

Expert Testimony CP Connell Review of Case HE20150023, Exhibit 18 (October 18, 2018)

**Methamphetamine contamination on environmental surfaces caused by simulated smoking of methamphetamine** (Martyny JW, Arbuckle SL, McCammon CS, Erb N, Van Dyke M - Journal of Chemical Health & Safety, September/October 2008, Division of Chemical Health and Safety of the American Chemical Society  
[doi:10.1016/j.jchas.2008.02.004](https://doi.org/10.1016/j.jchas.2008.02.004))

This article contains several indicators of sloppy techniques and a lack of attention to details, false assertions (assertions not supported or even contradicted by the data).

**Author asserts (Page 26):**

*“Initial work in this area was conducted in the State of Washington where a cleanup level of 5 µg/ft<sup>2</sup> (0.5µg/100cm<sup>2</sup>).”*

Technically, this is not correct- One square foot is 929 cm<sup>2</sup>. Therefore, there are 9.29 X 100 cm<sup>2</sup> areas in a square foot. Therefore, if one has a concentration of 5 µg of methamphetamine in a square foot, one will have 0.54 µg/100 cm<sup>2</sup>; an error of 7%.

**Author asserts (Page 27):**

*The ceilings were approximately 8 ft and the room was a total of 253 ft<sup>2</sup>.*

Figure 1, on the page shows the room in question which is 11 feet by 18 feet. A room that is 11ft X 18ft = 198 square feet, not 253 square feet as claimed. This is an error of 24%. A room with 253 square feet is considerably larger: roughly 16 feet on a side (15.9' X 15.9') This comes into play in a meaningful way since the statistical distribution of contamination in a room will move away from lognormal distribution toward Gaussian distribution as the size of the room gets smaller and smaller. For all of their sets of data but one, the distribution of their data was lognormal.

**Author asserts (Page 28):**

*After sampling, the tubes were sent to DataChem Laboratories (Salt Lake City, UT) for analysis according to NIOSH draft method 9106.*

I was one of the experts who helped develop this method. The person who prepared the reviewers list confused my personal email address ([fiosrach@aol.com](mailto:fiosrach@aol.com)) with my last name; see below (downloaded from the NIOSH website: <https://www.cdc.gov/niosh/review/peer/isi/method9106-pr.html>)

**Peer Reviewers:**

Mark R. Olin

Academic and Professional Credentials: Chemist

Organizational Affiliation: Denver Police Department

Areas of Expertise, Discipline, or Relevant Experience: Forensic chemistry

Recommended by: NIOSH

Ken Niswonger

Academic and Professional Credentials: Chemist

Organizational Affiliation: Colorado Department of Public Health and Environment

Areas of Expertise, Discipline, or Relevant Experience: Public health chemist

Recommended by: NIOSH

Caoimhin Fiosrach

Academic and Professional Credentials: Chemist

Organizational Affiliation: Forensic Applications, Inc.

Areas of Expertise, Discipline, or Relevant Experience: Chemist

Recommended by: NIOSH

Laura Liddicoat

Academic and Professional Credentials: Toxicologist

Organizational Affiliation: Wisconsin State Laboratory of Hygiene

Areas of Expertise, Discipline, or Relevant Experience: Occupational toxicology

Recommended by: NIOSH

My comments addressed several areas of the proposed method including the use of templates. A copy of my review can be downloaded from the CDC/NIOSH website:

[https://www.cdc.gov/niosh/docket/archive/pdfs/NIOSH-176/0176-100109-externalreviewer\(4\).pdf](https://www.cdc.gov/niosh/docket/archive/pdfs/NIOSH-176/0176-100109-externalreviewer(4).pdf)

I have included a copy of my review with this email.

**Author asserts (Page 29):**

*These low levels indicate that methamphetamine had previously been used in the room.*

This is not correct, and is a conclusion not based on the data. We know for example from their own data that after the first smoke, the average increase of contamination to the surfaces was 0.2 µg/100cm<sup>2</sup>; and in the second trial run smoke, the average concentration was further increased by 0.49 µg/100cm<sup>2</sup>. However, at the beginning of the study, the average concentration in the room was only 0.027 µg/100cm<sup>2</sup>.

Therefore, what in their study supports their conclusion that *“These low levels indicate that methamphetamine had previously been used in the room.”*

Their own study demonstrates that a single smoking event raised the surface contamination ten times higher than the pre-experiment contamination levels. The authors neglected that there was a far more probable reason for the contamination – fugitive emissions from other rooms in the hotel migrating into the study room, and a principle known as “Locard’s Exchange Principle,” which essentially holds that one

cannot go into a room without bringing some contaminant in with you and one cannot leave a room without leaving some contaminant behind.

**Author asserts (Page 29/30):**

*Accounting for initial contamination levels, the average deposition for Smoke #1 was 0.18, 0.45, 1.3, and 13.4 for Smoke #2, #3, and #4 respectively.*

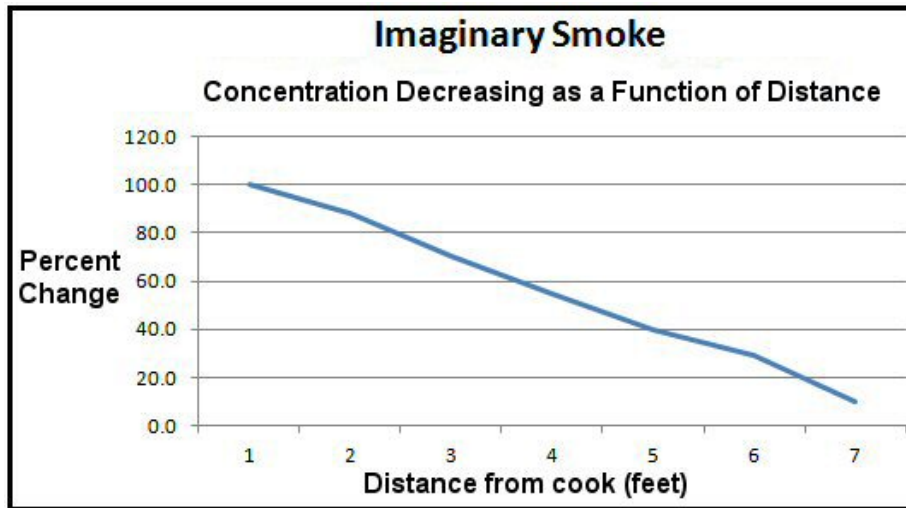
This is not true – When we check the math, and using the same rounding rules as the authors, accounting for initial contamination levels, the average deposition for Smoke #1 was 0.20 (not 0.18), 0.49 (not 0.45), 1.5 (not 1.3) and 13.9 (not 13.4) for Smoke #2, #3, and #4 respectively.

These errors represent a 11% error, 8.8% error, 15.4% error, 3.7% error for the values presented for Smoke #1, #2, #3, and #4 respectively.

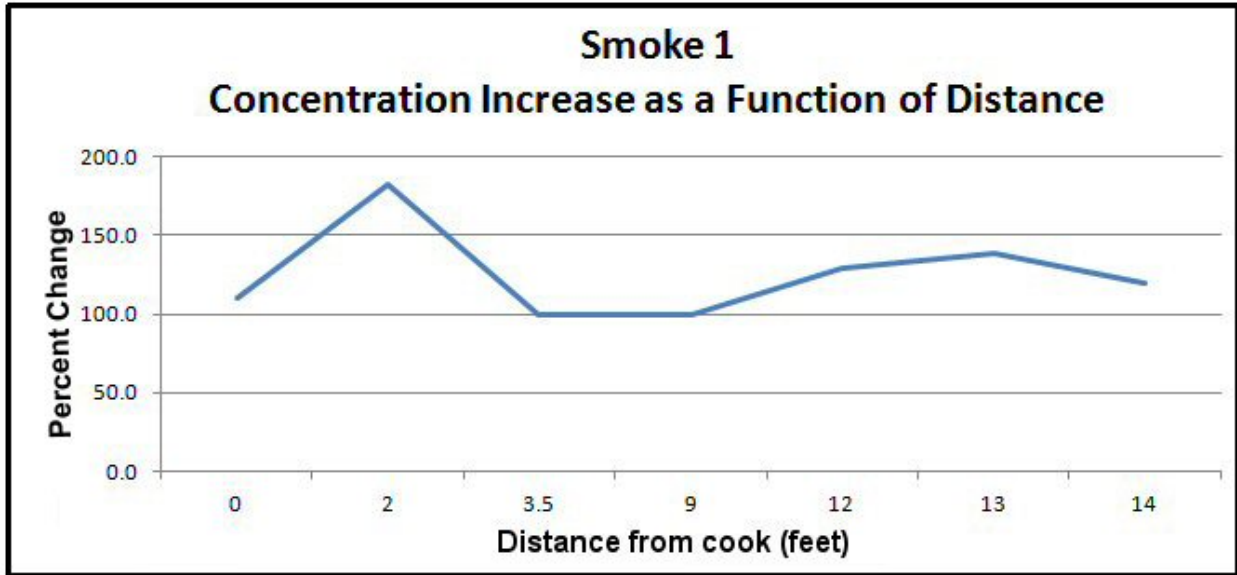
**Author asserts (Page 30):**

*The highest surface levels were generally observed in the locations nearest to the smoking area, and the lowest levels at the locations furthest from the smoking area.*

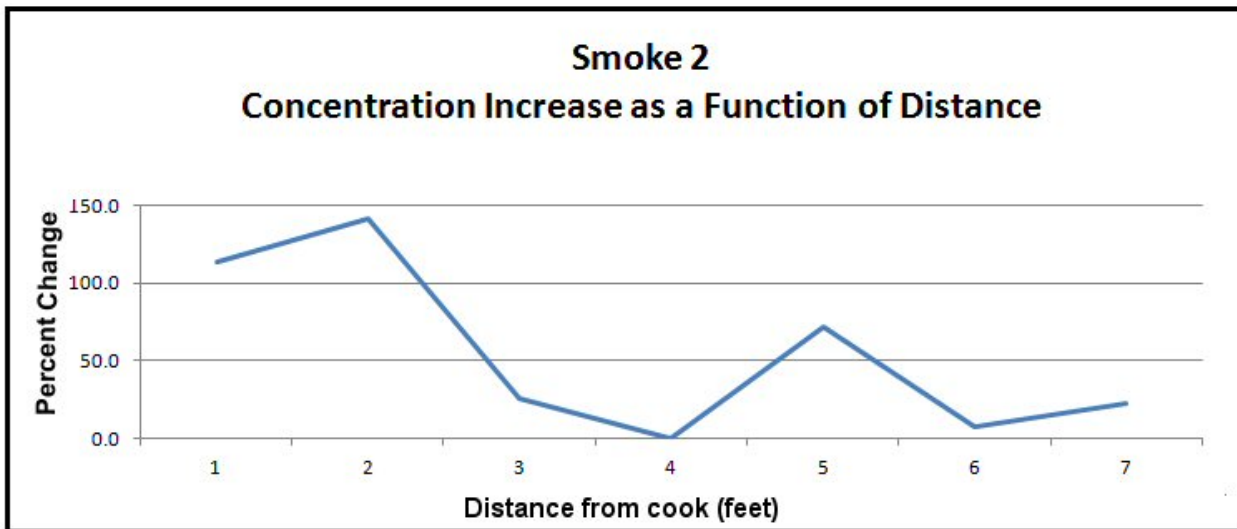
This conclusion is completely contradicted by the author’s own data – if this were even “generally” correct, by plotting the concentration as a function of distance from the cook, one would “generally” see a gradually declining concentration as one moved away from the cook:



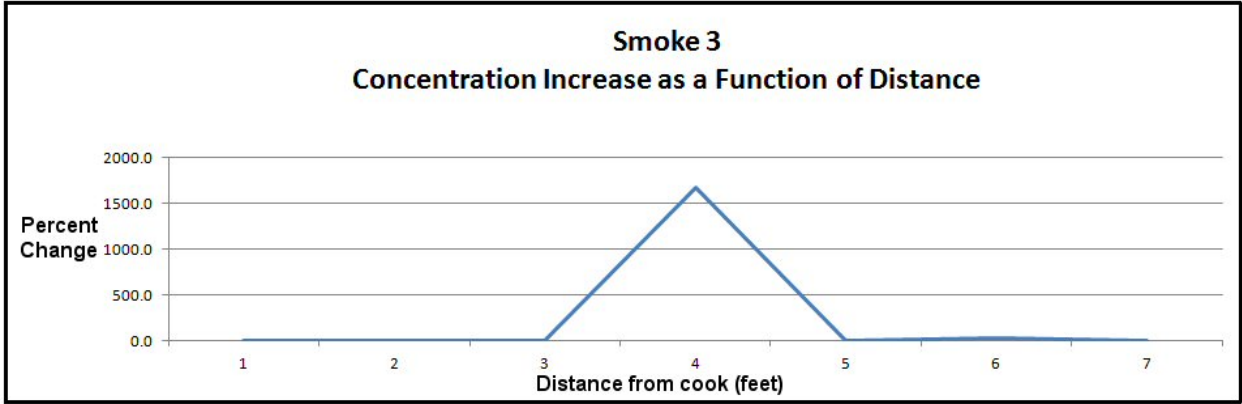
However, let’s look at what the data actually showed:



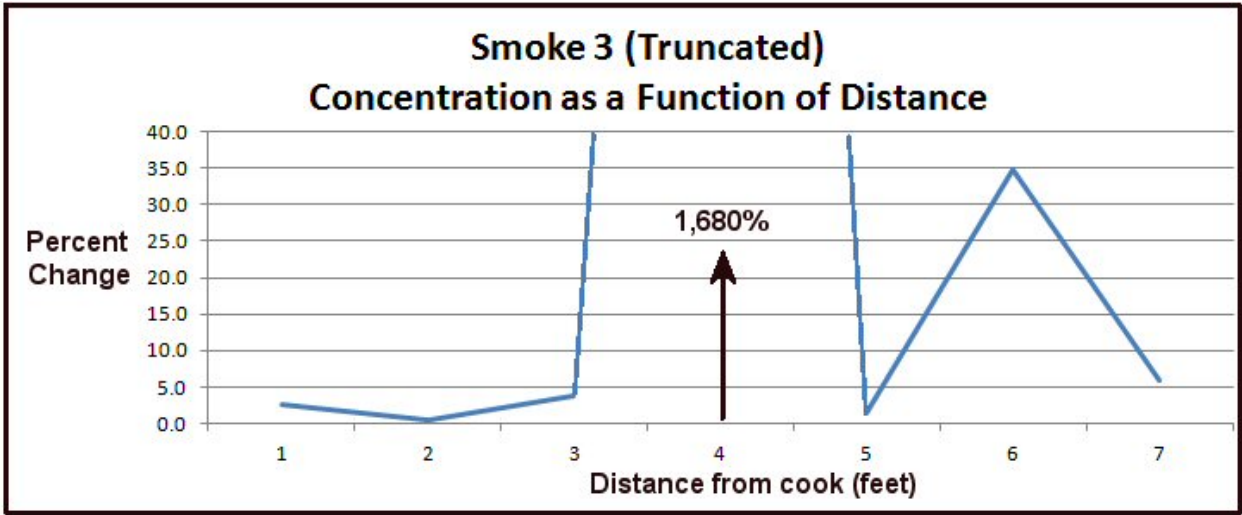
For Smoke #1, we see that as one moved away from the cook, the concentrations first increased (not decreased as claimed) and then began to increase again as one moves further away from the cook.



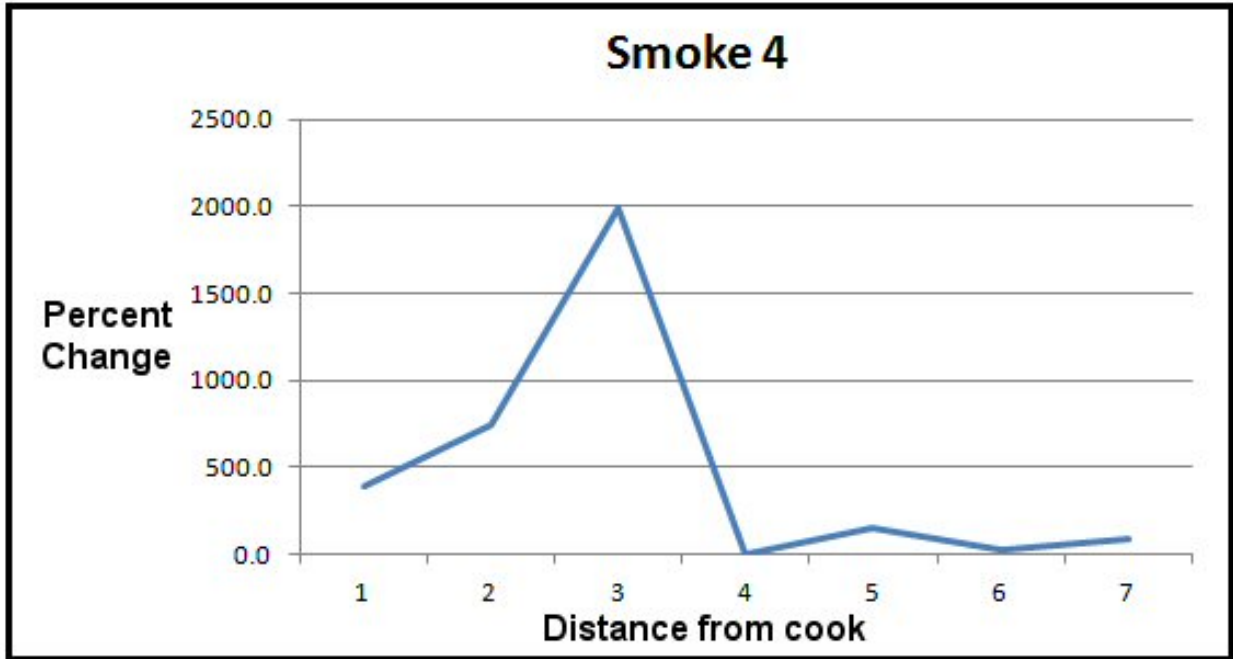
For Smoke #2, similar to Smoke 1, we see that as one moved away from the cook, the concentrations increased, then decreased and then began to increase again, then decrease, and finally increase as one moves further away from the cook.



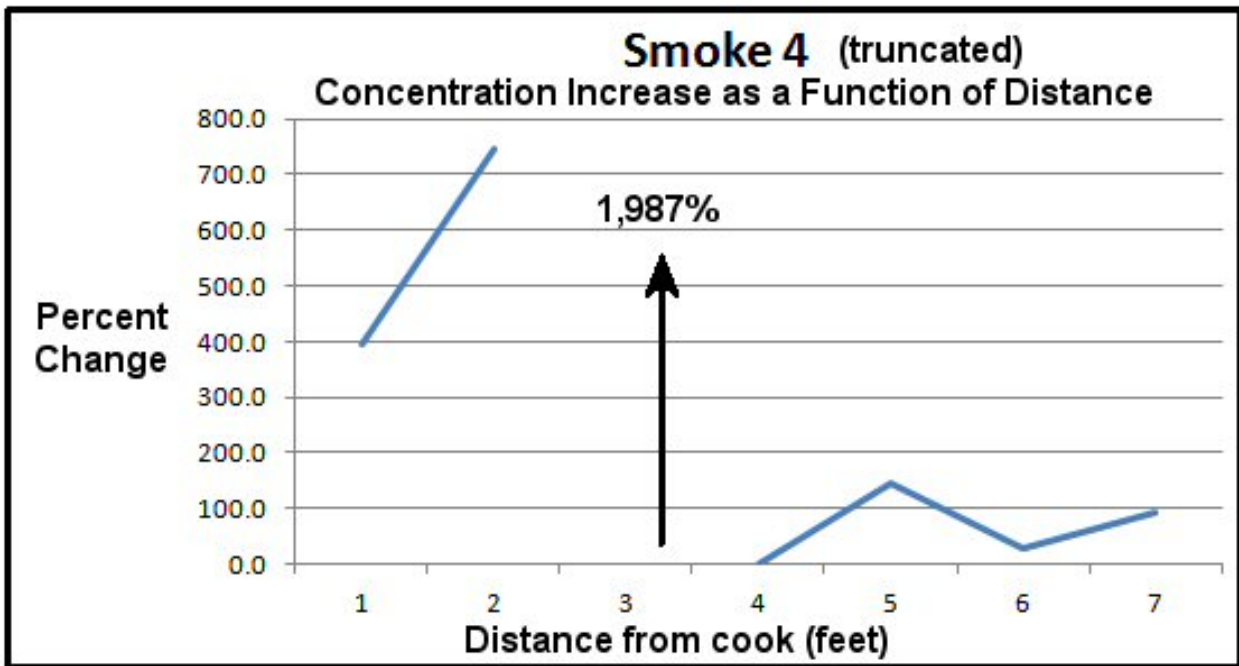
For Smoke #3, we see that as one moved away from the cook, the concentration increased so incredibly (1,680%) that graphically, it swamps the increases seen in the rest of the samples, and so we need to remove that sample taken from four feet away.



When we remove the sample from four feet away, we see that, again, “generally” as one moves away from the cook, the concentrations are actually increasing and not decreasing as claimed by the authors.



Similar to that seen in Smoke #3, as one moves away from the cook, there is a huge increase in concentration (1986% increase – not decrease). Again, we need to truncate the largest peak to see the other samples:



When we remove the sample from three feet away, we see that as one moves away from the cook, the concentrations first increase, then decrease and then begin to increase as one moves further from the cook.

The problem here is that the authors are prone to simply make up statements that are not supported by their data. This is also important to our argument that the totality of circumstances require authoritative judgmental bias sampling (instead of the random sampling performed by the investigators) to ensure consistent results, as described below.

**Author asserts (Page 30):**

*Wipe samples were also taken from three tiles that we put on the floor to determine contamination. Methamphetamine levels were measured on these tiles after all four of the smokes had taken place. Contamination on the tiles ranged from 22 to 35  $\mu\text{g}/100\text{ cm}^2$ . These levels are higher than we found on the other surfaces (both horizontal and vertical).*

What the authors didn't realize at the time was that all of the wipe samples they collected were "random samples;" and by placing tiles down on the ground, they were creating authoritative bias sampling surfaces. Had they consulted with FACTs, we could have explained that to them. The authors admit they were surprised by the results,

*It is not known why these samples were so much higher, however the surfaces of the tiles were very smooth and easy to wipe and we may have been able to remove more of the methamphetamine from the surface. It is also possible that the methamphetamine aerosol settled more on the floor than on the vertical surfaces.*

However, it is no surprise at all to FACTs, and this is why FACTs consistently chooses, a priori, horizontal surfaces and not vertical surfaces, unless there is some other compelling reason that redirects our sample locations on the totality of circumstances.

It is also important to note that the authors apparently never considered the "smoothness" of the surface when selecting their other locations, a consideration that I described in my deposition. Over all, the study was very poorly designed.

**Author asserts (Page 30):**

*A single "smoke" with the smoker inhaling and absorbing 67–90% of the methamphetamine may result in methamphetamine contamination levels in the range of 0.02– 0.7  $\mu\text{g}/100\text{ cm}^2$ .*

This statement is not only contrary to the data, it is also contrary to the earlier comments made by the authors, who on page 29 stated:

*These low levels indicate that methamphetamine had previously been used in the room.*

The levels they are referring to on Page 29 was the average of seven samples – only five of the seven actually had detectable amounts of methamphetamine, and the average was 0.027  $\mu\text{g}/100\text{cm}^2$ . Now, the authors claim

*A single "smoke" with the smoker inhaling and absorbing 67–90% of the methamphetamine may result in methamphetamine contamination levels in the range of 0.02– 0.7  $\mu\text{g}/100\text{ cm}^2$*

And yet if that was the case, and meth was smoked in the room before they got there, why did two of the surfaces have no meth, and why was the highest concentrations observed only 0.07 µg/100cm<sup>2</sup>?

In fact, the reality is that a “real-life” expert, that is an expert in the real world who deals with meth labs on a daily basis, knows something that they don’t allude to in the study, but the explicitly state in another:

**LIMITATIONS**

*Each meth lab is unique with regard to the methods, chemicals, ventilation, and equipment used. Even using the same chemist, chemicals, and procedures can produce widely varied yields of methamphetamine and contamination. Therefore, the results in this study are a snapshot of potential contamination that may be found in actual meth labs. Based on the manufacturing methodology used, the experience of the cook, and the amount of product produced, exposure concentrations in actual clandestine labs may be higher or lower than those observed in this study.*

(VanDyke, M; Erb, N; Arbuckle S; Martyny J: “A 24-Hour Study to Investigate Persistent Chemical Exposures Associated with Clandestine Methamphetamine Laboratories” Journal of Occupational and Environmental Hygiene, 6: 82–89)

In fact, the amount of deposition is going to be extremely variable, and they have no data in their present study that supports their conclusion.

The authors, especially John Martyny and Mike Van Dyke has been associated with other articles demonstrating scientific misconduct and junk science. See for example:

[http://forensic-applications.com/moulds/NJH\\_Mould\\_Rebuttal.pdf](http://forensic-applications.com/moulds/NJH_Mould_Rebuttal.pdf)

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Background:

Mr. CP Connell is the senior Industrial Hygienist for Forensic Applications Consulting Technologies, Inc.(FACTs). While performing regulatory audits, FACT had discovered that Coleen Brisnehan with the State of Colorado Department of Public Health and Environment (CDPHE) was illegally falsifying methamphetamine reports for real estate. Ms. Brisnehan retaliated by illegally withholding FACTs State Certifications falsely claiming that FACTs had violated state regulations. Ms. Brisnehan refused to identify which regulations were supposedly violated. FACTs filed suit (Case HE20150023).

This document review was performed when the State presented the article as an exhibit, and informed the courts they were going to (unlawfully) call Mike Van Dyke, one of the authors of the article, to the Stand for oral testimony. The State lost it's bid to introduce Dr. Van Dyke when the courts ruled that Dr. Van Dyke could not give expert witness testimony in the case.

In January 2019, in, the Court ruled that Ms. Brisnehan and the CDPHE unlawfully withheld Mr. Connell's license and fallaciously and without merit claimed Mr. Connell had violated State regulations (which the State hastily attempted to fabricate). The Courts ruled the CDPHE abused its power and rejected the allegations against Mr. Connell and FACTs Inc. and ordered the CDPHE to reinstate the certifications the State illegally withheld. In 2020, the CDPHE appealed the devastating decision (Case Number:

2020CV30396), and lost that appeal when the Court not only upheld the ALJ ruling but also added that Ms. Brisnehan and the CDPHE acted arbitrarily and capriciously and again ordered the CDPHE to immediately reinstate Mr. Connell's license. In violation of the court orders, the State continues to refuse to comply with the court orders.