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Message contains attachments
BD Mining.pdf (1339KB), McDermottErnestResponse.pdf (1421KB), Table 2 Ernest Site.pdf (17KB)

Jeff Stant
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Environmental Integrity Project
217 South Audubon Road
Indianapolis , IN 46219

Dear Mr. Stant:

I am writing to follow up on some matters from our November, 2008 meeting. The input you and your colleagues have provided at our various meetings and your sincerity are appreciated as Pennsylvania improves the coal ash beneficial use program. This letter is in response to the graphs you presented to the Department of Environmental Protection (DEP) staff at our meeting on November 13, 2008. The graphs were for cadmium at the Ernest site where you concluded that cadmium was increasing at monitoring points E-5 and at MW1; for selenium at the McDermott site, where you felt selenium was increasing at monitoring point MD-3; and, for lead at the BD Mining site where you felt there was an increase in lead at the Gilberton Shaft monitoring point.

You asked DEP staff to render opinions on the spot at the meeting. DEP declined your invitation because the basis for the graphs was not clear. However, due to the serious

nature of the assertions represented in the graphs, DEP conducted an examination of the matter. DEP is providing to you for your edification the results of the analysis. The two attached reports and accompanying table set forth a comprehensive evaluation of your assertions. The attached reports demonstrate that care should be taken in evaluating data. Proper assessment of data requires evaluation in context and evaluation of all data associated with a particular monitoring point. Isolated examination of data can lead to wrong conclusions. The attached reports examine the above referenced claims in context.

DEP's review of monitoring data for the BD Mining site finds that there are obvious water quality improvements through time at the Gilberton Shaft, not degradation. Your isolated graph of lead does not recognize the clear water quality improvements in nickel, zinc, sulfate, alkalinity, calcium, magnesium, total dissolved solids, iron and manganese. The coal ash is the one material present in the watershed that has been thoroughly tested to assure that it does not leach lead. In fact, lead concentrations in the ash are well below values that would qualify as clean fill. There is no evidence that lead is being leached from the ash. Your graph is an unfounded conclusion with no basis.

A thorough review of all available selenium data at McDermott shows that the allegations of selenium contamination and an aquatic threat at McDermott are not only unsupported by the monitoring data, they are contradicted by the data. The analysis you presented to DEP at the November meeting included only 5% of available selenium data at the McDermott site. That analysis did not acknowledge or include any of the extensive stream-sampling data. Stream sampling data is relevant information to be considered and evaluated before one makes an allegation of an aquatic impact.

The graphs you presented at monitoring point E5 and MW1 at the Ernest site did not include DEP collected water samples. If the DEP data is included you see a different trend. Again, data needs to be reviewed in context. The data do reveal a discrepancy between monitoring results produced by the permittee and those produced by DEP. A further evaluation of that discrepancy is underway and thus far suggests sampling and/or analytical reasons behind the discrepancy, not cadmium pollution. The "White Pipe" sample point was apparently not part of your analysis. This monitoring point is down gradient from ash placement and is physically separate from the mass of abandoned coal refuse. Cadmium from this point is less than the detection limit. DEP's analysis indicates that cadmium at the Ernest site is associated with coal waste, not ash. As the coal waste pile is cleaned up it is anticipated that cadmium concentrations will decrease.

A thorough review of your allegations at all three sites reveals that pollution is not occurring. Please refer to the two attached reports for detailed information. I hope these reports help allay your fears and that you can agree that the beneficial use of coal ash at these sites has not caused pollution. My apologies for not being able to respond sooner. DEP wanted to be as thorough as possible in responding to you fears. I hope this finds you well and that you have the opportunity to review these reports prior to the upcoming meeting.

Sincerely,

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Re: Your email & attachments of April 24

Friday, May 1, 2009 6:39 PM
From:
"Jeff Stant" <jeffreystant@sbcglobal.net>
View contact details
To:
"Hanger, John" <jhanger@state.pa.us>, "Pizarchik, Joseph" <jpizarchik@state.pa.us>
Cc:
"Roberts, Jay Scott" <jayroberts@state.pa.us>, "Brady, Keith" <kbrady@state.pa.us>, "Fidler, Thomas" <tfidler@state.pa.us>, "Myers, Cathleen" <cathmyers@state.pa.us>, "Eric Schaeffer" <eschaeffer@environmentalintegrity.org>, "Bob Gadinski" <gadinra@ptd.net>, "levans@earthjustice.org" <levans@earthjustice.org>, "adillen@earthjustice.org" <adillen@earthjustice.org>, "wmorris@charlottesville.net" <wmorris@charlottesville.net>, "mwa@mtwatershed.com" <mwa@mtwatershed.com>, "rjdawes1@verizon.net" <rjdawes1@verizon.net>, "lisagmarcucci@gmail.com" <lisagmarcucci@gmail.com>, "tophcat@windstream.net" <tophcat@windstream.net>, "Kania, Timothy" <tkania@state.pa.us>, "Menghini, Michael" <mmenghini@state.pa.us>, "Walters, Scott (DEP)" <scwalters@state.pa.us>, "Chuck Norris" <cnorris@geo-hydro.com>, "lwidawsky@environmentalintegrity.org" <lwidawsky@environmentalintegrity.org>, "Failor, Debra L" <dfailor@state.pa.us>, "Hart, Lydia" <lyhart@state.pa.us>, "Hill, Sharon" <shill@state.pa.us>... more

Hi Joe:
We have reviewed your email and attachments of Friday, April 24 regarding the graphs we presented at the November 13, 2008 meeting.

We heartily agree that “care should be taken in evaluating data” and that “proper assessment of data requires evaluation in context and evaluation of all data associated with a particular monitoring point.” This is why we have consistently advocated for improvements in the meager monitoring systems at many PADEP mine ash placement sites. In many instances, more data are needed from existing and new monitoring points. Careful and objective review of all available data leads us to conclude that coal ash

placement is damaging water supplies in coal mines in Pennsylvania and that fundamental safeguards are needed to abate that damage and prevent it.

Our hope, based on our meeting with Secretary Hanger in October, was that we would receive an objective and reasonable response to the data we have presented, as well as to the various recommendations in the Clean Air Task Force Report, *Impacts on Water Quality from Placement of Coal Combustion Waste in Pennsylvania Coal Mines*. We regret to say that we have not had that response – though we have repeatedly responded to your questions about our data, and note that the Department is proposing some modest changes in its beneficial use program, we do not feel that PADEP has addressed any of the serious questions we have raised about the mine ash sites we have studied or the Department's own permitting or monitoring practices.

It has become clear that we are going to need more objective review of the data we have presented and the concerns we have raised, and we will ask for that at the meeting with Secretary Hanger on Tuesday. In the meantime, we are itemizing our response to the somewhat strident memo we received from you on April 24.

Quite frankly we are dismayed both by the mischaracterization of our presentation on November 13 and by the examinations of the BD Mining, McDermott and Ernest sites attached to your email that continue to avoid addressing the questions that we were asking as part of a constructive dialogue. As you can reaffirm from the tapes of that meeting, the two basic questions that we asked the Department staff concerning these graphs on November 13 were: 1) Did Department staff agree that the data presented in these graphs show noticeably higher levels of cadmium, selenium and lead than were measured in baseline monitoring at monitoring points at the Ernest, McDermott, and BD Mining ash sites, respectively? and 2) Has the Department been requiring sampling or taking any other steps to assure that water quality criteria in receiving waters are not being exceeded as a result of these high concentrations at downgradient boundary monitoring points?

The statement in the Ernest attachment that, "Jeff Stant demanded an immediate response" in the attachment on the Ernest site mischaracterizes discussion at the November 13 Meeting. I politely and sincerely asked Department staff at that meeting if you could agree that these graphs reflected a rise in the concentrations of cadmium, selenium and lead at these sites beyond baseline levels. We have presented nearly all of this information before in the Task Force report and attempted to discuss it with you repeatedly. It is from PADEP permit files. Despite our agreement with Secretary Hanger on October 9, 2008 to explore these specific issues with you in the November meeting, you came to that meeting stating that you were just going to listen and not engage in an exchange of ideas or viewpoints. Rather than giving a constructive response to our questions about the graphs, you inferred at the meeting that we had made up the data that we were presenting and were seeking to "cross examine" you. Instead of answering these questions, your email and analysis continue to attempt to discredit the data in the graphs or to redirect the issue by depicting incorrectly that we were asserting the graphs prove the ash was contaminating water at the sites.

A careful examination of the data demonstrates that the answer to the first question is that the data do demonstrate that very noticeable increases above baseline concentrations occurred for lead in the massive Gilberton discharge at the boundary of the BD Mining Site, for cadmium at MW-1 and E-5 at the boundary of the Ernest Mine and for selenium at MD-3 beyond the boundary of the McDermott Mine. We direct you to the Task Force's Report and our Response to the Department's criticism of the Report and Appendix to the Response to examine the ample data and substantive discussion documenting these rises and those for numerous other ash parameters at ash monitoring points. We presented these three graphs as examples of data documenting that the Department's repeated claim that there are no rises above background occurring at these sites is plainly incorrect.

An examination of the attachments to your email also answers the second question, namely that the Department has not required the operator to conduct any sampling of downstream waters or required any mitigating steps to be taken in response to high cadmium levels monitored at E-5 at the Ernest site or high lead levels monitored at the Gilberton Discharge at the BD Mining Site. Given the cadmium and lead measured repeatedly at concentrations far higher than water quality criteria in these discharges to offsite surface waters over an extended period of time, the Department should readily agree to take immediate steps to address the discharges.

We are concerned that the analyses of these three sites attached to your email continues to reflect an extreme bias and determination to justify Department policy by concocting arguments rather than objectively investigating data to identify and address the source of problems. In the remainder of this letter, I will briefly respond to the site-specific analyses.

<u>BD Mining Site</u>

In your analysis, you dismiss high lead concentrations at the Gilberton Shaft measured after ash placement began at the BD Mining site by comparing those concentrations to higher lead concentrations measured at MP007 and MP008. While, these monitoring points, which are also screened in mine pools, may be "upgradient" to the Gilberton Shaft, they are clearly downgradient of the ash disposed at the BD Mining site and in fact much closer to the ash than the Gilberton Shaft. MP007 had to be abandoned in 1996 when the ash filling operation covered its location. MP008's data reflected lead concentrations as ash placement moved steadily closer to its location, with ash eventually being disposed immediately adjacent to this monitoring point. The permit materials readily reveal that both of these monitoring points are hydrologically downgradient of the ash. If ash were the source of the lead in the mine pool, one would expect higher lead levels at MP007 and MP008 than at the Gilberton Shaft, which is what the data reflect.

You infer in the BD Mining analyses that the trend line used in our graph of lead concentrations at the Gilberton Shaft is derived from varying detection limit values and not actual concentrations. We believe that this excel graph counts all detection limit

values as zero (non-numeric values) and computes a trend line only from actual concentrations measured, but are rechecking this to be sure. However the question we asked on November 13 was whether Department staff could agree that the Gilberton graph correctly depicted increases in lead from baseline concentrations, not whether the trend in average concentrations was increasing. More importantly, we hope that the Department finally concurs that the use of such high detection limits for lead and other trace metals in monitoring at the BD Mining and other ash sites is inappropriate.

While we do not believe that single condition laboratory leach tests such as the SPLP can reliably predict the degree of metal leaching that can occur from coal ash in a mine, your statement that, "The coal ash is the one material present in the watershed that has been thoroughly tested to assure that it does not leach lead." has been repeatedly demonstrated to be mistaken from the leach tests in your own permits governing the placement of the Gilberton and Schuylkill Energy Resources (SER) Plant ash in the BD Mining and Ellengowan Mines. US Department of Energy researchers found that the Gilberton ash leached more lead than any other ash being disposed in a Pennsylvania mine in a Report published in 2000. Your statements in the attached analysis that the lead leaching from these ashes is "not at levels of concern" nor "at problematic levels" are disconcerting given those levels are 10 to more than 33 times higher than the drinking water standard and 40-210 times higher than the water quality criterion. We note that the leaching levels for Gilberton and SER ash that you have graphed in the analysis are similar to the high lead levels seen at the Gilberton Discharge, MP007 and MP008. The fact is the only material at the BD Mining Site that the Department knows leaches these levels of lead based on leach test results is the FBC ash that has been dumped there.

Aside from missing the point of our question, your statement that the lead graph we presented "does not recognize the clear water quality improvements" in multiple other parameters at the Gilberton discharge ignores the higher or rising concentrations of nickel, zinc, arsenic, chromium, cadmium, manganese, sulfate, calcium, magnesium, chloride and TDS at MP007 and MP008.

<u>McDermott Site</u>

While the Department has sampled waters for selenium downstream of MD-3 at the McDermott Site, it has used a laboratory detection level of 0.007 mg/L in all of this sampling even though the state's applicable water quality criterion for selenium is 0.005 mg/L (0.0046 mg/L for dissolved fraction). Substantial research by US Fish and Wildlife Service and Forest Service researchers has documented harm to fish populations from selenium above 0.002 mg/L. Thus the Department's claim that, "A thorough review of all available selenium data at McDermott shows that the allegations of selenium contamination and an aquatic threat at McDermott are not only unsupported by the monitoring data, they are contradicted by the data" is wrong. To the contrary the Department's data establish that the water quality criterion for selenium has been exceeded at least once in the waters downstream of the McDermott site. Due to the detection limit, however the data do not establish how often this water quality criterion is being exceeded in those waters. Your analysis indicates the single detection that was

recorded in Department monitoring of downstream points, 0.0092 mg/L in July 2003, was recorded at MD-10, the monitoring point most directly downstream from MD-3. Apparently this sample was the only measurement taken at MD-10 despite its value exceeding the water quality criterion for selenium.

Perhaps more importantly, once again it is the analysis in your attachment that is failing to examine data in the context of what is occurring at the McDermott site. You state that our analysis "at the November meeting included only 5 percent of available selenium data at the McDermott site." As you know, our examination of the McDermott site has assessed many more monitoring points than just MD-3. Of course there were a lot of data generated by these points from the beginning of baseline monitoring onward. The important fact is that there were 33 detections of selenium, i.e., actual concentrations measured above 0.007 mg/L, at six ash monitoring points, every one of which occurred after ash placement had started upgradient of those monitoring points. There was not a single detection of selenium at any monitoring point at the McDermott site during baseline monitoring. The highest measurements occurred in latter monitoring. It is notable that the Department does not mention the measurement of 0.183 mg/L of dissolved selenium measured at downgradient seep, MD-19 virtually on the McDermott property line in June 2002. This is nearly 4 times the DWS and 40 times the water quality criterion. For the Department to assert that these 33 actual measurements at so many monitoring points and the timing and sequence in which they occurred does not suggest that ash may be contributing selenium to the water at this site is baffling.

Ernest Mine Site

You assert in your attached analysis that we have been selective in including data depicted at monitoring points. Rest assured that we have strenuously endeavored to include all of the data that we can find from visits to your file room. However, we are not in a position to undertake unlimited visits to the file room. Constructive engagement should mean that Department staff should readily divulge data or information that they are aware of when we are discussing issues that are directly related to that information. We note that since the fall of 2007, Mr. Kanai has participated in three day-long meetings with us to discuss our concerns with the PADEP mine ash placement program. He has never mentioned a word about the new ash monitoring points or data produced by them such as "the white pipe" in any of these discussions, and was most glaringly silent about this information in the discussion of the monitoring data from the Ernest site on November 13. Nor has he mentioned the "white pipe" or the new data on ash parameters from E-53 in several phone conversations and a visit to the file room that occurred after the release of our Report in 2007.

You assert that when data gathered by the Department are included in graphs of cadmium at E-5 at the Ernest site, one sees a different trend. We have replaced higher reported values with lower values found reported for those same dates and note that the trend for cadmium is still sharply increasing above baseline values at E-5 and MW-1. Moreover, even the Department's collected data in your attached analysis reveals measurements for

cadmium during ash placement at E-5 and MW-1 that are well above the highest baseline measurements of cadmium at these monitoring points.

Although you repeatedly point to the operator's baseline values to make assertions that cadmium has not risen above baseline concentrations at E-5 and MW-1, you also claim that the higher values collected by the operator during ash placement are suspect from a sampling and analysis standpoint. We note that seven years ago the Department's mining staff released a report that attempted to rebut concerns that the Clean Air Task Force raised about data at these monitoring points at Ernest in part by asserting that the results from different laboratories used by the operator appeared to be suspect. You indicated in that report that the operator would be approached to fix its suspect laboratory analyses of monitoring samples. Did the Department fail to follow through on this assurance or are these more recent suspect results the products of a new lab? At the end of the day, the results that matter most from a legal standpoint and those which are clearly explained to the public in the permit file are those results that the operator submits as required by the Ernest permit. If the Department has problems with those results, why is it not promptly requiring them to be addressed?

At the Ernest site, <u>all</u> monitoring points are hydrologically downgradient from approximately 2 million tons of the Cambria Plant's FBC ash. We do not believe it scientifically sound to assert that all of these monitoring points should be seeing the same parameters much less the same concentrations of the same parameters, particularly when some are measuring surface water while others are measuring groundwater. We do not understand why you would assert in your analysis that arsenic should be behaving in the same manner as cadmium at this site. If you know of some geochemical principle that predicts parallel mobility behaviors of cadmium (a cation) and arsenic (an oxyanion) in ground or surface water, please share it with us.

The debate occurring over these monitoring points underscores why it is essential that the regulations being proposed by the Department for ash placement in mines at Chapter 290 require upgradient monitoring at all mine ash placement sites. While such placement is no longer possible at these sites, the Department can still take further measures to distinguish the impact of ash from mining and coal refuse by installing multiple pore water monitoring points in the ash. As we have said many times about the Ernest site, rather than arguing endlessly about the source of the high cadmium, lead, nickel, zinc and other ash parameters being monitored at downgradient points, the Department should install pore water monitoring points to sample water table(s) in the ash at the Ernest site as well as leachate at the interface between the ash and the valley floor under the ash. The same can be said for the BD Mining and McDermott Sites. Such points would generate data that could aid greatly in resolving questions about the sources of elevated constituents.

We look forward to discussing these matters further with Secretary Hanger this coming Tuesday.

Sincerely,

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