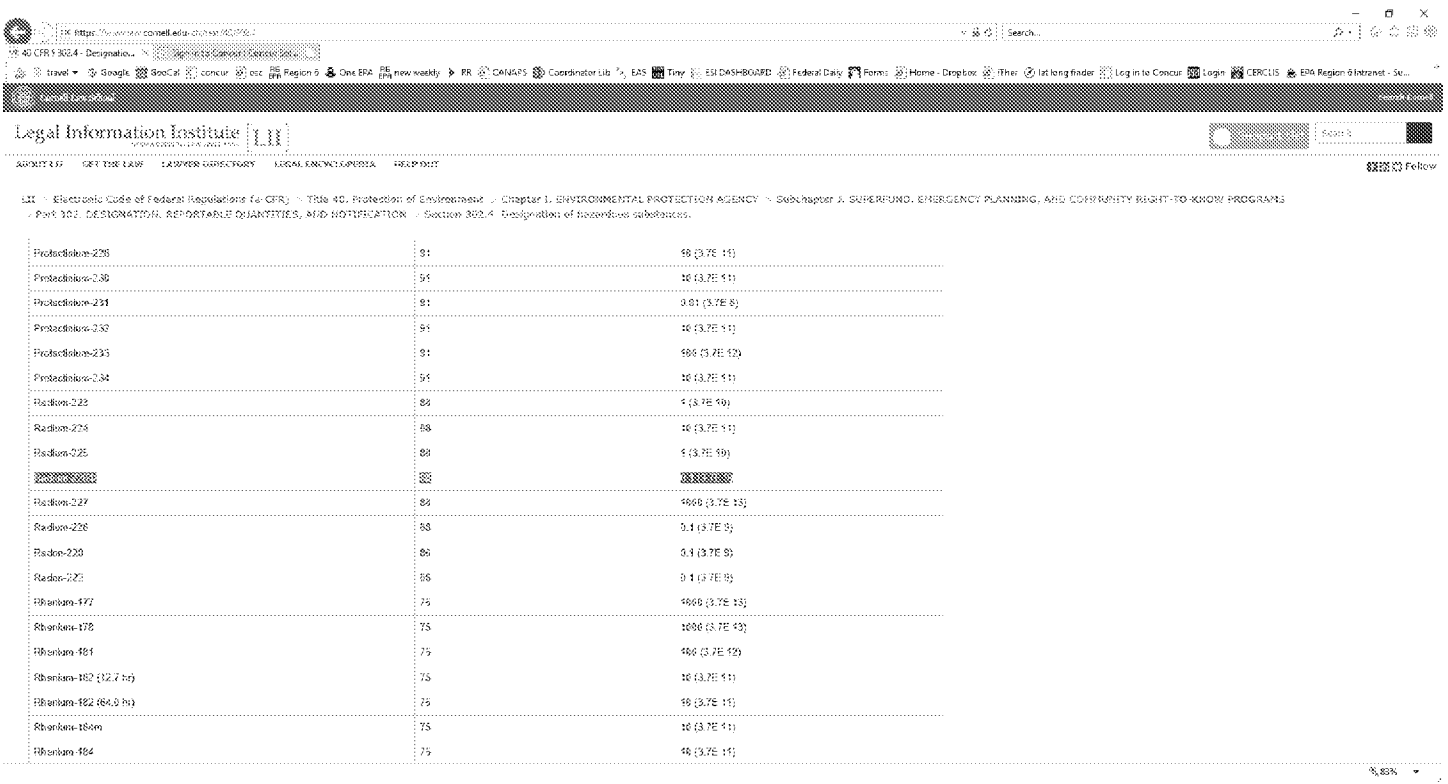
Message

**From:** Fife, Greg [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1EBD5B1EB9104F3E93818DB928C8A313-FIFE, GREG]
**Sent:** 4/29/2019 3:50:01 PM
**To:** Webster, Susan [webster.susan@epa.gov]
**Subject:** lowerline draft action memo.docx
**Attachments:** lowerline draft action memo.docx

With regard to whether Radium-226 is a hazardous substance versus a pollutant or contaminant: Part 302.4 includes Radionuclides and then in Appendix B, the radionuclides are listed with specific RQs, etc.. I'd suggest the following addition in red.

Radium-226 is a radionuclide and a hazardous substance according to section 101(14) of CERCLA, 42 U.S.C. § 9601(14) and 40 C.F.R. § 302.4, specifically Appendix B. *See* Attachment 2, Material Safety Data Sheet for Radium.




| | | |
|---|---|---|
| Protactinium-226 | 91 | 10 (3.7E 11) |
| Protactinium-230 | 91 | 10 (3.7E 11) |
| Protactinium-231 | 91 | 0.01 (3.7E 8) |
| Protactinium-232 | 91 | 10 (3.7E 11) |
| Protactinium-233 | 91 | 100 (3.7E 12) |
| Protactinium-234 | 91 | 10 (3.7E 11) |
| Radium-223 | 88 | 1 (3.7E 10) |
| Radium-224 | 88 | 10 (3.7E 11) |
| Radium-225 | 88 | 1 (3.7E 10) |
| [redacted] | [redacted] | [redacted] |
| Radium-227 | 88 | 1000 (3.7E 13) |
| Radium-228 | 88 | 0.1 (3.7E 9) |
| Radon-220 | 86 | 0.1 (3.7E 9) |
| Radon-222 | 86 | 0.1 (3.7E 9) |
| Rhenium-177 | 75 | 1000 (3.7E 13) |
| Rhenium-178 | 75 | 1000 (3.7E 13) |
| Rhenium-181 | 75 | 100 (3.7E 12) |
| Rhenium-182 (12.7 h) | 75 | 10 (3.7E 11) |
| Rhenium-182 (64.0 h) | 75 | 10 (3.7E 11) |
| Rhenium-186m | 75 | 10 (3.7E 11) |
| Rhenium-184 | 75 | 10 (3.7E 11) |

If there is a question about the 'source of the base material' on page 5: The base material is the compactable dirt suitable for a base under the asphalt or other paving. The city has vague records of when the street was paved but has no record of where the soil or base material was acquired.