

Docket # 030-01063
License # 40-06921-03

Evans, Robert

From: Drew Alton [alton@augie.edu]
Sent: Thursday, May 13, 2010 5:21 PM
To: Evans, Robert
Subject: RE: Final 3 questions for my technical review

Hi Robert,

I thought I'd given you answers to them all.

I am fairly certain you printed the Excel sheet to use for the Strontium and thought that was ok.

Below I sent you what I think the list of measurements is. Am I correct that these are the list of measurements you meant.

It does appear I never sent my explanation for number 4 below. The hand written notes specify that the jar and pipets measured 150 cpm not very 'hot' but as you point out about twice the background. The notes then specify that the liquids were solidified with soil from the surrounding area. It's possible the person writing the typed version didn't view twice background as significant enough to comment on since it was being disposed of anyway. It also occurs to me we don't know what the source of the 150 cpm was (alpha, beta, gamma, etc), but by adding the soil to solidify things that would completely shield any alphas, and would reduce beta's depending on the energy. Perhaps enough these reduced the counts such that the readings were similar to background.

I still haven't heard back from Carl, so I haven't gotten any confirmation from him that my interpretation of 1-6 are correct, but Mike Wanous and I are fairly confident that's what those measurements are.

Let me know if you are happy with these answers. Sorry about this taking so long.

-Drew Alton

>>> "Evans, Robert" <Robert.Evans@nrc.gov> 5/13/2010 4:55 PM >>>

Greetings, if you can get me answers to these questions by Friday afternoon (tomorrow), I'll finish up the technical review memo. Otherwise, I will be out of the office for 3 weeks.

-----Original Message-----

From: Drew Alton [mailto:alton@augie.edu]
Sent: Tuesday, May 04, 2010 11:06 AM
To: Evans, Robert
Subject: Re: Final 3 questions for my technical review

Hi Robert,

I am still waiting to hear from Carl if he has any more information about the one numbered 4 below, but Mike Wanous and I have nailed down the answer to 5. In Mike's notes he had 6 spots on the floor of Room 4 that were hot. His count rates for those 6 spots are:

- 1 1K cpm
- 2 4k cpm
- 3 500 cpm
- 4 2k cpm
- 5 2.6 k cpm
- 6 20 k cpm

In decent agreement with the measurements from the report which are:

- 1 900 cpm
- 2 5000 cpm
- 3 700 cpm
- 4 1200 cpm
- 5 2600 cpm
- 6 12,000 cpm

These hot spots in the floor were chipped from the floor and disposed of with the other material.

I hope this addresses your concern on this point.

>>> "Evans, Robert" <Robert.Evans@nrc.gov> 4/30/2010 9:21 AM >>>

I'm in the office for two weeks, and I would like to wrap this project up early next week! I still have 3 open issues with this project:

I still can't find the Sr-90 results in Section 6, a 128-page section. The section provides only C-14, Co-60, and Cs-137 results. Note that on page 5 of 128, "unknown beta emitters" was not checked, and on Page 9, only Gamma and C-14 are checked. On page 12, the case narrative is only for C-14 and Gamma. I don't believe the results are included in this section. Please provide the Sr-90 results, or please provide the specific section number and page number. (SORRY!)

We still have two open questions from my Feb 17, 2010 email:

4. In the manual entitled Report of Field Activities, the hand-written field notes for July 8, 2008, document that the glass jar with pipets found in Pit #4 measured 150 cpm, or about twice the background value of 70 cpm. The contractor's summary report dated January 19, 2009, Page 3, Pit #4, states that "no elevated readings were noted on the jar." Please resolve this discrepancy.

>>I am investigating this.

5. In the manual entitled Report of Field Activities, the typed field notes for May 8, 2008, list measurements entitled #1 through #6. The field notes do not specify exactly what was measured.

>>I am investigating this.

As soon as we wrap these three items up, we can move forward with this licensing action. THANKS!

Rob Evans
Sr. Health Physicist
NRC Region IV

Evans, Robert

From: Drew Alton [alton@augie.edu]
Sent: Monday, May 03, 2010 8:49 AM
To: Evans, Robert
Subject: RE: Wet Lab report

After examining the information myself I couldn't find an explanation. I've contacted Carl Tragesser from USA Environmental to see if he can shed any light on them.

>>> "Evans, Robert" <Robert.Evans@nrc.gov> 5/3/2010 8:30 AM >>>

This works, I'll go with the information on this spreadsheet. We are down to 2 questions!

-----Original Message-----

From: Drew Alton [mailto:alton@augie.edu]
Sent: Friday, April 30, 2010 5:31 PM
To: Evans, Robert
Subject: RE: Wet Lab report

This was the email that made me think the Sr-90 was dealt with.

>>> "Evans, Robert" <Robert.Evans@nrc.gov> 3/22/2010 4:21 PM >>>

Go ahead and ship the meter back to us. I believe you may have an addressed FedEx label ready to go?

I printed out the spreadsheet, and I will use that page as the Sr-90 results.

RE

-----Original Message-----

From: Drew Alton [mailto:alton@augie.edu]
Sent: Tuesday, March 09, 2010 8:23 AM
To: Evans, Robert
Subject: Fwd: Wet Lab report

Hi Robert,

I contacted Carl Tragesser from USA Environmental. He sent me this sheet on the Strontium. I commented that the other sections were 60 pages and this was only one excel sheet. But he double checked and is firm that this is all the results they have for strontium.

It appears my version of the binder got out of order. My Tab 4 is your tab 6, my tab 5 is your tab 4, My tab 6 is your tab 5. And then there is the problem that your tab 6 should be in tab 5 and this new file needs to be in tab 6. I will adjust mine to agree with yours. Sorry for that confusion.

One other question, when Larry left he said he wasn't sure if he'd need to come back and suggested I hold onto the instruments you FedEx'd to us. Should I still be holding on to those or should I ship them back?

-Drew

>>> carlt <carlt@aol.com> 3/6/2010 3:07 PM >>>

Drew,

L

Evans, Robert

From: Drew Alton [alton@augie.edu]
Sent: Tuesday, March 09, 2010 8:23 AM
To: Evans, Robert
Subject: Fwd: Wet Lab report
Attachments: 08-05110.xls; Part.002

Hi Robert,

I contacted Carl Tragesser from USA Environmental. He sent me this sheet on the Strontium. I commented that the other sections were 60 pages and this was only one excel sheet. But he double checked and is firm that this is all the results they have for strontium.

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-Drew

>>> carlt <carlt@aol.com> 3/6/2010 3:07 PM >>>

Drew,

L

Isotope	ClientName	SampleTyp	ClientID	ReportUnits	Result	Uncertainty	MDA
TOTAL SR	USA Environment, LP	LCS	LCS	pCi/g	17.095	1.143	0.755
TOTAL SR	USA Environment, LP	MBL	BLANK	pCi/g	0.598	0.470	0.767
TOTAL SR	USA Environment, LP	DUP	SAMPLE FROM UNDER SINK	pCi/g	255.548	10.344	4.474
TOTAL SR	USA Environment, LP	DO	SAMPLE FROM UNDER SINK	pCi/g	223.832	9.838	4.185

Evans, Robert

From: Drew Alton [alton@augie.edu]
Sent: Wednesday, March 03, 2010 5:21 PM
To: Evans, Robert
Subject: Re:
Attachments: Doc0752_000.pdf; Doc0753_000.pdf

Hi Robert,

Focusing just on the two questions we're addressing now:

>Your original question:

2. The Sr-90 sample results were mentioned in the contractor's letter dated June 11, 2008, but the laboratory results were not included in Section 6 of the 3-ring binder report entitled Report of Field Activities. (Section 6 appears to be missing from the NRC's copy of the manual.)

>My first reply

>> I need some clarification on this. There are two binders, each of which has a section 6. Right before section 1 of each book really begins, there is a table of contents that gives a title for each section. Is the section 6 you are missing the one that the table of contents labels "Augustana Memos/correspondence" or "Wet Lab Total Strontium Laboratory Analysis".

>Your response to my first reply

The NRC's 3-ring binders are not tabbed, so the sections are not subdivided from each other. The missing section should be found in the 3-ring binder entitled Report of Field Activities, Radioactive Materials, which has a table of contents page with 8 sections. The sixth section is entitled "wet lab total strontium laboratory analysis." This information was not found after section 5, "wet lab C-14 and H-3 laboratory analysis," in the manual. The information in our manual jumps from the C-14 and H-3 analyses to the radioactive materials license. In other words, the section on Sr-90 laboratory analyses appears to be missing from the manual.

>My second reply

I am very sorry your binders were not tabbed. That must have been my fault. I've attached two scanned files, one for each binder. They each have the first page from each section, and I have hand written which section it's the first page of. From these I think you will be able to locate section 6. The 'table of contents' calls it "wet lab total strontium laboratory analysis" but the first page of that section doesn't use that name. In fact, the only connection that occurs is because USA thought that strontium was the contaminant under the sink. This section of the binder is about the results for the samples from under the sink. So my guess is that the section is in your binder, but the labeling is bad enough that you couldn't identify it. If I'm wrong and you don't have this section please let me know, and I will scan it and email it, fax it, or send you a copy in the mail.

>Your original question:

6. The field notes do not clearly specify if the contractor scanned Room 244 for residual radioactive contamination. The only measurements clearly mentioned in the report were the fixed point measurements of the areas that were decontaminated (before and after measurements).

>My first reply

>> I believe you mean room 244, but please correct me if I am wrong. After decontamination efforts, the contractors scanned the areas that we had identified as contaminated to confirm the removal of contamination. The full room scan was performed by Dr. Wanous before the contractors' arrived.

>Your response to my first reply

Room 224 was a typo, I meant 244. Thanks for catching the error. I am trying to ensure that room, or at least the areas where radioactive materials were used, has been either scanned or directly surveyed (fixed point measurement). Could you please give me your best guess estimate of the percentage of the room area that was scanned? NRC guidance recommends scanning between 10 to 100% of the floors, walls, and other accessible surfaces less than six feet above the floor, and 10-50% of the upper walls (greater than 6 feet) and ceiling space.

>My second Response.

Over about a 2 day period Mike Wanous scanned >90% of the floor, counter tops, walls in the room. He says he kept the counter around 1 cm from the surface. In addition, he checked all drawers. He says he went all the way up the wall to the ceiling, but did not check the ceiling.

Thanks for all the feedback. I am interested to see/hear what Larry observed.

-Drew Alton

Evans, Robert

From: Drew Alton [alton@augie.edu]
Sent: Wednesday, February 24, 2010 11:03 AM
To: Evans, Robert
Cc: Mike Wanous; Spitzberg, Blair
Subject: Re: Comments on your Final Report - Augustana College

Hi Robert,

I've inserted some answers and a couple questions below, with >> to note them. I'm still working on the rest of the answers.

>>> "Evans, Robert" <Robert.Evans@nrc.gov> 2/17/2010 12:00 PM >>>

Drew-

I reviewed the two 3-ring binders submitted to the NRC by letter dated June 30, 2009, and I have the following comments/questions. Please provide an answer to each paragraph in writing at your earliest convenience so we can complete the review of the license amendment request.

Thanks,
Robert Evans
Sr. Health Physicist
NRC Region IV

1. The acceptance criteria for release of Room 244 depend on which radionuclides were used in the room in the past. The licensee mentioned the presence of strontium-90 in laboratory Room 244, suggesting that this was the radionuclide of concern. The licensee needs to determine the radionuclides of concern, based on the historical assessment of the previous uses that were conducted in the room. The acceptance criteria then can be established based on the radionuclides previously used in the room.

>> We know that these radionuclides were used in this room: Sr-90, C-14, P-32, S-35, I-125

2. The Sr-90 sample results were mentioned in the contractor's letter dated June 11, 2008, but the laboratory results were not included in Section 6 of the 3-ring binder report entitled Report of Field Activities. (Section 6 appears to be missing from the NRC's copy of the manual.)

>> I need some clarification on this. There are two binders, each of which has a section 6. Right before section 1 of each book really begins, there is a table of contents that gives a title for each section. Is the section 6 you are missing the one that the table of contents labels "Augustana Memos/correspondence" or "Wet Lab Total Strontium Laboratory Analysis".

3. The contractor's letter dated January 19, 2009, discusses the reclamation of pit #6 on pages 3 and 4. On page 4, the contractor states that "the solids [from pit #6] were placed into Drum #6 for characterization and disposal." The meaning of this sentence was not clear, because the contractor did not locate buried radioactive material in pit #6.

>>>Our records indicated that a sixth pit would be dug and gave a location, but there was no record of the pit actually being dug. We excavated the position of the sixth pit in case there had been burial, but there was no evidence of any burial at that position. We wanted to make certain that we thoroughly investigated the potentiality of the sixth pit.

4. In the manual entitled Report of Field Activities, the hand-written field notes for July 8, 2008, document that the glass jar with pipets found in Pit #4 measured 150 cpm, or about twice the background value of 70 cpm. The contractor's summary report dated January 19, 2009, Page 3, Pit #4, states that "no elevated readings were noted on the jar." Please resolve this discrepancy.

>>I am investigating this.

5. In the manual entitled Report of Field Activities, the typed field notes for May 8, 2008, list measurements entitled #1 through #6. The field notes do not specify exactly what was measured.

>>I am investigating this.

6. The field notes do not clearly specify if the contractor scanned Room 224 for residual radioactive contamination. The only measurements clearly mentioned in the report were the fixed point measurements of the areas that were decontaminated (before and after measurements).

>>I believe you mean room 244, but please correct me if I am wrong. After decontamination efforts, the contractors scanned the areas that we had identified as contaminated to confirm the removal of contamination. The full room scan was performed by Dr. Wanous before the contractors' arrived.