Print Message

Re: follow-up

From: VIVIAN KRAUSE <vivian.krause@me.com>
To: David Schindler <d.schindler@ualberta.ca>
Date: 08 June 2011 11:57:09 AM

Dr. Schindler,

Thanks very much for getting back to me so quickly.

The paper that I was referring to below in #2, is from the Alberta Government. I mistakenly said that the date was 2010. Actually, it was 2011. This is the paper that was prepared for the Alberta Government, and it came out just a few months ago. We discussed it briefly when we spoke. My question is, why were the mercury deposition levels that you reported in Kelly et al. (2010) so much lower than the levels reported by the Mercury Deposition Network?

I've noted the points that you've clarified below.

Thanks again,
Vivian

On Jun 08, 2011, at 10:43 AM, David Schindler <d.schindler@ualberta.ca> wrote:

> Hello Vivian,
>
> I have answered your questions (in caps) and have inserted a few
> comments/corrections in the quotes, to keep them in context.
> Best,
> Dave S
>
>
> At 10:42 AM 6/8/2011, you wrote:
> >Dr. Schindler,
> >
> >Thank you for speaking with me on monday.
> >
> >I have three further questions:
> >
> >1) On an annual basis, the estimated deposition of airborne
> >particulates is estimated at 34,000 MT. That's considerably higher
> >than the estimate of 7,272 MT from the National Pollutant Release
> >Inventory). What explains this huge gap?
>
> I DON'T KNOW. IT IS POSSIBLE THAT THERE WERE MORE AIRBORNE EMISSIONS
> WITHIN THE 50 KM RADIUS THAT WE FOUND ELEVATED PARTICLES, BECAUSE
> OF MINING ACTIVITY, ROAD TRAVEL ETC. IN ADDITION TO PLANT
> EMISSIONS.THESE WOULD HAVE ADDED TO OUR NUMBERS, WHICH WERE BASED ON
> WHAT WE FOUND IN SNOW RATHER THAN REPORTED EMISSIONS, ie OUR VALUES
> WOULD REPRESENT EMISSIONS PLUS DUST FROM ROADS AND MINES.
>
>
> >2) If I understand correctly, the paper titled, Evaluation of Four
> >Reports on Contamination of the Athabasca River System by Oil Sands
> >Operations, dated March 7, 2010, suggests that Kelly et al. (2010)
> >found lower levels of mercury deposition than were found by the
> >Mercury Deposition Network. Have I understood that correctly? And
> >if so, what explains this?
>
> I DONT UNDERSTAND. HOW DID THEY REPORT THIS MONTHS BEFORE WE
> PUBLISHED THE DATA? I DON'T KNOW THE PAPER IN ANY CASE. WE HAVE MUCH
> MORE SENSITIVE METHODS THAN MOST LABORATORIES, WITH LIMITS OF

DETECTION LESS THAN NANOGRAM PER LITER CONCENTRATIONS. MOST LABS CANNOT WORK AT SUCH LOW VALUES. OUR LABORATORY IS INTERCALIBRATED WITH THE US GEOLOGICAL SURVEY AND OTHER PROMINENT MERCURY LABS THAT WERE PART OF THE METAALICUS PROJECT, SO I AM CONFIDENT OF OUR NUMBERS. PERHAPS THEY ARE REPORTING HIGHER NUMBERS BECAUSE THEY ARE WORKING WITH A LOT OF "NON-DETECTS, "WHICH SOMETIMES ARE HANDLED BY ASSUMING THATTHE VALUE IS HALF THE DETECTION LIMIT.

>3) At the end of our conversation, we briefly discussed the type of
>monitoring that you would like to see. You mentioned, for example,
>setbacks from streams and air controls. If you could elaborate a
>little on what you believe are the key elements of a monitoring
>system that you would like to see, I'd be grateful for more detail
>on this point. Perhaps I could speak with you about this briefly,
>at your convenience, or perhaps you could refer me to something that
>you've already written? That would be appreciated.

THE SETBACKS AND CONTROLS ON AIRBORNE PARTICULATES ARE NOT PART OF THE MONITORING PROGRAM, JUST STANDARD METHODS WIDELY USED ELSEWHERE TO MINIMIZE THE ENVIRONMENTAL IMPACTS OF DAMAGE TO WATERSHEDS AND AIRBORNE EMISSIONS OF CONTAMINATED PARTICULATES, RESEPCTIVELY. FOR THE MONITORING, I WOULD LIKE TO SEE MORE DETAILED WORK ON THE TRIBUTARIES, TO ASSESS THE RELATIVE IMPORTANCE OF NATURAL AND INDUSTRIAL SOURCES. RIGHT NOW, MOST OF THE EFFORT IS CONCENTRATED ON THE ATHABASCA MAINSTREAM, AND AT TRIBUTARY MOUTHS ONLY. I WOULD LIKE TO SEE BETTER METHODS USED FOR POLYCYCLIC AROMATICS, THOSE REPORTED IN THE PAST CANNOT DETECT TOXIC CONCENTRATIONS. I WOULD LIKE TO SEE SOME DETAILED EFFORT DURING SPRING SNOW MELT, WHEN THE CONTAMINANT LOAD IN SNOW WOULD ENTER THE RIVER. SO FAR, THAT POSSIBILITY HAS BEEN IGNORED, EXCEPT IN THE PILOT STUDIES THAT DAVE TREW OF ALBERTA ENVIRONMENT AND I DID IN 1990. WE ALSO NEED BETTER BIOLOGICAL MONITORING, BETTER PUBLIC REPORTING, FREQUENT AND VISIBLE PEER REVIEW, AND A BALANCED STAKEHOLDER PANEL TO DIRECT THE PROGRAMS. I AM OPTIMISTIC THAT SOME OF THESE WILL BE ADDED AS THE RESULT OF OUR STUDY, ALTHOUGH SEVERE CUTS TO BOTH ENVIRONMENT CANADA AND ALBERTA ENVIRONMENT ARE GOING TO HINDER PROGRESS.

>As promised, I would like to verify the quotes that I would
>attribute to specifically to you, and other key points. I've listed
>these below. Whether or not these will appear in the final version
>will depend on editing - which is beyond my control.
>
>Once again, thank you very much for speaking with me on monday.
>
>Sincerely,
>Vivian Krause
>604.618.8110
>
>Direct quotes:
>
> * "By the time you're exceeding the guidelines, its too
> late. Its like closing the barn door after the mare's been
> bred."YES. FOR PROPER PLANNING, WE MUST KNOW WELL IN ADVANCE WHEN
> TOXIC THRESHOLDS WILL BE REACHED.
> * "The total amount of emissions doesn't matter so much as the
> levels of certain contaminants." YES MUCH OF THE "EMISSIONS" OF
> PARTICLES ARE JUST BENIGN DUST
> * "You can't assume that something isn't happening if you
> haven't looked at it."
> * "I thought the results were kind of boring. Most people who
> do research like surprises. There were no surprises."
> * "I wouldn't be worried about an occasional drink of water from
> the river."

> * "It wouldn't have mattered who we got the money from.(PROBABLY
> MORE ACCURATELY STATED AS "The source of our money would not have
> affected our results." I was sure this would make the oil sands
> look bad, based on many past studies of airborne emissions and
> stripped watersheds ."
> * "I would agree with slowing, but I certainly don't want to
> shut the industry down." I will note that you suggest that the
> current rate of growth of the industry is 7% and that you would
> like to see that slow to about 3% for a variety of reasons, among
> them, so that community services (eg. schools, hospitals) and can
> keep pace. (ALSO, SO THAT ENVIRONMENTAL PROBLEMS CAN BE HEADED OFF
> IN ADVANCE, NOT DISCOVERED LATER)
> * "Anything above 3% growth is out of control. Any government
> that can't run an economy on 3% growth has a problem."
>Other points:
>
> * All of the data reported in Kelly et al. (2010) is in the
> public domain, either with Environment Canada or the University of
> Saskatchewan.
> * Contrary to the statement in the memo from the Hatfield
> consultants (dated November 7, 2010), the names of all the
> tributaries are provided in the Supplementary Information to Kelly
> et al. (2010).
> * The Athabasca river is about 1,400 km long. It takes about
> six weeks for run-off to go from snowpack to the river.
> * We don't know what portion of airborne emissions get into the
> watershed but its safe to say that a good portion of them do.
> * The total cost of the study was about half a million
> dollars. Of that about $250,000 was for field costs (including
> helicopter) and $250,000 was for salaries and analyses. Dr.
> Schindler did not take salary for this project (over and above his
> regular salary from the University of Alberta).
> * The estimated cost of the environmental monitoring that is now
> proposed by the federal government would be about $20 million per
> year, that's equivalent to the profit that the Alberta oil industry
> makes in about four hours. (Note: I'll verify this with CAPP).