

SEP 02 2010

STATE OF ILLINOIS
Pollution Control Board

John Therriault - Re: Radiochemical Test Methods

From: Mike McCambridge
To: Churilla.Patrick@epamail.epa.gov
Date: 8/31/2010 10:53 AM
Subject: Re: Radiochemical Test Methods
CC: Crowley, Kathleen; Girard, Tanner; Johnson, Tom; Therriault, John

PC#1

As stated in my response to the second segment of what you have forwarded, I appreciate your efforts.

I will check to see what this satisfies of our needs. We will continue to look for any methods that are still missing.

I direct attention to the question posed in my response to the second segment of your send.

John Therriault: Please add this to the other response as a single public comment in consolidated docket R10-1/R10-17/R11-6.

Michael J. McCambridge
Attorney
Illinois Pollution Control Board
312-814-6924



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>>> <Churilla.Patrick@epamail.epa.gov> 8/31/2010 8:05 AM >>>

Mike,

I don't have the full documents, "Interim Radiochemical Methodology for Drinking Water" or the "Radiochemistry Procedures Manual" that are referenced in the Code of Federal Regulations. However, I have found many of the individual methods saved in pdf format. I will send them in 2 e-mails so the e-mail files won't be to big. If any of the methods that you need are missing, you will have to go to NTIS.

Pat Churilla
USEPA - Region 5
Ground Water and Drinking Water Branch
312-353-6175

(See attached file: alpha-emit.pdf)(See attached file: cesium.pdf)
(See attached file: grossalpha.pdf)(See attached file:
iodinedistil.pdf)(See attached file: iodineprecip.pdf)(See
attached file: Rad-226.pdf)(See attached file: Rad-228.pdf)(See
attached file: strontium.pdf)(See attached file: tritium.pdf)

John Therriault - Re: Radiochemical Methods part 2 of 2

From: Mike McCambridge
To: Churilla.Patrick@epamail.epa.gov
Date: 8/31/2010 10:46 AM
Subject: Re: Radiochemical Methods part 2 of 2
CC: Crowley, Kathleen; Girard, Tanner; Johnson, Tom; Therriault, John

Thank you. I will review this to see exactly how it covers what we lack, and I will keep it on file for the appropriate methods.

I have an ancillary question. In 40 CFR 141.25(b)(2), USEPA cites to "HASL Procedure Manual, Edited by John H. Harley, HASL 300, ERDA Health and Safety Laboratory, New York, NT., 1973." This is for unspecified unregulated contaminants.

I note that in 40 CFR 141.25(a), table and note 8, USEPA authorizes use of "EML Procedures Manual,' 28th (1997) or 27th (1990) Editions, Volumes 1 and 2" for various regulated radionuclides. The cover of the EML Procedures Manual bears the designation "HASL 300."

Since the 1973 volume is very difficult to locate, may we legitimately cite to the 27th and 28th editions of the EML Procedures Manual in 40 CFR 141.25(b)(2) for use for unspecified unregulated contaminants?

This change is included in a recent proposal for amendments to the Illinois NPDWRs.

John Therriault: Please add this e-mail together with any response that I may forward at a later date as a public comment in the consolidated R10-1/R10-17/R11-6 SDWA Update.

Michael J. McCambridge
 Attorney
 Illinois Pollution Control Board
 312-814-6924



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>>> <Churilla.Patrick@epamail.epa.gov> 8/31/2010 8:08 AM >>>

(See attached file: A&BH2O.pdf)(See attached file: Alfabeto.pdf)
 (See attached file: Coprecip.pdf)(See attached file: isotopiana.pdf)
 (See attached file: Put.pdf)(See attached file: Ra226&w.pdf)(See
 attached file: Ra226h2o.pdf)(See attached file: Rad-226d.pdf)(See
 attached file: Rad-228.pdf)(See attached file: RadiostrontiumH2O.pdf)
 (See attached file: Sr89-90.PDF)
 (See attached file: T2OH2O.pdf)(See attached file:
 Thorium.pdf)(See attached file: TritiumH2O.pdf)

John Therriault - Re: Radiochemical Test Methods

From: Mike McCambridge
To: Churilla.Patrick@epamail.epa.gov
Date: 8/31/2010 7:54 PM
Subject: Re: Radiochemical Test Methods
CC: Crowley, Kathleen; Girard, Tanner; Johnson, Tom; Liu, Alisa; Rao, Anand; Therriault, John

Thanks again for your help. I need you to verify what I have concluded about the methods that you sent me.

I was able to identify all of the methods that we needed from "Radiochemistry Procedures Manual," EPA 520/5-84-006. (Thorium.pdf, RadiostrontiumH2O.pdf, Rad-228.pdf, Rad-226d.pdf, Rad-226h2o.pdf, Coprecip.pdf, Alfabeta.pdf, and TritiumH2O.pdf, corresponding with methods 00-07, Sr-04, Ra-05, Ra-04, Ra-03, 00-02, 00-01, and H-02, respectively)

I have identified others as from "Interim Radiochemical Methodology for Drinking Water," EPA-600/4-75-008 (revised) (Mar. 1976). They appear identical in content, although the pagination shifts for the radium-226, cesium, and strontium methods from the reference that I have on file, excluding the method for potassium-40 (pp. 38-40) and the appendices (pp. 41-48). (grossalpha.pdf, cesium.pdf, iodineprecip.pdf, iodinedistil.pdf, alpha-emit.pdf, Rad-226.pdf, Rad-228 b.pdf, strontium.pdf, and tritium.pdf, corresponding with pages 1-3, 4-6, 6-8, 9-12, 13-15, 16-23, 24-28, 29-33, and 34-37, respectively)

One method (isotopicana.pdf) is for isotopic gamma ray spectrometry and begins on page 92. I note the 40 CFR 141.25(a), table & note 4 attribute the approved method for gamma emitters by gamma ray spectrometry is attributed to page 92 of "Radiochemical Analytic Procedures for Analysis of Environmental Samples." I assume that this method is the same method.

I cannot attribute the remaining five methods to a source. They have numbered paragraphs, similar to segments of the "HASL 300" document, and four bear footnotes on their first pages that read as follows: "* HASL Procedures Manual, J.H. Harley, editor. pages . . . , August 1977." (A&BH2O.pdf, Ra226&8w.pdf, Sr89-90.pdf, and T2OH2O. pdf) The other one does not include the note. (Put.pdf) This is a method for isotopic determination of plutonium, thorium, and uranium by alpha spectrometry.

Can you verify that the eight methods that I have identified as from "Radiochemistry Procedures Manual" are indeed from that source?

Can you verify that my assessment of the nine unidentified methods that I have attributed to "Interim Radiochemical Methodology for Drinking Water" are indeed from that source? If so, is it from a later version than March 1976?

Can you verify that the one method that I have identified as from "Radiochemical Analytic Procedures for Analysis of Environmental Samples" is indeed from that source?

Can you verify if the five remaining unidentified methods are indeed from "HASL 300"? If so, can you identify the editions? I have the 27th and 28th editions at hand, and a quick comparison does not allow me to attribute any of the five methods as coming from either of those versions. (I note that four of the five methods are marked in the first-page note "August 1977," which is later than the version cited in 40 CFR 141.25(b)(2).)

If my assessment is correct, I need only obtain "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions" and five methods from "Radiochemical Analytic Procedures for Analysis of Environmental Samples" (those beginning on pages 1, 5, 6, 9, 19, 33, 65, and 87, for gross alpha and beta, radioactive iodine, radium-226 and radium-228, uranium, radioactive strontium-89 and strontium-90 and tritium).

John Therriault: Please add this to the comment for consolidated docket R10-1/R10-17/R11-6.

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John Therriault - Re: Radiochemical Test Methods

From: Mike McCambridge
To: Churilla.Patrick@epamail.epa.gov
Date: 9/1/2010 11:02 AM
Subject: Re: Radiochemical Test Methods
CC: Crowley, Kathleen; Girard, Tanner; Johnson, Tom; Liu, Alisa; Rao, Anand; Therriault, John

Thanks again. While the hunt continues, I have something in my bag, and there are fewer for me to track down.

John Therriault: Please add to the R10-1/R10-17/R11-6 comment that we started on this.

Michael J. McCambridge
Attorney
Illinois Pollution Control Board
312-814-6924



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>>> <Churilla.Patrick@epamail.epa.gov> 9/1/2010 8:55 AM >>>
Mr. McCambridge,

I am sorry to say that I cannot verify the source of any of the analytical methods that I sent to you. I only have the individual methods, not the reference documents from which they came.

Sincerely,

Patrick J. Churilla
USEPA - Region 5
77 W. Jackson Blvd. (WG-15J)
Chicago, IL 60604
312-353-6175

From: "Mike McCambridge" <MCCAMBM@ipcb.state.il.us>
To: Patrick Churilla/R5/USEPA/US@EPA
Cc: "Crowley, Kathleen" <CROWLEK@ipcb.state.il.us>, "Girard, Tanner" <GIRARDT@ipcb.state.il.us>, "Johnson, Tom" <johnsont@ipcb.state.il.us>, "Liu, Alisa" <LiuA@ipcb.state.il.us>, "Rao, Anand" <RAOA@ipcb.state.il.us>, "Therriault, John" <THERRIAJ@ipcb.state.il.us>
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