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July 8, 2013

Dr. Gregory M. Ferrence
Chairman, American Chemistry Society (ACS) Committee on Ethics
Illinois State University
Via Email: gferren@ilstu.edu

Subject: Request for Assistance in Obtaining Data Collected and Used to Generate Conclusions Published in ACS (and Other) Journals

Dear Dr. Ferrence,

As a scientist and Chair of ACS' Committee on Ethics you well understand the importance of making available data on which conclusions about research results are based. The reasons are clearly explained in the description of the ethical obligation of authors seeking to publish in ACS journals. Every publishing scientist's first ethical obligation is described by ACS as follows:

> An author's central obligation is to present an accurate and complete account of the research performed, absolutely avoiding deception, including the data collected or used, as well as an objective discussion of the significance of the research. Data are defined as information collected or used in generating research conclusions. The research report and the data collected should contain sufficient detail and reference to public sources of information to permit a trained professional to reproduce the experimental observations.

As an ACS member and Executive Director of the Pavement Coatings Technology Council (PCTC), I am asking the Committee's assistance in obtaining data from the United States Geological Survey (USGS) on which conclusions about research results published in ACS journals are based. My request for assistance comes only after numerous efforts to obtain said information, made personally and via a Freedom of Information Act (FOIA) Request, have proven thus far to be unsuccessful.

Information forming the basis of conclusions reached by these USGS scientists concerning refined tar-based pavement sealers (RTS; referred to as "coal tar-based sealants" or a variant containing the words "coal tar" by the USGS) was first formally requested via a FOIA request in April 2010 (USGS 2010-0084). This request, centered on research data and related information, was denied for failure by PCTC to agree to pay associated fees. Essentially the

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same request was made again in April 2011 (USGS 2011-020093) and, in return for over $28,000 in fees, the USGS accepted the request.

In the 2+ years since the "perfected" FOIA request was filed, the USGS has responded with 18 "batches" of materials, including (but not limited to) raw laboratory data packages, thousands of photographs, presentations, copies of published papers with figures, tables and supporting information, advocacy documents, newspaper stories and some tabulated data relating to different pavement sealer research conducted over the past decade. While greatly appreciating the significant volume of FOIA response material received so far, despite repeated follow up requests, the specific data and information underlying several papers published in the ACS Journal of Environmental Science & Technology (ES&T) has still not been produced.

I have been extremely patient in waiting for the USGS to respond by producing the information on which its research conclusions are based. Without this underlying data, the ability to evaluate, understand and reproduce conclusions reached based on the data is significantly impaired. In the meantime, the USGS has been using their research to advocate for bans on RTS while fully aware that sharing of their data has been delayed, if not withheld. A recent newspaper editorial about a long-delayed FOIA response by another federal agency appeared under the headline "Transparency Delayed, Transparency Denied." I couldn't agree more.

With that background, I seek the help of ACS' Committee on Ethics in obtaining the research information detailed in the following paragraphs, organized by ES&T publication.

Mahler, B.J.; Van Metre, P.C.; Bashara, T.J.; Wilson, J.T.; Johns, D.A. Parking lot sealcoat: An unrecognized source of urban polycyclic aromatic hydrocarbons. *Environ. Sci. Technol.* 2005, *39*, 5560–5566.

In 2006 ES&T published a Comment (DeMott and Gauthier, 2006) and Response (Mahler *et al*., 2006) on the Mahler *et al*. (2005) paper cited above. The Comment focused on two main points:

> (1) With regard to the PAH ratio analysis, we could not identify the source of the values presented for stream sediment samples, and the values that we could identify from the City of Austin appear to contradict the interpretation developed by the authors [*i.e.*, Mahler *et al.* (2005)], and
> (2) With regard to the mass balance analysis, we could not identify the source for values from one watershed, the values presented for the other watersheds do not appear to match those from the cited sources, and the previously published values suggest the relative contribution of PAHs from parking lot sources is substantially less than the "majority" source suggested by the authors [*i.e.*, Mahler *et al.* (2005)].

In the Response it was stated that sediment data used to compare polycyclic aromatic hydrocarbon (PAH) double ratio plots by the commenters may not be comparable to the Mahler *et al.* (2005) data however, the authors still did not identify or provide the source of sediment data used in Mahler *et al.* The source of sediment data used in PAH double ratio plots was not identified in Mahler *et al*. (2005), nor was it identified in a companion USGS publication (Mahler *et al*., 2007).

One PAH double ratio plot showing an apparent overlap of RTS ratios with ratios of PAHs from the unidentified sediment samples has been used by the USGS authors as the basis for conclusions about the purported significant contribution of PAHs to sediment not only in Austin, TX (Mahler *et al*., 2005) but, in subsequent publications, throughout the United States (see Information Quality Act petition at http://www.usgs.gov/info_qual/documents/Edwards-Wildman-Palmer_PCTC_IQA-Info-Correction-Request051513.pdf).

I ask the Committee's help in identifying the source of sediment sample data used by the USGS to construct the double ratio plots in Figure 4 of Mahler *et al*. (2005).

Mahler, B. J., Van Metre, Peter, Wilson, Jennifer T., Musgrove, Marilyn, Burbank, Teresa L., Ennis, Thomas E. and Bashara, Thomas J. "Coal-tar-based parking lot sealcoat: an unrecognized source of PAH to settled house dust." ***Environ. Sci. Technol*****. 2010, 44: 894 - 900.**

Evaluation and replication of the conclusions reached in Mahler *et al*. (2010) has not been possible due to lack of access to underlying data, including the following.

- Complete tabulated results, including statistical and graphical analysis of data relevant to conclusions reached, for each apartment and parking lot sample collected, including results for all analytes tested (pesticides, flame retardants, PCBs and phthalates, as well as PAHs).,
- For each house dust sample, the mass of dust before and after sieving, the area sampled, and individual PAH concentrations,
- QA/QC data, including samples associated with the 20% of contaminated blank samples,
- Field sampling and collection notes, including equipment calibrations and cleaning procedures, (specifically SOPs for HSV3 operation, sampling and decontamination between samples) ,
- Individual and compiled results of questions asked of households participating in the house dust study and responses given, and

- A means of identifying individual samples and correlating them with specific apartments or parking lots identified in the study and the above-mentioned household questionnaires.

I ask the Committee's help in obtaining the information described above concerning the Mahler *et al*. (2010) publication.

Mahler, Barbara J., Peter Van Metre, Judy Crane, Alison W. Watts, Mateo Scoggins and E. Spencer Williams. "Coal-Tar-Based Pavement Sealcoat and Pahs: Implications for the Environment, Human Health, and Stormwater Management." *Environmental Science & Technology*, 2012.

The ACS-published *Journal of Environmental Science & Technology* has been a repeated venue for publication of sealant research by the USGS-led research team, and in 2012 ES&T published a feature article summarizing the body of the group's pavement sealer research. The USGS-led team has identified RTS as a "dominant" or "significant" contributor of PAHs to sediments and other environmental media using two lines of evidence: the purported overlap of unidentified sediment data with RTS data from a parking lot in Austin, TX, on a PAH double ratio plot (Figure 4 in Mahler *et al*. 2005) and via results of CMB modeling of sediment PAH data from throughout the country (again, for a full explanation, see the Information Quality Act petition at http://www.usgs.gov/info_qual/documents/Edwards-Wildman-Palmer_PCTC_IQA-Info-Correction-Request051513.pdf.). Adaptation of the CMB model to sealer research by the USGS team is described in a paper published in *Science of the Total Environment* (Van Metre & Mahler, 2010). In addition to asking for the assistance of that journal's editor and publisher in obtaining data underlying the CMB model publication, I also ask for your assistance because ES&T has published a number of papers – including the Mahler *et al*. (2012) feature – which rely on the CMB model paper to identify RTS as the source of PAHs in the environment.

In Van Metre and Mahler (2010), it is stated that "The CMB model was run more than 200 times using various combinations of source profiles, fitting parameters (PAHs), estimates of uncertainty, and combinations of lake-sediment samples." Out of the 200 runs, Van Metre and Mahler chose 4 that most closely matched the parameters chosen to represent an undefined "good fit" for the 5 PAH sources chosen as source inputs, and then reported fractional contributions using an average of results of the 4 chosen source input models.

The CMB model is a widely used EPA model, with well-known operating parameters. Researchers who use CMB often publish inputs and outputs of different model runs in support of conclusions reached about particular data sets.

I ask the Committee's help in obtaining the input and output data for the 200 runs mentioned in Van Metre and Mahler (2010), which were referenced and relied upon in the ES&T feature article.

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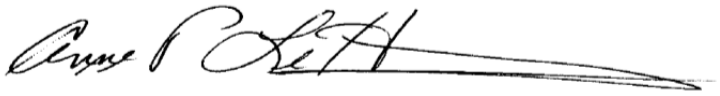
Thank you in advance for any assistance you can provide in obtaining the research data critical to evaluating, understanding and reproducing the conclusions published by the USGS-led research team.

Please feel free to contact me at (703) 299-8470 or alehuray@pavementcouncil.org.

Yours truly,



Anne P. LeHuray
ACS Member No. 30043760

cc: Alan D. Thornhill, Director USGS Office of Science Quality & Integrity (athornhill@usgs.gov)
Judy Cearley, USGS FOIA Liaison (jcearley@usgs.gov)
William Wilber, USGS NAWQA Program Chief (wgwilber@usgs.gov)

CITATIONS

DeMott, R.P. and Gauthier, T.D. Comment on "Parking Lot Sealcoat: An Unrecognized Source of Urban Polycyclic Aromatic Hydrocarbons" *Environ. Sci. Technol*. 2006, 40, 3657-3658.

Mahler, B. J., Van Metre, Peter, Wilson, Jennifer T., Musgrove, Marilyn, Burbank, Teresa L., Ennis, Thomas E. and Bashara, Thomas J. "Coal-tar-based parking lot sealcoat: an unrecognized source of PAH to settled house dust." *Environ. Sci. Technol*. 2010, 44: 894 - 900.

Mahler, B.J.; Van Metre P.C., Wilson, J.T. Concentrations of polycyclic aromatic hydrocarbons (PAHs) and major and trace elements in simulated rainfall runoff from parking lots,

Austin, Texas, 2003 (version 3): U.S. Geological Survey Open-File Report 2004–1208, 2004 (revised 2007), 87 p. [Online only]

Mahler, B.J.; Van Metre P.C., Wilson, J.T. Response to Comment on "Parking Lot Sealcoat: An Unrecognized Source of Urban Polycyclic Aromatic Hydrocarbons" *Environ. Sci. Technol*. 2006, 40, 3659-3661.

Mahler, B.J.; Van Metre, P.C.; Bashara, T.J.; Wilson, J.T.; Johns, D.A. Parking lot sealcoat: An unrecognized source of urban polycyclic aromatic hydrocarbons. *Environ. Sci. Technol*. 2005, *39*, 5560–5566.

Mahler, Barbara J., Peter Van Metre, Judy Crane, Alison W . Watts, Mateo Scoggins and E. Spencer Williams. "Coal-Tar-Based Pavement Sealcoat and Pahs: Implications for the Environment, Human Health, and Stormwater Management." *Environmental Science & Technology*, (2012).

Van Metre, Peter and Barbara J. Mahler. "Contribution of Pahs from Coal–Tar Pavement Sealcoat and Other Sources to 40 U.S. Lakes." *Science of the Total Environment* 409, (2010): 334 - 344.