2009 Wisconsin High School

Mock Trial Tournament Case Materials

Lee Jones, et al. v. Badger Aeromechanical Corporation

PLAINTIFF WITNESSES	**DEFENDANT WITNESSES**
Lee Jones	Jerilyn / Jerry Smith
Dr. Kris/Kristen Wessell	Riff Randall
Robin Roberts	Dr. Leslee M. Nielsen

STIPULATIONS FOR TRIAL

1. The amount of damages is not an issue in this case. The parties are only addressing liability against Badger Aeromechanical at this stage of the proceedings.

2. The authenticity of the exhibits is not in question.

DISCLAIMER

The 2009 mock trial case is a hypothetical case. All names used in the mock trial case are fictitious and were created to be gender-neutral. Any similarity to an actual event or to the name of an actual person is strictly coincidental.

1005 NEGLIGENCE: DEFINED

A person is negligent when (he) (she) fails to exercise ordinary care. Ordinary care is the care which a reasonable person would use in similar circumstances. A person is not using ordinary care and is negligent, if the person, without intending to do harm, does something (or fails to do something) that a reasonable person would recognize as creating an unreasonable risk of injury or damage to a person or property.

1019 NEGLIGENCE: EVIDENCE OF CUSTOM AND USAGE

Evidence has been received as to the practice in the industry with respect to the use and handling of chemicals. You should consider this evidence in determining whether the defendant acted with ordinary care. The evidence of practice is not conclusive as to what meets the required standard for ordinary care or reasonable safety. What is generally done by persons engaged in a similar activity has some bearing on what an ordinarily prudent person would do under the same or like circumstances. Custom, however, cannot overcome the requirement of reasonable safety and ordinary care. A practice which is obviously unreasonable and dangerous cannot excuse a person from responsibility for carelessness. On the other hand, a custom or practice which has a good safety record under similar conditions could aid you in determining whether defendant was negligent.

1500 CAUSE

Questions in the special verdict ask about the cause of the injury. These questions do not ask about "the cause" but rather "a cause" because an injury may have more than one cause. An injury may be caused by one person's negligence or by the combined negligence of two or more people.

You must decide whether someone's negligence caused the injury. Someone's negligence caused the injury if it was a substantial factor in producing the injury.

1920 PRIVATE NUISANCE: NEGLIGENT CONDUCT

A nuisance is an unintentional invasion of another's interest in the private use and enjoyment of land.

Before you find that the defendant created a nuisance you must find the defendant was negligent, that defendant's negligence caused an interference with the use and enjoyment of plaintiff's land, and that the interference resulted in significant harm.

A person is negligent when (he) (she) fails to exercise ordinary care. Ordinary care is the care that a reasonable person would use in similar circumstances. A person is not using ordinary

care and is negligent, if the person, without intending to do harm, acts (or fails to act under circumstances in which (he) (she) is under a duty to take positive action) that a reasonable person would recognize as creating an unreasonable risk of interfering with another's use or enjoyment of property.

If you find that defendant was negligent, you must consider whether defendant's negligence caused the interference with plaintiff's use or enjoyment of (his) (her) property. This does not mean that defendant's negligence was "the cause" but rather "a cause" because an invasion or interference may have more than one cause. An interference may be caused by one person's negligence or by the combined negligence of two or more people. Someone's negligence caused the interference if it was a substantial factor in producing the interference.

If you find that defendant's negligence caused the interference with plaintiff's use and enjoyment of (his) (her) property, you must then consider whether the interference resulted in significant harm. "Significant harm" means harm involving more than a slight inconvenience or petty annoyance. When the interference involves personal discomfort or annoyance, it is sometimes difficult to determine whether the interference is significant. If ordinary persons living in the community would regard the interference in question as substantially offensive, seriously annoying or intolerable, then the interference is significant. If not, then the interference is not a significant one. Rights and privileges to use and enjoy land are based on the general standards of ordinary persons in the community and not on the standards of persons who are more sensitive than ordinary persons.

1924 NUISANCE: ARISING OUT OF THE OPERATION OF A BUSINESS

The operation of an otherwise lawful business may be a nuisance, under the facts and circumstances then and there existing, by reason of the improper manner in which it is conducted. A business which constantly contaminates large volumes of the atmosphere in close proximity to dwellings or other business places (with disagreeable, unwholesome or offensive odors) constitutes a nuisance, if the contaminating of the atmosphere is such as to substantially impair the comfort or enjoyment of occupants of adjacent property.

If you should find that a nuisance did, in fact, exist, then it is no defense that such business was conducted in a reasonable and proper manner and that the odors sent over and upon adjacent property were only such as were necessarily incidental to the operation of such business.

8012 TRESPASSER: DEFINITION

One who goes upon premises owned, occupied, or possessed by another, without consent, express or implied, extended by such owner, occupant, or possessor, is a trespasser.

Trespass may be committed without personal entry but by causing or permitting a thing to cross the boundary of the premises of another whether above or below the surface of the property.

Many individuals contributed their time and talent in developing the 2009 Wisconsin High School Mock Trial Case Materials. A special thank you goes to the following attorneys for developing the case:

Members of the Environmental Law Section
Atty. Jodi Arndt
Atty. Brandon Flugar
Atty. Dan Graff
Atty. Christopher Jaekels
Atty. Paul Kent
Atty. Kira Loehr
Atty. Doug Poland
Atty. Michael Screnock
Atty. Carl Sinderbrand

The following people were instrumental in the guidance and review of the 2009 case materials:

Atty. Jodi Arndt
Atty. Michael Rosenberg
Atty. Charles Senn
Ms. Dee Runaas

Thank you to the environmental consulting firm of RMT, Inc. for their assistance in preparing the electronic drawings for this case. A special thank you to Mr. Todd Fiebranz , Project Designer, for his assistance in lending authenticity to these materials.

State of Wisconsin **Circuit Court Branch 2** **Clearwater County**

LEE JONES,
CHRIS JONES,
EDNA JONES,

Plaintiffs, Case No. 08 CV 1356

vs.

BADGER AEROMECHANICAL CORPORATION,

Defendant.

VERDICT FORM

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1. Was Badger Aeromechanical negligent?
   _____ Yes _____ No

2. If the answer to No. 1 is "yes", was Badger Aeromechanical's negligence a cause of injuries to Lee Jones?
   _____ Yes _____ No

3. If the answer to No. 1 is "yes," was Badger Aeromechanical's negligence a cause of Edna Jones' injuries?
   _____ Yes _____ No

4. If the answer to No. 1 is "yes," did such negligence cause interference with the Jones' use or enjoyment of their property?
   _____ Yes _____ No

5. If the answer to No. 4 is "yes", did such interference result in significant harm to the Joneses?
   _____ Yes _____ No

6. Did Badger Aeromechanical's business operations contaminate the atmosphere in close proximity to dwellings or other business places with disagreeable, unwholesome or offensive odors such as to substantially impair the comfort or enjoyment of Jones' property?
   _____ Yes _____ No

7. Did Badger Aeromechanical trespass upon the Jones' property by allowing hazardous materials from its business operations to enter upon the Jones' property?

_____ Yes _____ No

State of Wisconsin **Circuit Court Branch 2** **Clearwater County**

LEE JONES,
CHRIS JONES,
EDNA JONES,
13 Claim Street
Forward, WI 54311

CIVIL COMPLAINT

Plaintiffs,

Case No. 08 CV 1356

vs.

BADGER AEROMECHANICAL CORPORATION,
32 Claim Street
Forward, WI 54311

Defendant.

NOW COME the Plaintiffs, Lee Jones, Chris Jones and Edna Jones (collectively the "Jones"), by and through their attorneys, assert and plead as follows:

1. The Plaintiff Lee Jones is an adult resident of the State of Wisconsin whose primary residence is located at 13 Claim Street, Forward, Clearwater County, Wisconsin.

2. The Plaintiff Chris Jones is an adult resident of the State of Wisconsin whose primary residence is located at 13 Claim Street, Forward, Clearwater County, Wisconsin.

3. The Plaintiff Edna Jones is a minor child whose parents are the Plaintiffs Lee and Chris Jones; Edna Jones resides with her parents at 13 Claim Street, Forward, Clearwater County, Wisconsin.

4. Defendant, Badger Aeromechanical Corporation ("Badger"), is a corporation duly licensed to do business in the State of Wisconsin, and whose principal place of business is located at 32 Claim Street, Forward, Wisconsin.

5. The Joneses have lived in Forward, Wisconsin for approximately 13 years. Their home is approximately two (2) blocks from the Badger facility.

6. Badger has been operating its main factory at the Claim Street location in Forward, Wisconsin for approximately ten (10) years.

7. Badger makes wind turbines and its manufacturing process includes the use of chemicals including, but not limited to, mercury, arsenic, trichloroethylene ("TCE"), tetrachloroethylene ("PCE"), and insecticides such as Endrin, Hepthachlor and Lindane.

8. Upon information and belief, Badger stores waste liquids generated as part of its manufacturing processes in drums that are then stored in a waste storage building that is located on the southeast portion of Badger's property.

9. The prevailing winds on Claim Street blow noxious fumes and vapors off of the Badger facility, including towards the Jones' home.

10. Upon information and belief, during the time that Badger has operated at its Forward facility, Badger employees have poured liquid wastes on the ground directly outside the waste storage building.

11. Upon information and belief, over the last year or so, the Wisconsin Department of Natural Resources ("WDNR") has been investigating the release of noxious fumes from the Badger facility, as well as the illegal dumping of hazardous wastes.

12. All of the residents living on Claim Street, including the Jones, rely on potable wells as their source of drinking water.

13. A plume of PCE groundwater contamination affects all of the drinking water wells on Claim Street, including the Jones' well. Upon information and belief, PCE has migrated from the Badger facility to the Jones' drinking water well.

14. Recent sampling conducted in the Jones' neighborhood, including in the vicinity of the stream that runs behind the Jones' home, has revealed soil and groundwater that is contaminated with various levels of mercury, PCE, arsenic and insecticides, many of which exceed the State of Wisconsin's enforcement standards.

15. Plaintiff Lee Jones was recently diagnosed with liver cancer which was proximately and directly caused by Lee Jones' exposure to the PCE, arsenic and insecticides used and/or improperly disposed of by Badger.

16. Plaintiff Edna Jones was recently diagnosed with autism which was proximately and directly caused by Edna Jones' exposure to elevated mercury levels in the Jones' drinking water and the stream adjacent to Jones' home.

17. Badger has failed to safely manage its chemicals and waste streams at its Forward facility, which has resulted in air emissions that are unsafe to the general public's health, contamination of soils at the Badger site and neighboring sites, and contamination to surface water and groundwater.

FIRST CAUSE OF ACTION
NEGLIGENCE

18. Plaintiffs repeat and reassert the allegations set forth in paragraphs 1-17, above, as if fully set forth herein.

19. That Badger was negligent, in and among other things, the following respects:

a. Failure to provide, adopt or use methods and processes reasonably adequate to ensure that hazardous wastes, chemicals, metals and/or insecticides did not enter the environment outside of the Badger facility;
b. Failure to properly inspect its manufacturing and hazardous waste handling processes; and
c. Failure to enact policies or procedures to address or respond to spills or releases from the Badger facility and its operations.

20. The negligence of the Defendant was a cause of the injuries and damages to the Plaintiffs.

21. As a direct and proximate result of the aforesaid acts of negligence on the part of Badger, the Plaintiffs, Lee and Edna Jones, have sustained injuries, suffering, and incurred medical and hospital expenses; said injuries have required medical care and attention, along with continued pain, suffering, disability, and medical care and attention, all in a sum according to proof.

SECOND CAUSE OF ACTION
TRESPASS

22. Plaintiffs reincorporate herein and reallege as if set forth in full all of the allegations of paragraphs 1 through 17, above.

23. The release of chemicals and hazardous waste by Badger caused the migration of chemicals and hazardous waste on to the Plaintiffs' property. The intrusion was without Plaintiffs' consent and was unprivileged, constituting a trespass upon Jones' property.

24. As a result of Badger's trespass, Jones incurred substantial harm to their property, including but not limited to damage to their groundwater and drinking water supply.

THIRD CAUSE OF ACTION
NUISANCE

25. Plaintiffs reincorporate herein and reallege as if set forth in full all of the allegations of paragraphs 1 through 17, above.

26. The release of chemicals and hazardous wastes into the Jones' water supply constituted an unreasonable interference with the Jones' private use and enjoyment of their property.

27. The release of noxious fumes and odors from the Badger facility also constituted an unreasonable interference with the Jones' private use and enjoyment of their property.

WHEREFORE, the Plaintiffs respectfully demand judgment against the above-named Defendant, Badger Aeromechanical Corporation, as follows:

A. For compensatory damages in an amount to be determined;

B. For the costs, disbursements, and attorneys' fees of this action; and

C. For such other and further relief as the Court deems just and equitable.

Dated this 15th day of August, 2008.

ARNDT, GRAFF & ROSENBERG, S.C.

By: Jodi L. Arndt
Jodi L. Arndt

P.O. ADDRESS:
12 Green Street
Suite A
Forward, WI

AFFIDAVIT OF LEE JONES

1. My family and I have lived in Forward, Wisconsin for about 13 years. We moved from Arid, Texas in 1995 and have lived at 13 Claim Street in Forward ever since. We have three children, a daughter Star who is 15, a son James age 11, and a daughter Edna who just turned 5.

2. My family and I have been experiencing severe health problems since Badger Aeromechanical Corporation ("Badger") started operating in town in 1998. My older daughter and son have bad allergies. Their allergies are always worse in the summer months when those noxious smells coming from Badger are the most pungent and seem to head straight into our yard. The smell gets so bad sometimes that the kids cannot even play outside. It is just not right that the kids need to stay indoors while it is nice out. Badger is taking their childhood away. We cannot even have guests over for a barbeque during the summer months as our family members and friends always complain about the smell coming from Badger.

3. When we bought our house many years ago, the woman who owned the house before us told us that the water had started tasting funny. However, she said that the DNR came out and investigated and determined it was ok. She said we had nothing to worry about. We believed her that it was all taken care of, and she took off for Las Vegas with the money we paid her for the house.

4. Two years ago, our youngest daughter was diagnosed with autism on the severe spectrum. This news devastated our family. Edna was the happiest little girl, always smiling and so eager. When she was very little and just learning to walk, we most often kept her inside because we have a large backyard and we didn't want her wandering off or getting hurt. There's also a creek that runs by our yard that starts northwest near the Badger plant called Sleepy Creek. As much as we tried to keep her inside and away from the creek, we just couldn't resist her requests to go play by the creek. Edna and her brother, James, who she absolutely adored, kept begging to play outside by the creek, so we relented.

5. Soon thereafter, when Edna was nearly three years old, she started to change. She stopped speaking, became withdrawn, and resistant to touch. This was just not the Edna we knew so we took her to our family doctor. When the doctor told us that Edna had autism, we could hardly believe it. How could our bright energetic child have changed so much seemingly overnight? It just seemed like a horrible dream that I could not wake up from. None of this made sense to us.

6. The Badger plant is located just down the road from our house. When they announced they were setting up shop we had a lot of questions for them. They told us they were going to be making wind turbines to help the environment, and at first we were very supportive. After all, I am in favor of improving air quality and providing a better place for my children to live, particularly since I have two children with asthma. I even

applied at one of their job fairs, and they hired me to work part-time as a file clerk in the main office.

7. After a couple years or so, I started getting concerned about the company's safety practices. I saw memos in some of my filing that made it look like they were trying to dump some waste as it appeared that they were generating more waste than was allowed. One time, when I was taking the shredding out back, I even saw a couple guys knock over an open barrel of liquid labeled "toxic" and they didn't even try to clean it up. It looked like it did not even concern them. I figured this must happen all the time. I left Badger shortly thereafter.

8. Now that I think about it, the toxic barrels being dumped at Badger reminded me of the toxic materials at the thermometer factory where both my spouse and I worked just before we had Edna. We worked at the thermometer factory for about two years, 2001 to 2003. At the factory, both my spouse and I were responsible for quality control and we had to inspect each of the thermometers for cracks and other problems. I was always concerned about mercury because there were warning labels everywhere about the dangers of handling it or breathing it. Of course, the company told us it was safe in small doses, but we still decided to leave that job soon before we had Edna just in case.

9. Because of our concerns with Badger, and the noxious smells that come from its facility, we've been trying to sell our house to get away from that place. We've had the house on the market for 18 months now, and all that time have not had any offers. It is not because we don't have a nice house. Our realtor told us that the listing for our house online gets a lot of "hits" and that people are excited to see the house when they see the pictures. But whenever folks come over to view the property, they always complain about the noxious fumes and odors from the Badger plant. They've also told us that our well water tastes funny. We try to tell potential buyers that you get used to it, but nobody's buying it. We've already lowered the price twice and stand to lose $10,000 even if we manage to sell the house at the new listing price. It does not look like we will ever be able to sell this house as long as Badger is operating its facility.

10. To make matters worse, I was recently diagnosed with liver cancer. My doctor says that it may be because of my exposure to PCE while working at Badger, as well as the possible emission of PCE and other chemicals from Badger's operations. Of course, Badger and its doctors are trying to blame my cancer on other things in my life. Sure, when I was much younger I had some problems with alcohol. Who hasn't? But when we moved to Forward I quit cold turkey, and I've been sober ever since.

11. The medical expenses for me and my daughter have been unbearable. Some of them are covered by insurance, but a big portion of our expenses are not. For example, our insurance does not cover treatments for Edna's play therapy for autism, but it's the only thing that seems to help. Hard as we tried, we started falling behind on our mortgage payments. We were working with Larry Lender over at the Forward Bank which was just bought by BigBank, Inc. They closed the branch and the only way to communicate with them is online. They don't even have a phone number where you can talk to a live

body. Just last month, we got a foreclosure notice, and now I don't know what we're going to do.

12. My spouse has even taken on a second job to help us with the medical expenses. Unfortunately, I am too sick to get a second job, or even work full time at the job I have. Besides, the children need at least one of their parents at home with them. Edna requires a lot of extra care and attention so it is just not practical for both of us to be working full-time jobs.

Lee Jones
Lee Jones

Signed and sworn to before me this
11 day of July, 2008.
Nancy Notary
Notary Public, State of Wisconsin
My commission expires: 9/9/2012

AFFIDAVIT OF ROBIN ROBERTS, R.P.G.

I, Robin Roberts, being first duly sworn, do hereby state:

1. I am an adult resident of Waukesha, Wisconsin.

2. I have a Bachelors of Science degree from the University of Wisconsin-Milwaukee in 1988, with a major in geology and a minor in water resources.

3. Since graduating from college, I have worked in the environmental field, focusing on soil and groundwater investigation and remediation.

4. I began my professional career with the Wisconsin DNR. Initially, I worked in the area of landfill management, where I reviewed environmental monitoring reports relating to groundwater conditions in the vicinity of licensed solid and hazardous waste landfills. After approximately six months, I switched to the leaking underground storage tank program, where I was involved in regulatory oversight of the removal of underground petroleum storage tanks, and the investigation and remediation of releases from those tanks.

5. In 1992, I joined Ecology Restoration, Inc. ("ERI"), as a hydrogeologist. ERI was founded in 1989, and the bulk of its work involved petroleum underground storage tanks and related investigations and clean-ups. It was a natural fit for me as I understood the science related to petroleum contamination. I also understood the DNR's regulations of contaminated sites as well as the regulations for obtaining reimbursements from the Wisconsin Petroleum Environmental Cleanup Fund, also known as PECFA. The PECFA fund reimburses owners of properties contaminated from petroleum underground storage tanks so long as the tanks meet the program's eligibility requirements.

6. During my tenure at ERI, I took the exam to qualify as a Registered Professional Geologist, and I also applied to be a certified PECFA consultant so that my work would be eligible for PECFA reimbursement.

7. By 2002, most of the old petroleum contaminated sites had been cleaned up, and ERI only had a few industrial clients with other kinds of environmental problems. I, therefore, left ERI to start my own environmental consulting firm, Roberts Environmental Associates ("REA"). At first, most of my projects at REA were small contaminated sites that could be remediated using common groundwater pump-and-treat systems. However, my former schoolmate Cecilia Cooper, a professional engineer, joined the firm in 2004. Since that time, we have taken on more complex projects involving a variety of chemical contaminants. Our firm now has five professionals: two hydrogeologists, a biologist, and two professional engineers. Our work includes environmental site assessments, as well as investigations and remediations at industrial facilities in Wisconsin and northern Illinois.

8. I am aware that there have been a variety of environmental problems in Forward. I once did an investigation for a service station there for which I had reviewed DNR reports on neighboring properties.

9. I have known Lee Jones and (his) (her) family for many years. Our children are close in age and attend the same school. We have socialized on occasions, usually at school related functions. I have followed the Jones' problems with their daughter Edna's autism, as well as Lee Jones' development of liver cancer, with great concern.

10. After Lee was diagnosed with cancer, (he) (she) called me to tell me that Dr. Wessell suspected that both Edna and Lee may have been exposed to contaminants. I told Lee that I had some knowledge of environmental problems in Forward, and (he) (she) agreed to hire our firm to investigate the source of the contaminants.

11. My first activity was to review DNR records relating to sites that were potential sources of contaminant releases. I focused my review on sites that were upgradient in terms of prevailing winds and groundwater flow. Groundwater in Forward generally flows from northwest to southeast, which is also the direction of prevailing winds in that part of Wisconsin.

12. My review of the DNR list of contaminated sites identified two gasoline stations, a former dry cleaner site, and the Badger Aeromechanical facility. I therefore reviewed the files for each of those sites and discussed each site with knowledgeable DNR staff.

13. The gasoline station files, including one that I had worked on at ERI, did not reveal any concerns. Both of them had tanks removed in the early 1990s, and each required removal of a limited amount of contaminated soil. One site (not the one I worked on) had a detectable concentration of petroleum compounds in the groundwater but it was below the regulatory limits that would have required further investigation or remediation.

14. The former dry cleaner site, Perky Dry Cleaners, had been investigated due to the release of tetrachloroethylene (also known as perchloroethylene), or "PCE". The soil was significantly contaminated, and there also was groundwater contamination. The PCE likely had been released when the dry cleaner was operating in the 1970s. According to the records I reviewed at the DNR's office, at the time of the remediation in 1998, the contaminants had mostly dissipated and the remaining plume of contamination in groundwater extended approximately 50 feet to the southeast, which was under the street right of way. DNR allowed the site to be closed based on "natural attenuation," meaning that the owner was only required to monitor groundwater to demonstrate that the concentrations of contaminants were declining over time. Perky Dry Cleaners was not required to do any further active remediation at the site as the DNR concluded that they had adequately addressed the contamination so as to address any potential threat to the public safety or health.

15. The last site of concern was the Badger Aeromechanical site. Badger is an industrial manufacturer of metal parts for the aerospace industry. It submits material safety data sheets ("MSDS") to the State, as required by State law, which identify chemicals used by the company. These MSDS sheets show that Badger uses chemicals that include arsenic, toxic heavy metals like copper, mercury and cadmium, and chlorinated chemicals and cleaning solvents, including PCE.

16. The DNR file for Badger Aeromechanical was fairly substantial, and included a 2005 investigation report prepared by Togar Environmental. According to the report, Badger had hired Togar to investigate releases of contaminants at its manufacturing site.

17. The Togar investigation included interviews of employees, soil samples, groundwater samples, and samples from Sleepy Creek. The report indicated that there had been periodic releases at the facility, and that there were significant detections of various chemicals in the soil and groundwater. These included toxic heavy metals, including mercury, and chlorinated solvents, including PCE. Mercury and other heavy metals also were detected in the sediments in Sleepy Creek.

18. In addition to reviewing DNR information regarding potential sources of contamination, it was important to sample soils, surface water, and groundwater in the vicinity of the Jones' residence. I took six soil samples at different locations on the Jones' property, at the surface and at two-foot intervals for ten feet. At three of those soil sample locations, I also drilled to groundwater, to determine the depth to groundwater, the direction of groundwater flow, and whether the groundwater was contaminated. I also reviewed the well log and took a sample from the well serving the Jones' residence.

19. I also took surface water and sediment samples from Sleepy Creek immediately behind the Jones' residence. I was particularly concerned about this creek, because it runs very close to the Badger yard where they store chemicals and because Lee told me that Edna loves to play in the creek.

20. Each of the soil and water samples was collected, packaged and sent to a certified laboratory for testing, using EPA-required methodologies and maintaining the chain of custody records.

21. The results of the sampling are shown on Table 1, which is attached to this affidavit. Additionally, I have prepared a site map showing the Jones' property and vicinity, which identifies all of my soil, groundwater and stream sampling locations.

22. The sampling that I conducted showed that the creek sediments in the vicinity of the Jones' residence contain elevated concentrations of both arsenic and mercury. There was no detection of either arsenic or mercury in the surface water samples.

23. Arsenic is known to be naturally occurring in the vicinity of Forward, but the concentrations in the sediment samples were higher than I would expect from naturally occurring arsenic. Unlike arsenic, mercury is not naturally occurring in the vicinity of Forward and would have had to come from a release of some type.

24. Based on my investigation, the Badger facility is the only likely source of mercury in the stream sediments, and is a likely source of the elevated arsenic concentrations. Badger is the only facility upstream and in reasonably close proximity to the Jones' residence that generates both mercury and arsenic waste. Additionally, the Togar report indicated that

there was mercury in stream sediments immediately adjacent to the facility, consistent with reports of spills at the facility.

25. It is not surprising that there would be mercury in the stream sediments behind the Jones' residence but not in the surface water. Surface water contamination would necessarily mean that mercury is suspended in the water column. Since mercury is significantly heavier than water, mercury detected in the surface water would indicate a very recent release. Mercury in sediments, however, typically represent an accumulation of mercury over time, and may have resulted from suspended mercury settling over a period of weeks, months, or even years.

26. Additionally, there is a bend, or meander, in Sleepy Creek behind the Jones' residence. Typically, stream velocity decreases immediately below the interior of a bend, allowing suspended sediments to easily settle on the stream bed. Over time, one often sees accretion of settling sediments at stream bends. If the suspended sediments are contaminated, one would expect to see a higher concentration of those contaminants at the quiescent location in the stream bend.

27. As noted above, I also took samples of soil and groundwater and a water sample from the Jones' well. I took three rounds of groundwater samples: the first being immediately after installing and developing the monitoring wells, the next after approximately three months, and again after approximately five months.

28. The soil samples in the unsaturated zone above the water table, known as the vadose zone, had no detectable concentrations of heavy metals or PCE, and very low concentrations of arsenic.

29. Groundwater samples, however, identified concentrations of PCE very close to or exceeding the enforcement standard for PCE (5 ug/l). Additionally, the samples indicated that at the depth of the monitoring wells and water supply well, groundwater flowed from west-northwest to east-southeast.

30. Based on my investigation, which included both review of public records, including the Togar report, and my own independent data collection and analysis, it is my opinion to a reasonable degree of scientific certainty that the mercury found in Sleepy Creek sediments behind the Jones' property is attributable to releases from the Badger facility. Factors that support my opinion include: (a) the proximity of the Badger facility to the Jones' residence, (b) the documented use and releases of mercury from Badger, (c) the concentrations in the stream sediments adjacent to the Badger facility, and (d) the fact that there are no other known sources of mercury in the area. Additionally, the location of the mercury concentrations in the creek is consistent with the likely contaminant migration pathway from Badger (i.e. downstream).

31. It is also my opinion to a reasonable degree of scientific certainty that the PCE found in the Jones' well is attributable to PCE release from Badger. Factors that support my opinion include (a) the proximity of Badger to the Jones' residence, (b) the documented use and

releases of PCE by Badger, (c) the fact that PCE was detected in groundwater at the Badger facility, and (d) the groundwater flow direction from Badger toward the Jones' residence. Additionally, the only other potential source of PCE in the area is Perky Dry Cleaner, and the reports in the DNR records indicate that the PCE plume from that facility does not extend as far as the Jones' residence.

Robin Roberts

Robin Roberts

Subscribed and sworn to before me this
13th day of September, 2008.

Sandy Smith

Notary Public, State of Wisconsin
My commission expires: permanent

Curriculum Vitae

Robin Roberts, R.P.G.
300 Club Street
Milwaukee, WI
(414) 555-1212
rroberts@mvp.com

Education:

University of Wisconsin-Milwaukee: B.S., Geology, 1988

Licenses, Certifications and Registrations:

Registered Professional Geologist: Wisconsin, Illinois
Wisconsin Hydrogeologist
Certified PECFA Consultant

Work History:

1988-1992: Wisconsin Department of Natural Resources, Southeast District, Milwaukee, Wisconsin

Hydrogeologist in bureau of solid waste management; primary work initially involved regulation of solid and hazardous waste landfills, and subsequently leaking underground storage tanks.

1992-2002: Ecology Restoration, Inc., Milwaukee, Wisconsin

PECFA-related investigations and remedial actions, including tank removals, soil and groundwater investigations, remedial design and implementation.

2002-present: Roberts Environmental Associates, Pewaukee, Wisconsin

Soil and groundwater investigations and remedial actions at commercial, industrial, and residential properties, including Phase I and II environmental site assessments, remedial design and implementation.

Illustrative Experience:

Investigation and remediation of petroleum releases at Flaming Beagle Brewery, Lost Lake, Wisconsin, including unsaturated soil and groundwater remediation

Investigation of contaminant plume at Widget Dairy Equipment Corporation, Angus City, Wisconsin

Remediation of petroleum contamination at Wrigley Chevrolet, Waukegan, Illinois

Table 1

Environmental Monitoring Data:
Roberts Environmental Associates

Soil (composite samples)
(date)

	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
PCE	ND	ND	ND	ND	ND	ND
Arsenic	0.3	1.2	0.6	ND	0.8	0.4
Mercury (Hg)	ND	ND	ND	ND	ND	ND

Groundwater

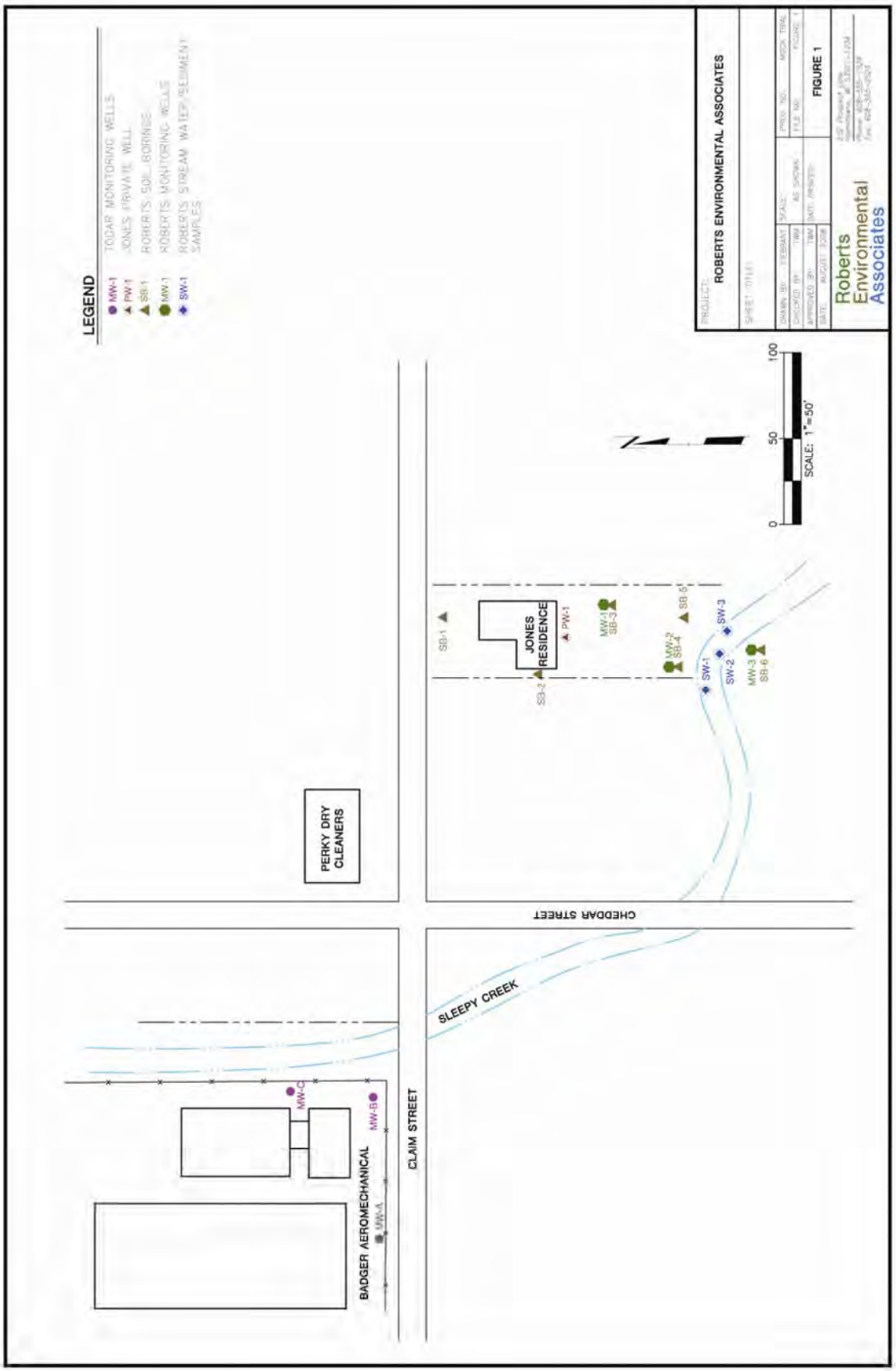
	PW-1	MW-1	MW-2	MW-3
PCE				
Date 1	4.8	4.5	1.8	0.9
Date 2	12.4	6.9	2.7	7.6
Date 3	9.2	6.2	3.5	1.3
Arsenic				
Date 1	0.4	0.7	1.8	1.7
Date 2	ND	1.2	2.4	ND
Date 3	0.8	0.4	0.8	0.2
Mercury (Hg)				
Date 1	ND	ND	ND	ND
Date 2	ND	ND	ND	ND
Date 3	ND	ND	ND	ND

Stream (date)

	Surface H_20	Sediment-1	Sediment-2	Sediment-3
Arsenic	ND	3.4	6.8	0.7
Mercury (Hg)	ND	197.0	643.0	94.0

ND = No detect
All water samples = ug/l
All soil/sediment samples = mg/kg
PCE Groundwater Enforcement Standard/Preventive Action Limit = 5.0/0.5 ug/l
Arsenic Groundwater Enforcement Standard/Preventive Action Limit = 10.0/1.0 ug/l
Mercury Groundwater Enforcement Standard/Preventive Action Limit = 2.0/0.2 ug/l
Arsenic Residual Soil Standard (Non-Industrial) = 1.6 mg/kg

Roberts Associate Diagram



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

E. Lected Official, Governor
N. Agency-Head, Secretary

101 S. Webster Street
Madison, Wisconsin

July 4, 1992

Dee Dee Ramone
Perky Dry Cleaners
27 Claim Street
Forward, WI 55999

Subject: Case Closure
Perky Dry Cleaners, 28 Claim Street, Forward, WI
WDNR BRRTS # 01-99-012345678

Dear Ms. Ramone:

On March 26, 1992 your request for closure of the case described above was reviewed by the Department's Regional Closure Committee. The Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. After careful review of the closure requested, the Closure Committee has determined that the contamination of tetrachloroethylene [also known as perchloroethylene or PCE] from the site of Perky Dry Cleaners from former underground storage tanks appears to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated in accordance with s. NR 726.05, Wis. Adm. Code.

We have reached this conclusion because of the investigations and measures you took, which include the following:

- Installing a monitoring well network that determined regional ground water quality. This showed a ground water flow from west to east.
- The monitoring well network showed no background levels of PCE in the regional groundwater, although metals testing did find a regional concentration of arsenic in ground water that averaged 740 milligrams per liter (740 mg/l).
- Definition of leaked PCE from an underground storage tank on the Perky Cleaners property, and removal of the tank and PCE-contaminated soil as described in your Consultant's report.
- Eight quarters of ground water monitoring in the well network that showed a plume of contamination with PCE from the tank site in concentrations above the groundwater enforcement standard of 5 micrograms per liter (5 ug/l) as defined in s. NR 140.10, Wis. Adm. Code, Table 1. These results are summarized in the attached Appendix I.

- Your action to inform affected property owners by letter of the contamination and propose remediation.
- The measures by your consultant to:
    - cap the site to prevent further infiltration and mobilization of remaining PCE;
    - allow natural attenuation to further degrade the remaining residual PCE in soil; and
    - continue quarterly ground water monitoring to confirm attenuation and lowered concentrations of PCE are observed in ground water for an additional eight [8] quarters.

Your site will be listed in the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. Information that was submitted with your closure request application will be included on the registry. To review the sites on the GIS Registry, please visit http://gomapout.dnr.state.wi.us/org/at/et/geo/gwur/index.htm.

Please be aware that this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare, or the environment.

Sincerely,

Laury Miller

s/s

Laury Miller
Hydrogeologist
Bureau for Remediation and Redevelopment

Appendix I – Summary of Ground Water Monitoring Results of Private Water Supply Wells at:

Perky's Dry Cleaners

28 Claim Street
Forward, WI

WDNR BRRTS # 01-99-012345678

Date of Sample Collection

Address	Well Owner	9/90	12/90	3/91	6/91	9/91	12/91	3/92	6/92
10	Ellas Bates	4.4	7.0	7.1	7.1	6.4	5.3	4.6	3.8
13	Maria del Rosario	4.9	7.2	6.3	5.6	5.1	4.7	4.3	4.0
16	Roy Scherer	9.6	7.8	4.0	N/D	3.7	2.1	N/D	N/D
28	Douglas Glenn Colvin	10.3	10.2	10.2	8.7	5.3	4.9	4.6	3.1
34	Cherilyn Sarkisian	3.2	1.1	N/D	1.0	N/D	N/D	N/D	N/D

Notes:

1. All address numbers are on Claim Street, Forward, WI.

2. All concentrations are for analysis of tetrachloroethylene or PCE and listed in micrograms per liter [ug/L].

3. N/D means not detected or present below the limit of quantitation.

Report of Togar Environmental on

Hazardous Substance Management

at the

Badger Aeromechanical Windmill Fabrication Facility

Forward, Wisconsin

July 4, 2005

Prepared by:

Riff Randle
PE

Executive Summary

This report has been prepared by Riff Randle, P.E., of Togar Environmental at the request of Jerry Smith, environmental compliance officer of Badger Aeromechanical. Smith requested a review of reported issues with materials handling and possible releases of waste materials. Smith further requested Togar provide conclusions and recommendations about needed action under ch. 292, Wisconsin Statutes for hazardous substance spills.

This report is based on the following the following data:

- A review of relevant Department of Natural Resources records and regulatory requirements
- A review of records kept by Badger Aeromechanical and its commercial waste hauler, Ty-Dee Factoreez
- Interviews with employees of Badger and Ty-Dee
- On-site surface inspections in and around the liquid waste storage building on the east side of Badger Aeromechanical's Forward manufacturing facility
- Undisturbed soil samples taken with a split spoon and auger drill in areas of visible contamination
- Grab soil samples of excavations of visibly contaminated soil
- Logs of undisturbed soil samples collecting during drilling of 3 on-site ground water monitoring wells
- Ground water samples from the groundwater monitoring wells
- Sediment samples from the drainageway from Sleepy Creek

Refer to the attached Figure A for the locations of these investigatory activities and samples.

The principal findings and recommendations are explained in detail in body of the report, but include the following:

Employee Interviews

I undertook a series of interviews in April 2005 with Edison de Nasciemento, a Badger employee who was in charge of day-to-day management of the liquid wastes. He reports the spent degreasing solvent and arsenic/mercury metals solutions were often inadequately managed. Mr. Nasciemento reported that during a short-staffed period from late 2004 to March 2005, drums of the above liquid wastes were often left outside the secured storage buildings and often without tops securely bung banded and bolted on. He also reports that employees of the Ty-Dee Factoreez waste management firm also on occasion knocked over some of the unsecured barrels of solvent and metal wastes during this time, and that there contents spilled onto soil outside the storage building. He indicates that he did report these incidents to Badger's security office, but was unaware of the waste materials management plan that required immediate notification of Badger's environmental compliance officer.

I also interviewed Isaac Hanson and Mary Jane West, who worked for the Ty-Dee Factoreez waste management service. Mr. Hanson, who has a very lean build, prominent tattoos and extremely poor teeth, essentially reiterated Mr. Nasciemento's version of issues in our initial interview of April 6, 2005. He also mentioned what he described as the "fork lift tank truck puncture incident" at that interview. Unfortunately I never had the chance to meet Mr. Hanson for further interviews, and was told his employment was terminated for "troubles with the DEA".

Ms. West did not corroborate this version, but instead related that as a long-time Ty-Dee Factoreez employee everything at Badger's Forward factory was done "by the book and in accordance with the law." She did mention, however, that there was a pervasive smell of chlorinated hydrocarbons that she said "smelled like perk" whenever she and Mr. Hanson collected liquid wastes from Badger. She also indicated that Ty-Dee had difficulty operating its forklift that was routinely used to empty drums of liquid waste into the firm's liquid tank truck in the vicinity of the liquid waste building due to space limitations and poor facility design.

II. Subsurface Investigations

Based on the above reports of spilled liquid wastes, I commissioned a subsurface investigation and soil excavation. Undisturbed soil samples were collected through hollow-stem augers using a 2-inch diameter split spoon to a depth of 20 feet at three areas of visible soil discoloration. The samples were analyzed for chlorinated hydrocarbons and the metals mercury, zinc and arsenic [all likely constituents of Badger's metal finishing solution] using appropriate procedures in the US EPA's "SW 846 – Test Methods for Evaluating Solid Waste" as specified in s. NR 716.13(3), Wis. Adm. Code. Results of the chemical analysis of soil samples are discussed in detail in the report below, and not repeated here for brevity.

It is noteworthy that the chlorinated hydrocarbon tetrachloroethylene [or PCE] and the metals mercury and zinc were detectable at 20-foot depths in borings SB-C and SB-D. Arsenic was present in these borings at the 20-foot level at 1.5 and 1.6 milligrams per liter, respectively at the 20 foot levels of SB-C and SB-D, which overall complies with the cleanup standard in Table 2 of s. NR 720.11, Wis. Adm. Code.

Based on these laboratory analyses, soils were excavated using a back hoe to the 20-foot depth, the allowable concentration for arsenic. This resulted in approximately 40 cubic yards of excavated material.

Because of the potential for groundwater contamination from the above liquid waste handling practices, three (3) ground water monitoring wells were also installed in the vicinity of the liquid waste storage building. The wells were installed under the supervision of a Wisconsin Professional Engineer pursuant to the relevant requirements of ch. NR 141, Wis. Adm. Code. Based on static water levels from these wells, a general ground water gradient from west to east, with a slight southern component, is present in the vicinity of the waste storage building.

The groundwater monitoring wells were subsequently sampled twice in a three-month interval and tested for the chlorinated hydrocarbon tetracholorethylene, or PCE, and the metals mercury,

zinc and arsenic in accordance with the applicable methods specified in ch. NR 149, Wis. Adm. Code. Monitoring wells MW-A and MW-C did not contain detectable levels of these constituents. However, PCE and the metals mercury, zinc and arsenic all were detected in samples from MW-B. Results of these analyses are summarized in the following Table.

RESULTS OF GROUND WATER MONITORING, WELL MW-B

Date of Sample	Concentration of PCE	Concentration of Mercury	Concentration of Arsenic	Concentration of Zinc
April 1, 2005	5 ug/L	0.01 ug/L	15 ug/L	ND
June 15, 2005	3 ug/L	ND	17 ug/L	N/D

1. Concentrations in ug/L or micrograms per liter.

2. N/D is not detected or present below the limit of quantitation

I interpret the ground water monitoring results to indicate some residuals from past discharges of the sampled constituents. Further investigation is needed to determine the nature and extent of any migration to the east of the Badger property and whether the detection of arsenic is due to past activities at Badger or the result of naturally occurring background concentrations.

Surface Water Investigations

Visible discoloration likely caused by past spills and surface transport via surface drainage to Sleepy Creek was observed in an April 2005 site visit. Because of this, three (3) surface water sediments were collected in Sleepy Creek off-site. The collected stream sediment samples were analyzed for chlorinated hydrocarbons and the metals mercury, zinc and arsenic, using EPA soil test method SW 846. Results of the chemical analysis of soil samples are discussed in detail in report below, and for the sake of brevity are not reproduced here.

Two (2) of the stream sediment samples were collected off of the Badger Aeromechanical property and west of Cheddar Creek. The analysis showed concentrations of mercury, arsenic, and PCE of 2.5 micrograms per liter [ug/L], 25.0 ug/L and 0.3 ug/L, respectively, in the upstream of the two (2) samples above the property in a slow-water area. There were no detectable levels of these constituents in the lower, downstream sample shown on Figure A.

The residential area of Sleepy Creek flowing east of Cheddar Street could not be sampled because the owners repeatedly denied requests for access to the stream. The third stream sediment sample, collected east of the residences and approximately 500 feet downstream of Cheddar Street [but not shown on Figure A due to scale considerations] did not contain detectable levels of mercury, arsenic, or PCE.

Conclusions and Recommendations

There is creditable evidence to support a conclusion that liquid wastes containing chlorinated hydrocarbons, particularly PCE, and the metals arsenic and mercury, were discharged outside the Liquid Waste Storage Building on the eastern portion of Badger Aeromechanical's Forward, Wisconsin facility. These liquid wastes have migrated into subsurface soils and appear to have entered the shallow ground water to the point where they are detectable in water table ground water monitoring wells. Constituents from the liquid wastes have also been detected in sediment samples from Sleepy Creek, and have migrated downstream off Badger's facility, but do not appear to have migrated east of Cheddar Street.

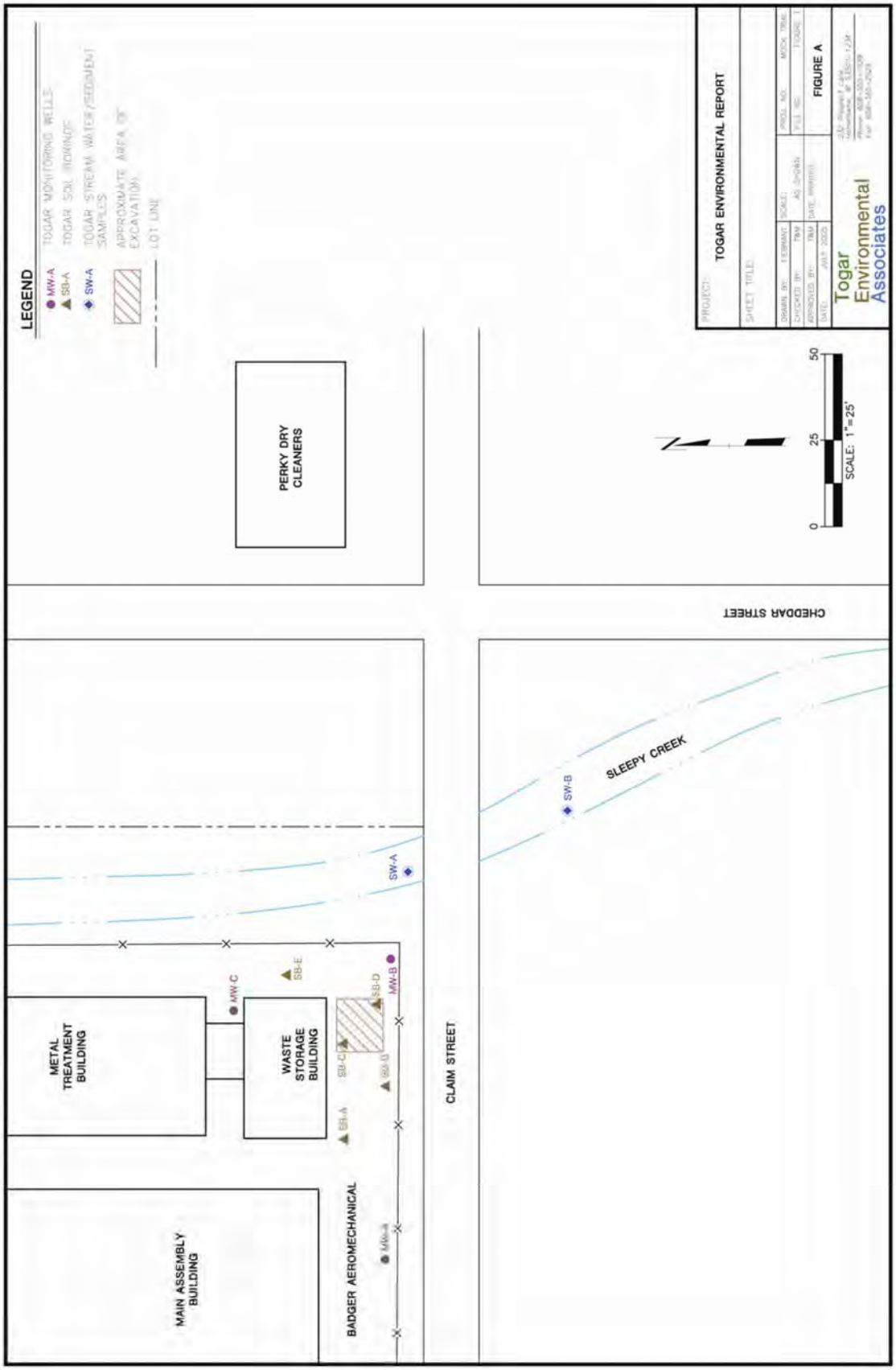
Badger should review its liquid waste management practices and make sure that all its staff understand and can follow the management and reporting requirements in the waste management plan prepared by Togar Environmental on July 4, 2002. Badger should also evaluate whether it should continue to use the waste management services of Ty-Dee Factoreez, given questions about the quality and truthfulness of Ty-Dee's staff, problems with staff turnover, and past incidents that appear to have contributed to waste liquid waste management incidents.

Badger should continue to monitor the on-site groundwater monitoring wells for chlorinated hydrocarbons and the metals arsenic, mercury and zinc for at least eight (8) additional quarters. Additionally, Badger should engage Togar or another qualified environmental consulting firm to develop an appropriate surface water monitoring program.

Because of apparent migration off the Badger property of chlorinated hydrocarbons and the metals mercury, zinc and arsenic, Badger should also engage Togar or another qualified environmental consulting firm to propose a groundwater monitoring effort for the off-site private drinking water supply wells listed in a July 4, 1992 DNR document.

Finally, Badger Aeromechanical should report to the WDNR a possible hazardous substance release pursuant to the legal requirements of s. 292.11(2), Wisconsin Stats.

Togar Environmental Diagram



Affidavit of Dr. Kris/ Kristin Wessell, M.D. / Ph.D.

1. My name is Dr. Kris/ Kristin Wessell. I am a physician licensed to practice in the State of Wisconsin. I currently practice at the University of Wisconsin Hospital & Clinical satellite office in Forward, WI. I have also been an adjunct faculty member of the University of Wisconsin School of Medicine and Public Health since 1990.

2. I earned an M.D. from Wayne State University in Detroit, Michigan in 1984 and a Ph.D. from the University of Wisconsin in 1987. I became Board Certified in Family Medicine by the American Board of Family Medicine in 1991, renewed in 2001. I also completed a Research Fellowship in Environmental Toxicology in 1986 at the University of Wisconsin.

3. My practice and professional duties include both treating patients and conducting research on the correlation between environmental pollutants and human health. I have written numerous articles regarding the potential harmful effects of environmental pollutants. I have been published in the Journal of the American Medical Association, the New England Journal of Medicine, the Journal of Medical Toxicology and others.

4. One area of particular concentration in my research has been the potential correlation between exposure to various environmental pollutants and increased risk of cancer, including liver cancer. My most recent research project on this topic, set to be published in the New England Journal of Medicine in January of 2010, indicates a significant correlation between exposure to PCE and higher rates of liver cancer when PCE exposure is pronounced. My research also indicates an even higher rate of cancer among sample populations that have been exposed to PCE along with other common environmental pollutants, including Arsenic and insecticides. This research indicates that exposure to these harmful environmental contaminants can lead to liver damage. The liver's attempt to heal this damage leads to active regeneration of cells, which in turn can lead to the production of cancer.

5. I shifted my research emphasis to studying the correlation between exposure to pollutants and abnormal childhood cognitive development after my oldest child was diagnosed with autism in 1998. I recently completed a research study that is set for publication in the Journal of Medical Toxicology in July 2009, which explores the potential link between exposure to Mercury caused by environmental contaminants and the risk of cognitive impairment in young children. This research demonstrates that sustained exposure to abnormal levels of Mercury creates a significantly greater risk of cognitive disabilities for small children, including autism. My research also demonstrates a statistically significant correlation between proximity to the source of an environmental pollutant and the risk of developing autism. Finally, my research indicates that exposure to Mercury along with other environmental pollutants, including Arsenic, may act as an aggravating factor, leading to even greater risk of cognitive disabilities among young children.

6. I began treating Edna Jones in 2005 when she showed warning signs of learning disabilities and abnormal cognitive development. After extensive evaluations I diagnosed Edna with autism in 2006.

7. As part of my evaluation of Edna's condition, I reviewed Edna's family history and discovered no indications of significant past cognitive disability in any of Edna's family members.

8. I then began to assess whether Edna's autism may have been caused by her exposure to environmental contaminants near the Jones' household. As part of this research I performed a detailed toxicology screen on Edna.

9. I quickly ruled out Edna's exposure to PCE near the Jones' household. At present, PCE has been documented as a carcinogen but has not been linked to birth defects or cognitive disability.

10. I then decided to look into the possibility that the high levels of Mercury near the Jones' household may have led to Edna's development of autism.

11. Mercury has been well documented to cause cognitive impairments in small children as well as birth defects in developing fetuses. Several studies in the past decade have explored the possibility that exposure to the Mercury based preservative thimerosal may be tied to autism. Until recently, thimerosal was commonly used in many vaccines.

12. My recent research, noted above, explored the potential link between autism rates and environmentally released Mercury. My research indicates that there is a significantly higher rate of autism and other cognitive disabilities among children in areas exposed to abnormally high levels of environmentally released Mercury. Some evidence also suggests that these rates may be even higher in areas where exposure to Mercury is combined with other environmental contaminants, including Arsenic. Further, my research indicates that the highest rates of autism and other cognitive disabilities exist in the areas closest to the source of Mercury pollution.

13. Based on this research and the fact that I was able to rule out the other potential causes of Edna's autism, it is my opinion, to a reasonable degree of medical certainty, that Edna's exposure to high levels of both Mercury and Arsenic caused her development of autism.

14. I have also treated Lee Jones from the time the Joneses moved to Forward, WI. Lee came to me complaining of continued abdominal pain and rapid, unexplained weight loss. Upon physical examination I noticed a slightly enlarged, tender liver. I then performed blood tests and found abnormally high levels of alpha-fetoprotein, a standard indicator of the possibility of liver cancer. I then ordered an ultrasound and CT scan for Lee. Based on the results of these tests I diagnosed Lee with liver cancer.

15. As part of my treatment of Lee I began researching the potential causes that could have led to the development of Lee's cancer. I reviewed the family history and discovered no prior instances of liver cancer in any of Lee's family members.

16. I also reviewed Lee's medical history and noted that Lee had been hospitalized briefly at ages 19 and 21 for overconsumption of alcohol. There were also notes in Lee's file from annual evaluations indicating that some of Lee's previous physicians had recommended some moderation of alcohol consumption. Nothing in Lee's file, however, indicated to me that Lee had a chronic problem with excessive alcohol consumption.

17. I then began to explore the potential link between the various environmental contaminants around the Jones' neighborhood and Lee's liver cancer. I reviewed the relevant scientific literature and found that exposure to each of the insecticides prevalent in the area near the Jones' home - Endrin, Heptachlor and Lindane- are all associated with the possibility of liver damage.

18. Further, my review of the scientific literature found that PCE has been shown to cause liver tumors in mice and that exposure to Arsenic can lead to cancer in the liver, bladder and lungs. To further test this correlation, I decided to perform my own research, the results of which, as I noted above, are set to be published in January 2010.

19. Based on this research, and after ruling out the other potential causes, it is my opinion, to a reasonable degree of medical certainty, that Lees' sustained, pronounced exposure to PCE, especially when combined with exposure to Arsenic and other environmental contaminants, was the primary cause in the development of Lee's liver cancer.

Dr. Kris/ Kristin Wessell, M.D./ Ph.D.

Signed and sworn to before me this
18 day of July, 2008.

Notary Public, State of Wisconsin
My commission Expires: 2-14-2010

CURICULUM VITAE

Kris/Kristin Wessell, M.D./ Ph.D.

PERSONAL

Office Address: University of Wisconsin Hospital & Clinic
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Forward, WI 54311
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Birth: October 7, 1958
Stevens Point, WI

EDUCATION

Undergraduate: University of Wisconsin, Madison
Bachelor of Science, 1980
Major: Biochemistry and Biology

Graduate: Wayne State University Medical School, Detroit, MI
M.D., 1984
University of Wisconsin, Madison, WI
Research Fellowship, Environmental Toxicology, 1986
Ph.D., 1987

Residency: University of Wisconsin Hospital and Clinics
July 1987- June 1990
James, O. Oliva, M.D., Chairman
Madison, Wisconsin

PROFESSIONAL LICENSURE

Wisconsin- July 15, 1990

BOARD CERTIFICATION

American Board of Family Medicine, 1991

PROFESSIONAL MEMBERSHIPS

American Medical Association
Wisconsin Medical Society

American Academy of Family Physicians
American College of Medical Toxicology
Society of Toxicology

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Environmental contamination: aggravation risk factors, American Academy of Family Physicians, 59th Annual Meeting, Warrens, WI, May 15, 2006.

AFFIDAVIT OF JERRY/JERILYN SMITH

1. My name is Jerry / Jerilyn Smith and I live in Forward, Clearwater County, Wisconsin. All of my friends and co-workers call me Jerry. I have lived in Forward all of my life with the exception of the time that I went off to college in Stevens Point. I earned a bachelor's degree in environmental sciences at University of Wisconsin-Stevens Point in 1997.

2. I currently work at Badger Aeromechanical Corporation and have been employed with Badger for approximately seven (7) years as the company's environmental, health and safety manager. I believe that Badger started operating its facility in Forward in 1998.

3. Badger makes wind turbines for clean, low-carbon energy, including what we call "Mini-Mills." The "Mini-Mills" are exported to developing countries as a source of water and electrical power. Badger was the first company to manufacture such Mini-Mills. In fact, I do not believe that anyone else makes wind turbines that are comparable to the Mini-Mills; Badger truly is a leader in this respect. Recognizing the benefits such wind turbines offer third-world countries, along with the fact that they would not adversely impact their environment, Badger received a multi-billion dollar grant from The Gates Foundation. The grant is for the purchase and shipment of "Mini-Mills" to the Sahara Desert and southern Africa. Badger also manufactures large wind turbines for use in large-scale electricity generation in Wisconsin and the Midwest as an alternative to coal-fired power plants. Badger set out to be a leader in combating climate change and through its advances in technology it is playing a significant role in reducing greenhouse gas emissions throughout the world.

4. Because the Mini-Mills that are shipped to Africa are exposed to extreme heat and insects, Badger needs to treat the turbines with a special mix of chemicals as part of the manufacturing process. The special mix of chemicals used by Badger provides a few important benefits. They (i) harden the towers and blades against the wind, heat and extremely dry conditions; (ii) treat the towers and superstructure to prevent parasites and malaria-causing mosquitoes from living and breeding on the mills; and (iii) meet a Gates Foundation grant requirement that Badger use grease-free metals which allow effective assembly overseas. The hardening, degreasing and mosquito proofing are done by dipping the mills in a series of high-temperature liquid baths consisting of metals, including mercury and arsenic that are known for their metallurgical and pest-killing properties; organic chemicals that include trichloroethylene (TCE) and tetrachloroethylene (PCE) for degreasing; and insecticides Endrin, Hepthachlor and Lindane.

5. I know that there has been some criticism about the fact that Badger proclaims to be an environmentally-responsible company but yet chooses to use harmful chemicals in its manufacturing process. It is true that there are other chemicals and metals that Badger could use in its manufacturing process that would provide some of the same properties and benefits as the materials that Badger uses. However, it is generally accepted among

professionals in the industry that the chemicals and metals that Badger uses are the most effective and the most economical, thus enabling the maximum number of Mini-Mills to be sent overseas at the lowest possible cost.

6. As the environmental, health and safety manager at Badger, I am responsible for overseeing and implementing the Company's health and safety programs. I am also responsible for ensuring that our operations are in compliance with all local, state and federal environmental rules and regulations. Badger strives to be an environmental steward and thus it has adopted a company-wide philosophy that requires it to manage and operate its business in as an environmentally-friendly manner as possible. I really enjoy working for a company that takes its environmental responsibility seriously. Prior to working at Badger, I worked for another company in Forward that did not take environmental issues seriously, and had even encouraged us to hide things from the regulators.

7. Badger even goes above and beyond what is required by the state and federal environmental rules and regulations. In fact, although not required to, it spent a considerable amount of money to install and maintain a state-of-the-art system to monitor emissions to the air and water from its facility. In addition, it has installed special air monitoring equipment outside the boundaries of its facility that monitors ambient air conditions. In fact, Badger works directly with the DNR to assist it in compiling useful air emission data for the Forward community. As part of its environmental management program, Badger also conducts monthly tests of surface water in stream and lakes within a five-mile radius of the facility to ensure that its facility is not emitting significant amounts of the chemicals and metals that it uses in its manufacturing processes.

8. There is no question that Badger's manufacturing process produces various liquid wastes; any industrial facility of this magnitude does as it is just the nature of the beast. The chemicals that are used in the dipping baths lose their effect after so many uses and, therefore, Badger must change them out on a monthly basis. The liquid wastes from the baths are stored in sealed drums, which Badger then stores in an enclosed waste storage building that is located on the southeast corner of the Badger property until such wastes are then hauled off by a licensed hauler to a licensed treatment and disposal facility. Badger follows all of the rules and regulations concerning the storage and disposal of hazardous wastes. Badger does not dump or dispose of these liquid wastes on site. I know that there have been rumors in the community that Badger has been dumping hazardous wastes on its property and in the stream that runs behind the facility. They are just that, rumors. I would never stand by and allow our employees to engage in such activity. After all, I have a family and children that live in this community and I would not want to jeopardize their health.

9. As with any manufacturing environment, particularly those that rely on people, accidents happen, but this is why we have implemented emergency and spill response procedures at the plant. Workers will sometimes spill chemicals and the liquid wastes when pouring them into drums or vats but Badger has spill containment throughout the facility so this should prevent any hazardous wastes from entering the environment or leaving the site.

In addition, we keep spill absorbent materials on site for the employees to use when they are cleaning up any accidents or spills.

10. Business has been really good for Badger. In fact, we have had to increase production by adding a third shift on in order to meet the demand for the Mini-Mills. Of course, I am not able to manage and supervise all three shifts so I do rely on shift supervisors to manage the employees on the second and third shifts. They are supposed to follow all of the same procedures I have in place for the employees on the first shift to ensure that we do not have any accidental spills or releases to the environment. In fact, all employees that handle the chemicals, insecticides, metals, and hazardous wastes at the facility are required to go through specialized training that instructs them on the proper means of handling such materials.

11. I am aware that our neighbors believe Badger is the cause of the problems they are experiencing with the sale of their property and/or their health. They claim that Badger is emitting noxious fumes from their facility thereby contaminating the air that they breathe, as well as dumping hazardous wastes into the environment. The local newspaper, Forward Progress, is always looking for negative stories about industry in Forward. I don't know why but the paper does not seem to appreciate the value industry brings to its community. It is always casting the industries in a negative light. In fact, they have printed some negative articles concerning Badger. The articles stated that some Badger employees reported problems with spilling of waste liquids while being poured into drums in the waste storage areas. Some articles have even suggested that the employees were purposefully dumping drums of wastes out at the back of the property so the company would not have to pay to have such wastes hauled to a special facility for treatment. We have tried to find out who these employees were so I could talk to them about the alleged problems. How else can I address the problem and fix it or develop a safer method of handling the wastes if I am not aware of the problem. As I said before, accidents happen but we have safety procedures in place to ensure that there are no releases to the environment. Unfortunately, the Forward Progress would not give us the names of the employees who supposedly reported this information. The paper claims that First Amendment and freedom of the press rights would be infringed if it were to name its sources.

12. The Forward Progress has also alleged that Badger is the source of noxious smells in the community. Yes, during the warm summer months, people may be more likely to notice some odor from our operations but this is no different than any other industry or even farming. The warm weather and prevailing winds just happen to accentuate the odors. They are no different than the odors and emissions being emitted from the facility during the rest of the year. People spend a lot of time outdoors during the summer months so they just happen to notice the smell more.

13. I am responsible for reviewing the data collected and compiled by all of the monitoring equipment installed by Badger. The monitoring data does reveal that trace amounts of chemicals and metals, including mercury and arsenic, are emitted to the environment as a result of Badger's manufacturing process. However, those amounts are very small and

are easily detected by Badger's extensive environmental monitoring program. Furthermore, these trace amounts are well below the regulatory standards that the DNR and EPA have established as discharge limits for such chemicals and metals. Simply said, Badger is operating within the parameters of the environmental rules and regulations that it is required to follow. It is not required to run its operations in a manner wherein no chemicals are emitted to the environment.

14. Badger is inspected by the DNR on a regular basis. The DNR inspects the facility's hazardous waste management program to ensure that Badger is complying with all of the appropriate rules and regulations. The DNR has even conducted surprise inspections in response to the rumors posted in the Forward Progress. To date, Badger has never received any type of notice of violation or other enforcement action from the DNR. In fact, I think the DNR conducted a thorough investigation back in 2006 or so to address some reported spills at the site but I do not believe that Badger ever received any type of notice of violation as a result of such investigation.

15. I know the Jones family, as well as other families that live on Claim Street, through a series of public meetings that I have attended. The DNR has been holding public meetings to discuss remedial action at a nearby former dry cleaner facility that was located upgradient from the Jones' home. The former dry cleaner facility used various dry cleaning chemicals, including PCE and TCE, which were ultimately discharged to the environment resulting in soil and groundwater contamination. It is my understanding that some of the contamination from the dry cleaner facility actually migrated on to Jones' property.

Jerry Smith

Signed and sworn to before me this
21 day of July, 2008.

Lisa Larson
Notary Public, State of Wisconsin
My commission Expires: 7-1-2012

AFFIDAVIT OF RIFF RANDALL, M.S., P.E.

1. My name is Riff Randall. I am a Principal and the founder of Togar Environmental Solutions, an environmental remediation firm based in Milwaukee, Wisconsin. I currently hold the title of Senior Project Manager. I have personal knowledge of all matters set forth in this affidavit. All opinions expressed in this affidavit are made to a reasonable degree of engineering and scientific certainty.

2. I have been retained by Badger Aeromechanical Corporation to serve as an expert witness in this action. I am being compensated at the rate of $300/hour for deposition and courtroom testimony. All other work that I perform as an expert witness for Badger is compensated at the rate of $200/hour.

3. I received a Bachelors of Science in Geology from the University of Wisconsin-Stevens Point in 1973. I earned a Masters of Science in Environmental Technology from the University of Wisconsin College of Engineering in 1976. From 1976-1981, I worked for The Rambeau Group in Milwaukee, Wisconsin, as an Environmental Engineer. My responsibilities at Rambeau included designing, installing, and operating soil and groundwater treatment equipment; characterizing, segregating and removing regulated wastes; and implementing water, wastewater, groundwater, soil, solid and hazardous waste engineering and management programs

4. In 1981, I founded Togar Environmental. Since its founding, Togar Environmental has become the largest environmental investigation, characterization, and remediation consultant in Wisconsin. I employ a full-time staff of approximately 120 employees that includes hydrologists, hydrogeologists, environmental engineers, soil scientists, environmental technicians, certified GIS professionals, licensed professional engineers, environmental health professionals, and surveyors. I and my colleagues at Togar have managed the remediation of dozens of contaminated sites throughout the State of Wisconsin. A more complete statement of my qualifications to render opinions in this action is contained in my curriculum vitae, a copy of which is attached to this affidavit.

5. I am quite familiar with the Badger Aeromechanical facility, its operations, and its impact on the surrounding environment. In 2005, at the request of Jerry Smith, Badger Aeromechanical's Environmental Compliance Officer, I and Togar Environmental performed an investigation into the handling and possible release of process waste materials, including mercury, arsenic, and PCE, from the Badger Aeromechanical facility. As part of my investigation, I interviewed several Badger Aeromechanical employees, commissioned Togar to conduct a subsurface investigation and soil excavation, and supervised the installation of three (3) groundwater monitoring wells. My investigation at that time revealed that although detectable levels of mercury, arsenic, and PCE were present in soil on the Badger Aeromechanical site and in the surface water immediately to the east of the facility, no detectable levels of mercury, arsenic, or PCE were found in any samples collected downstream of the Jones' property.

6. In response to the spill and remediation work that Togar performed in 2005, I and my company helped to design and implement a state-of-the-art environmental monitoring

system. That system, which Togar periodically checks and calibrates, detects and measures emissions of various chemicals and metals from the Togar facility into the surrounding environment.

7. I also am familiar with the environmental monitoring program that Badger has implemented. Badger employees perform daily inspections of the on-site water monitoring equipment. At Togar's suggestion, Badger also implemented a program in which its employees conduct monthly testing of surface water in streams and lakes within a five-mile radius of the Badger facility to ensure that the facility is not emitting significant amounts of chemicals and metals used in its manufacturing processes.

8. The equipment that Badger has installed for controlling and detecting emissions from its facility, and the and sampling and monitoring programs that Badger has implemented, all of which I and my company helped to design and install, are state-of-the-art. Togar employees recently have inspected and evaluated Badger's monitoring equipment and programs and found them to be in good working order.

9. In my opinion, Badger's environmental monitoring equipment and systems are adequate to detect any releases to the environment of amounts of chemicals and metals that could be hazardous to human health. This includes amounts of arsenic, mercury, and PCE that are emitted from the Badger facility as process waste.

10. In addition to my familiarity with the Badger facility and its environmental monitoring, I have reviewed the following materials and conducted the following activities to formulate my opinions in this case: I have examined the homes located along Claim Street in Forward, Wisconsin, including the home of the Jones family; I have reviewed the records of soil vapor monitoring conducted by the DNR; I have reviewed the results of DNR sampling of water drawn from wells located on properties along Claim Street; I have reviewed the topographical and hydrogeologic conditions of the area including the Badger facility and the Claim Street neighborhood in which the Jones family lives; I have reviewed the DNR's July 4, 1992, closeout letter to Perky Dry Cleaners of Forward, Wisconsin, relating to the remediation of PCE that leaked from underground storage tanks on the Perky Dry Cleaners site; I have reviewed the complaint filed by the Jones family and all affidavits submitted in this case.

11. In the course of my investigation and based on my own personal knowledge and experience, I have come to learn that arsenic and mercury from natural sources are present in the soils, surface water, and ground water of Wisconsin generally, including in the Claim Street area. Mercury, for example, is an element found in the earth's crust, many rocks, and coal. It is released to the environment by several natural phenomena, including volcanic eruptions, forest fires, erosion of mercury-bearing soils and rocks, evaporation of mercury-containing water, and animal secretions. Accordingly, even if the Badger facility were not located in close proximity to Claim Street, the soil on which the Jones family home is located would contain arsenic and mercury from natural sources, as would the ground water, surface waters, and sediment in the surrounding area, such as Sleepy Creek. In fact, the DNR's closeout report on the Perky Dry Cleaners site, which was written in 1992, notes that DNR sampling conducted at that time detected a regional concentration of arsenic in ground water that

averaged 740 milligrams per liter. It is significant to note that these samples were taken before Badger Aeromechanical began its manufacturing operations in Forward.

12. Mercury also is present in the environment in Wisconsin generally, including Forward, specifically from human activities. The overwhelming amount of mercury in the environment is due to releases from power plants. Mercury in power plant emissions is released to the atmosphere and deposited in Wisconsin through the process of wet deposition. Mercury also long has been used in thousands of other industrial, agricultural, medical, and household applications. It is commonly used in agriculture, the dairy industry and paper mills, all of which have had a major presence in Wisconsin for more than 100 years and have emitted mercury to the environment. Major uses of mercury include dental amalgams, tilt switches, thermometers, lamps, pigments, batteries, reagents, and barometers. When these products are thrown in the trash or flushed down a drain, the mercury doesn't go away. Although mercury may change forms, it doesn't break down because it is an element. In lakes and wetlands, bacteria convert elemental mercury to methyl mercury, a more toxic form readily taken up by fish and other organisms in water bodies. Therefore, whether in elemental or methyl form, mercury persists in the environment and commonly is found in Wisconsin's soil, surface water, and ground water.

13. Because of the presence of naturally occurring arsenic and mercury from natural and man-made sources in surface water, soil, and groundwater on and around the Jones property, arsenic and mercury from both natural and man-made sources other than Badger Aeromechanical would be expected to be detected in samples drawn from the Jones family's well, taken from soil on their property, or taken from the surface water or sediment of Sleepy Creek near the Jones family's property. The concentration of naturally occurring arsenic and mercury in an area is referred to as "background." Because of topography and natural forces and phenomena such as erosion, wet deposition, dry deposition, background concentrations of arsenic and mercury are not uniformly distributed. For example, one would expect to find a higher concentration of mercury in low-lying areas that collect rainwater. Because background concentrations vary, background typically is referred to by a range of values rather than by reference to a single point value.

14. I have read the affidavit of Robin Roberts and the results of Roberts' sampling. Roberts' conclusions from analyzing the samples drawn from the Jones family's well and sediment samples taken from Sleepy Creek that arsenic is present in "elevated" concentrations in the well water and sediment, and that the arsenic originated from Badger Aeromechanical, are not supportable in fact and are not scientifically sound. Roberts acknowledges that arsenic is naturally present in the environment and concludes that the measured concentrations are "higher" than would be expected from naturally occurring arsenic but makes no comparison of the results of the well or sediment samples that s/he drew to any range of established background concentrations of naturally occurring arsenic. Nor does Roberts explain how the arsenic that s/he sampled can be scientifically demonstrated to have originated at Badger Aeromechanical. The results of Roberts' sampling of surface water in Sleepy Creek, which failed to detect any arsenic in surface water, further undermine Roberts' conclusions that Badger Aeromechanical is the source of the arsenic that Roberts' sampling detected.

15. I also have read Roberts' opinions that the sediment sampling that s/he conducted showed that the creek sediments in the vicinity of the Jones residence contain "elevated" concentrations of mercury and that Badger Aeromechanical is the only likely source of that mercury. As noted above, significant amounts of mercury are released to the atmosphere each year in Wisconsin and in other states that are upwind of Wisconsin. Roberts fails to account for the possibility that a source other than Badger Aeromechanical is responsible for the concentrations of mercury found in the Sleepy Creek sediment. Nor does Roberts compare the measured concentrations to background concentrations of mercury in other similar locations not expected to have been impacted by Badger Aeromechanical to determine whether the concentrations that Roberts measured are outside the range of what normally would be expected.

16. In addition, because I and my colleagues at Togar installed and maintained a state-of-the-art monitoring regime that would have detected any releases of arsenic and mercury to the environment due to Badger Aeromechanical's operations, that system would have detected any releases that could have caused the supposedly "elevated" levels of arsenic that Roberts measured in the Jones Family's well water had that arsenic originated from Badger Aeromechanical.

17. Based on all these considerations, it is my opinion that, to a reasonable degree of scientific and engineering certainty, any arsenic and mercury detected in the soil, water, or sediment in the Claim Street neighborhood, including in the soil and well water of the Jones family property, did not originate from the Badger facility, but is present from natural sources.

18. In addition, my investigation also has revealed that at least one dry cleaning facility, Perky Dry Cleaners, is located up-gradient from the Jones family home and from the Badger facility. It is well-known and a generally accepted scientific and engineering principle that dry cleaners use PCE and that dry cleaning facilities emit significant quantities of PCE to the environment in the ordinary course of their operations. Consistent with that principle, the DNR required Perky Dry Cleaners to conduct an investigation and remediation due to the presence of underground storage tanks on the Perky Dry Cleaners property that contained PCE and leaked PCE to the environment. The DNR's closeout letter from that remediation demonstrated "a plume of contamination with PCE from the tank site in concentrations above the groundwater enforcement standard of 5 micrograms per liter" and required Perky to notify affected property owners of the remediation.

19. I have read the report and opinions of Robin Roberts attributing "high levels of PCE" that s/he found in soil, well, and groundwater samples taken on and around the Jones family's property to releases of PCE from Badger Aeromechanical. Roberts's testimony appears to suggest that the PCE s/he detected could not have come from the Perky site because at the time of the closeout letter, the plume of PCE had "dissipated" and extended only 50 feet beyond the boundaries of the Perky site in the soil beneath a public right of way. Roberts's conclusions are not scientifically sound. It is well-known that PCE has relatively low solubility in water and has medium-to-high mobility in soil. It tends to volatilize (evaporate) from surface environments; however, it may persist in subsurface soil and groundwater for months or years, depending on subsurface conditions. Therefore, even if PCE released to the environment from Perky had dissipated, because of its mobility and persistence in soil, it is

more likely than not and a reasonable scientific conclusion that the PCE released from Perky continued to move down-gradient in soil toward the Jones family property and well and that it persisted in the soil and water on the Jones family property at the time that Roberts took her/his samples.

20. In addition, because of the monitoring systems that I and my colleagues at Togar Environmental installed and maintained on the Badger Aeromechanical property, which are state-of-the-art and specifically designed to allow the detection of chemicals including PCE, I am confident that any dispersal of PCE from the Badger Aeromechanical site would have been detected. Therefore, it is my opinion that, to a reasonable degree of scientific and engineering certainty, any PCE detected in the soil, water, or sediment in the Claim Street neighborhood, including in the soil and well water of the Jones family property, did not originate from the Badger facility, but is from the former dry cleaning facility located up-gradient.

Riff Randall

Subscribed and sworn to before me
this 4 day of AUGUST, 2008.

Kathy Kraemer
Notary Public, State of Wisconsin
My Commission Expires: 3-20-2010

Riff Randall, P.E.
Togar Environmental Solutions
1234 Vince Lombardi Drive
Milwaukee, Wisconsin 53202

CURRICULUM VITAE

Professional Profile

Riff Randall is a Principal of Togar Environmental Solutions, which s/he founded in 1981. Randall has thirty-two (32) years of environmental assessment and remediation experience, including sales, marketing, and administration. Riff Randall has overseen characterization and/or remediation projects for CERCLA, RCRA, TSCA, and the DNR, as well as Voluntary Action or Remedial Activity for industrial and commercial clients. Randall most recently has served as Senior Project Manager for various client sites including Phase I/II assessments, comprehensive contaminate assessments, and remediation activities. He/She specializes in directing environmental characterization, remediation, and restoration projects and programs, taking into account the specific site conditions and local regulations.

Professional Experience

Togar Environmental Solutions, Milwaukee, WI, 1981-present. Currently holds title of Senior Project Manager.

The Rambeau Group, Inc., Milwaukee, WI, 1976-1981, Environmental Engineer. Responsibilities included designing, installing, and operating soil and groundwater treatment equipment; characterizing, segregating and removing regulated wastes; and implementing water, wastewater, groundwater, soil, solid and hazardous waste engineering and management programs.

Education and Degrees Earned

B.S., Geologic Sciences, UW-Stevens Point, 1973
M.S.C.E., Environmental Technology, UW-Madison College of Engineering, 1976

Professional Certifications

Professional Engineer - Wisconsin (No. 8675309)
Certified Hazardous Materials Executive - WSO
OSHA Health and Safety Certified (29 CFR 1910.120)

Affiliations and Professional Societies

National Groundwater Association
World Safety Organization

Society for Risk Analysis
Academy of Hazardous Materials Management
Air and Waste Management Association

Summary Of Capabilities

Phase I/II Environmental Site Assessments
UST Compliance, Assessment, and Remediation
Soil and Groundwater Contamination Investigations and Assessments
Remedial Design and Implementation
Project Management
Regulatory Negotiation
Hydrogeologic Studies
Environmental Regulations and Permitting
Voluntary Action Program
Project Management
Environmental Engineering & Consulting
Environmental Site Assessments/Audits
Risk Assessments
Sampling and Analysis Plans
Quality Assurance/Quality Control Plans
Pilot Studies
Remedial Investigation/Feasibility Studies
Remedial Facility Investigations/Corrective Measures Studies
Operation and Maintenance Plans
Hazardous Materials Management
Process Safety Management

Select Project Experience

Directed the implementation of removal actions for asbestos, PCBs and organic compounds at Ramone Industries in Menomonee Falls, Wisconsin, a 10-acre facility, in accordance with a CERCLA Administrative Order of Consent (AOC). Activities included initial inventory, sampling, characterization, removal and disposal of 500 gallons of RCRA waste, 2,500 gallons of PCB oils, 15 transformers, 52 capacitors, 450 cubic yards of asbestos containing materials, 22 tons of petroleum-contaminated soil, 3,000 cubic yards of demolition debris, 200 tons of scrap steel, and 10 tons of rubber tires and belts. Managed the removal action pursuant to the Wisconsin DNR's Remediation and Redevelopment Program.

Directed the installation of a soil vapor extraction (SVE) system for remediation of PCE-contaminated soil and groundwater at Eaglebauer Metal Fabrication in Wausau, Wisconsin. Managed permitting, construction/installation of remediation system concurrent with local and DNR schedules and in accordance with their individual specifications.

Directed an investigation into the handling and possible release of process waste materials, including mercury, arsenic, and PCE, from the Badger Aeromechanical facility in Forward, Wisconsin. Project included a subsurface investigation and excavation of contaminated soil, installation of groundwater monitoring wells, and design and installation of environmental monitoring system.

Directed numerous site assessments involving petroleum and petrochemical underground storage tanks. Responsibilities included working with engineers and scientific consultants to develop of field sampling programs, evaluate analytical test results, and prepare reports summarizing the finding of the assessment.

Involved in managing the assessment and subsequent remediation of more than thirty (30) gasoline service stations in various areas in Wisconsin. Soil and groundwater remediation systems recommended included removal of underground storage tanks, soil excavation and disposal, soil vapor extraction, aboveground biological treatment, and various groundwater pump-and-treat methods.

Directed the removal and disposal of approximately three hundred (300) 55-gallon drums of hazardous waste from the former P.J. Soles Naval Shipyard site in Sturgeon Bay, Wisconsin. The work was performed as a result of an administrative order from U. S. EPA Region 5.

AFFIDAVIT OF LESLEE M. NIELSEN, M.D., PH.D., M.B.

1. My name is Leslee Nielsen. I am a physician licensed to practice medicine in the states of Pennsylvania and New York. I am currently employed as the Chief of Public Health, Risk Management and Epidemiology Research for the Chemical Manufacturers Association of America, and as an Adjunct Professor of Clinical Epidemiology, Oncology, and Internal Medicine at the University of Pennsylvania at Philadelphia.

2. I attended the Mayo Medical School and did my residency in internal medicine and oncology at Johns Hopkins University Hospital. After medical school, I obtained a Ph.D. in public health from the University of Pennsylvania and a post-doctorate degree in world health from the Free University of Berlin.

3. I have spent 30 years in various jobs where I have had day-to-day clinical experience with people exposed to chemical hazards. I have also analyzed those hazards on both a small and large scale by conducting population studies both local and global.

4. I have been employed with both the World Health Organization to study natural and manmade chemical exposure to third world populations; I have served as the Associate Dean to the University of Delaware School of Public Health supervising research by public health graduate students regarding industrial exposures to urbanized communities; and I have been employed as the chief research chemist for a global chemical company analyzing the risk to employees and the public caused by the chemical manufacturer's product.

5. I have practiced medicine at the Sloan Kettering Cancer Center in New York, and have headed the morbidity actuarial research department (conducting research in anticipated illness and death rates) for one of the largest life insurers in the western world.

6. I have written dozens of articles and one textbook on the potential effects of chemical exposure to human populations. I have published in the United States and abroad on the topic of causes of cancer in humans.

7. I have paid particular attention in much of my work to the issue of causation. One of the major concerns I have with much of the public health literature I read is the problem of "post hoc ergo propter hoc". In Latin this means it happened afterwards therefore it happened because of it. This is the false cause that so much bad science and incomplete research introduces.

8. Much of my study in third world populations has shown that where populations are exposed naturally to chemicals, those populations generally suffer cancer rates well in excess of control groups. Later additional exposures from manmade sources cannot be determined to be causal.

9. My own published research shows that false causes for cancer and other health impacts are often determined based on inadequate exposure windows.

10. Much of the published research and popular and court made doctrine in such cases is also based on failure to have absolute control populations thereby not properly eliminating alternate causes.

11. The level of exposure and the dose/response relationship together with time studies for exposure must be confirmed with bioassays and animal testing. All of this must be shown to deviate from proper control populations in order to develop an accurate causal model. Much of the literature in the scientific community today does not satisfy this standard.

12. I have been retained by Badger Aeromechanical Corporation (Badger) to consult with the Corporation regarding the environmental exposure claims of Lee and Edna Jones.

13. I routinely testify in cases of this type, both large and small, individual and class action, civil and even occasionally criminal, nationwide. This will be the first time I will appear in court in the State of Wisconsin.

14. In total I have been retained as an expert witness in 34 different lawsuits involving personal injury (or the perception thereof) from actual or potential chemical exposure. Of these cases, I have appeared on behalf of the defense or defense related interests 29 times, and on behalf of the plaintiff or plaintiff related interests 5 times.

15. I have reviewed the depositions, reports and written statements of plaintiff Jones' doctor, Dr. Wessel, plaintiff's environmental expert, and Plaintiff Lee Jones. I have also conducted independent medical examinations of Lee Jones and Edna Jones.

16. I reviewed Lee Jones' medical history and personal history and note that Jones had been hospitalized for over consumption of alcohol. Alcohol consumption is an exacerbating factor and has been a documented cause of liver cancer in humans according to population studies. It has also been shown to cause liver cancer in bioassay and animal studies.

17. I also note that both Mr. and Mrs. Jones had worked in a thermometer factory for several years where they were exposed to mercury on a regular basis. This exposure included the period during which Mrs. Jones was pregnant with Edna.

18. Exposure to mercury can cause cancer particularly in the liver as it enters the bloodstream by breathing, ingestion, or absorption and is removed from the bloodstream by the liver.

19. Jones was also potentially exposed to PCE contamination emanating from a dry cleaning facility for approximately three (3) years.

20. Jones has been exposed to high natural background levels of arsenic and mercury from the time the Jones family moved to Forward to the present day for a total of thirteen (13) years.

21. I note that the Badger operations in the vicinity of the Jones' residence has only existed for a period of ten (10) years to the present day.

22. Lee Jones worked at Badger for two (2) to three (3) years during which time Jones may have worked with TCE, PCE, mercury, arsenic, Endrin, Hepthachlor, and Lindane.

23. Lee Jones' exposure windows for PCE, TCE, mercury and arsenic have been sufficient to have a carcinogenic impact but have come from multiple sources.

24. Lee Jones' documented exposure levels of PCE, TCE, mercury, and arsenic from Badger are not of a sufficient dosage or time window to comport with any established dose/response, and time studies data for cancer causation.

25. Lee Jones' liver cancer was not to a reasonable degree of scientific and medical certainty caused by exposure to PCE, mercury, and arsenic in the last ten (10) years emanating from Badger. This is true whether the issue is under the "substantial factor" analysis where such exposure was a substantial factor in causing the cancer or in a "but for" analysis where the cancers would not have occurred but for the exposures in question.

26. Edna Jones claims exposure to mercury from Badger's operations.

27. Assuming Edna has been exposed to mercury as a result of Badger's operations, the question is whether that exposure caused Edna's autism.

28. Autism has no known cause. However, the most promising research has focused on genetic causes. Population studies have shown that in families with one autistic child the risk of a second autistic child is one in twenty. In the general population, the risk of an autistic child is one in one hundred sixty-seven.

29. No published dose/response study through bioassay or animal testing and no population study of any kind has ever established a definitive link between autism and chemical exposures. Certain cognitive disabilities have been linked to childhood and gestational exposures to chemicals. However, efforts to link such chemical exposures to autism have suffered from "post hoc ergo propter hoc". No study to date has included adequate exposure data, adequate time studies for exposure, adequate dose/response, or adequate studies of routes of exposure to confirm causation of autism. No such study has ever established a sufficient causal link between PCE, arsenic, or mercury and autism.

30. Autism is a developmental disability but it is not a cognitive disability in the same sense as those cognitive disabilities which have been shown to be linked to gestational or childhood chemical exposure.

31. Edna's chemical exposures both gestationally and in her early childhood could have been partially causal of certain cognitive disabilities other than autism. However, this is not what is claimed.

32. Dr. Wessel relies on preliminary data from population studies that fail to establish a causal link between mercury (as exacerbated by other exposures) and autism. The studies do not provide time studies for exposure, there is no dose response data, and no bioassay or animal testing to confirm the "findings."

33. Edna's autism has not to a reasonable degree of scientific and medical certainty been established to have been caused by exposure to PCE, arsenic, mercury, or any combination thereof. This is true whether viewed under the "substantial factor" analysis where such exposure was a substantial factor in causing the cancer, or in a "but for" analysis to determine whether her autism would not have occurred but for the exposure.

Leslee M. Nielsen, M.D.
Leslee M. Nielsen, M.D., Ph.D., M.E., D.

Subscribed and sworn to before me
this 11 day of AUGUST, 2008.

Marsha Miller
Notary Public, State of Wisconsin
My Commission Expires: permanent

Leslee M. Nielsen, M.D., Ph.D., M.B.
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Current Employment: Adjunct Professor of Clinical Epidemiology, Oncology, and Internal Medicine, University of Pennsylvania at Philadelphia, 1990-Present.

Chief of Public Health, Risk Management and Epidemiology Research, Chemical Manufacturers Association of the United State of America, Wilmington, Delaware, 2005-Present.

Prior Work Experience: Director of Chemical Exposure Research, World Health Organization, Geneva, Switzerland, 1985-1990. Conducted research and supervised a staff of 17 and an annual operating budget of $3.9 million conducting population research studies regarding cancer and other health issues resulting from chemical exposures in third world nations.

Associate Dean, University of Delaware School of Public Health, 1990-2005. Associate Dean in charge of clinical programs at University of Delaware in Newark, Delaware. Particular emphasis on clinical programs examining public health issues resulting from industrial exposures to urbanized communities. Over 18 of my students' papers were published in various medical journals and public health journals from this clinical project.

Research Chemist/Risk Management Researcher, E.I. DuPont DuMours Company, Wilmington, Delaware. 1982-1985. Provide research for large multi-national chemical manufacturer regarding potential impacts of its products on human populations and employees and company facilities. Conducted actuarial and population studies regarding the same.

Chief of Morbidity and Actuarial Research, Northwestern Mutual Life Insurance Company, Milwaukee, Wisconsin. 1980-1982. Headed Department of Fortune 500 Life Insurance Company determining anticipated illness and morbidity rates for human populations in the markets served by my employer. In particular, studied the impacts of smoking, alcohol, and industrial exposures on human longevity.

Staff Internist and Oncologist, Sloan Kettering Clinic New York, New York, 1978-1980.

Education: Meister's Bescheinigung in Weltgesundheit, Frei Universtat, Berlin. Graduated: 1978

Ph.D. in Public Health, University of Pennsylvania School of Public Health, Graduated: 1977

M.D. Mayo Medical School, Rochester, Minnesota Graduated: 1975, Magna Cum Laude, Order of the Beaker and Forceps. Residency in internal medicine and oncology at Johns Hopkins University, Baltimore, Maryland, 1971-1975.

Bachelor of Arts in Philosophy. The Leland Stanford University, Palo Alto, California, Graduated: 1971, Magna Cum Laude, Phi Beta Kappa.

Publications:

"Epidemiology and False Causes: A Statistical Comparison of Population Studies to Bio Assay and Control Group Data," (University of Pennsylvania Doctoral Thesis 1977)

"A Population Study of the Impacts of Mercury Exposure in the Natural Environment: The Caribbean Experience," *World Health Organization Journal of Public Health*, July 2007 (Smith and Wesson, co-authors)

"False Causes In Toxic Exposure Claims: The Problem of Dose/Response," *Stanford University Medical Journal*, Spring 2007 (Bartles and James, co-authors)

"Toward Accurate Bioassays and Animal Testing," *New England Journal of Medicine*, Summer 2005 (Martin and Lewis, co-authors)

"Time Studies for Exposure to Chemical Hazards: The Shortfalls of Practical Science," *Mayo Health Journal*, July 2005 (Cheetah, co-author)

Editor: "Conducting Population Studies for Chemical Exposure," *Harvard University Press*, 1985

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Editor, World Health Organization Report on the Health of the World's Cities 2000 (*World Health Organization*, January 1, 2000)

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"World Health Organization Report on the Health of the World's Cities 2000" (*World Health Organization*, January 1, 2000). Geneva, Switzerland.

"American Chemical Regulation: A Success Story"
Health Subcommittee of the United States Senate at Washington D.C. in May 2002.

"The Reason Behind Skyrocketing Breast Cancer Rates: Debunking a Myth." University of Pennsylvania Symposium on Public Health (Philadelphia, 1988).

"Nature vs. Nurture: The Problem With Causation and Chemical Exposure." North American Summit on Public Health, Vail, Colorado, April 1998.

"Exploitation of Third World Populations by Externalization of Chemical Exposure from the First World." United Nations Health Committee, New York, New York, November 2001.

"Airborne Mercury from Power Plants." House Human Health Subcommittee (proceedings leading to the development of the Toxic Substances Control Act and the Enhancement of the Federal Clean Air Act), January 1979.

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