

**STATE OF VERMONT  
DEPARTMENT OF LABOR AND INDUSTRY**

*Rosemary Stoddard*

*Opinion No. 28-04WC*

*v.*

*By: Margaret A. Mangan  
Hearing Officer*

*Northeast Rebuilders, Inc.*

*For: Michael S. Bertrand  
Commissioner*

*State File No. P-06548*

*Hearing Held in White River Junction on February 18 and 19, 2004 and  
in Montpelier by telephone on February 13, 2004 and April 14, 2004  
Record Closed on April 28, 2004*

**APPEARANCES:**

*Thomas C. Bixby, Esq., for the Claimant*

*Gregory A. Bullman, Esq., and John W. Vorder Bruegge, Esq., for the  
Defendant*

**ISSUE:**

*Did exposure to a chemical at Northeast Rebuilders cause claimant's  
Multiple Chemical Sensitivity (MCS)?*

**EXHIBITS:**

*Claimant's Exhibit's*

- 1. Selected reports from personnel file*
- 2. Notice of report made to VOSHA*
- 3. Anachem reports*
- 4. Bacon/ConTest reports*
- 5. Oakite data sheets*
- 6. Photographs*
- 7. Springfield Hospital records*
- 8. Records, correspondence, CV from Mary T. McVean, MS, FNP*
- 9. CV, deposition transcript, and exhibits of Barry D. Elson, M.D.*

10. *Letter from John A. Davis, M.D.*
11. *Letter and one-page attachment re: air quality assessment from The Hartford, November 18, 1999*
12. *Griffin International Environmental Site Assessment Report*
13. *Marin Environmental Report, October 2001*
14. *Vermont Department of Health Lead Poisoning Prevention Information*
15. *Memorandum from claimant with laboratory values and ATSDR public health statements*
16. *U.S. Environmental Protection Agency (EPA) Notice of Potential Liability, May 2000*
17. *EPA Administrative Order on Consent for Removal, December 2000*
18. *U.S. Department of Housing and Urban Development (HUD) Lead Paint Safety publication*
19. *Vermont Department of Health/Philip L. Jones letter to Northeast with Program Overview and Employer Obligation*
20. *Bibliography of articles published through November 1998 on Multiple Chemical Sensitivity disorders and copies of selected articles*
21. *HUD Press release, re: MCS as a disability*
22. *Letter from nurse case manager for The Hartford dated October 5, 1999*
23. *Defendant's denial letter of October 13, 1999*
24. *Affidavit of Elroy Laduc*
25. *List captioned "Expenses Resulting from Chemical Exposure 1999-2004"*
26. *Reports from unidentified source with values for arsenic, chromium, cadmium, barium, and lead at Northeast Rebuilders*
27. *Fact Sheet No. 7 from Precision Valley Development Corporation Southern Windsor County Brownfields Reuse Project, February 2002*
28. *Anachem, Inc. laboratory analyses*

*Defendant's Exhibit's*

1. *ECI Environmental RCI Report, October 1999, from claimant's home*
2. *Air Quality Assessment Report performed by The Hartford, November 1999*
3. *Philip Jones's evaluation of carbon monoxide and mercury, December 1999*

4. *Marin Environmental Site Assessment, August/September 2001*
5. *Letter from Northeast to Philip Jones, September 2002*
6. *Wisconsin Occupational Health Laboratory OSHA sample analysis results, September 2002*
7. *Anachem, Inc. sample analyses, October 2002*
8. *Philip Jones analysis, October 2002*
9. *Marin Work Plan for Environmental Site Assessment, July 2001*
10. *Report of Thomas J. Broido*
11. *Curriculum Vitae of Thomas J. Broido*

**STIPULATIONS:**

1. *Claimant is seeking Temporary Total Disability benefits for the periods September 10, 1999 through October 31, 1999 and from July 2002 through the present. When claimant reaches medical end result, she will seek permanent partial disability benefits. Claimant also seeks reimbursement for past, present, and future medical treatment and attorney's fees, expenses, and costs for this claim.*
2. *Claimant worked as a secretary for Northeast Rebuilders from September 3, 1998 until September 10, 1999.*
3. *Northeast Rebuilders (Northeast), the defendant, is a machine tool rebuilding company in Springfield, Vermont. At all times relevant to this litigation, defendant was claimant's employer within the meaning of the Vermont Workers' Compensation Act.*
4. *Northeast specializes in rebuilding automatic screw machines. Northeast refurbishes old machine parts with sanding, grinding, and painting. Northeast removes paints and old solvents from the old machine parts by putting them into a hot dip tank, removing them from the tank, and spraying them with water to remove paint chips and other residue. The spray booth has three walls and is open to the shop on one side. Some machines are welded and cut in the shop area.*
5. *Northeast's shop and offices occupy part of a larger building complex. The building is shared by other machine shops with all sharing a common corridor, which is adjacent to the claimant's office.*

6. *Claimant worked in a small, inside, corner office there was a window between the office and the shop, which was sometimes open. There was also an air conditioner mounted on the inside wall between the office and the shop. The other side of the air conditioner was below a drilling and grinding machine on the shop floor. The air conditioner was used for ventilation as well as cooling. The door to the office was also on the inside wall and opened into the shop.*
7. *Claimant's duties at Northeast did not require her to handle any chemicals, paint, or containers of solvent. Nor did her duties require her to go into the basement of the building or onto the shop floor at any time. The lunch table, however, was located on the edge of the shop and claimant ate lunch there regularly. The shop was not in operation during lunchtime. Claimant never handled any chemicals nor operated any machinery in the shop at Northeast.*
8. *Claimant contends that the only source for the exposure to lead and mercury in high quantities was her work environment. She assumes that: 1) exposure to lead and mercury leads to MCS; and 2) the work environment was the only source of lead and mercury. In fact, other sources could have triggered her sensitivity. Claimant contends that lead and other VOCs were found in her work area in levels beyond permissible safe levels. In actuality, no lead was detected and there were no violations of safe levels.*
9. *After leaving Northeast Rebuilders, claimant worked from Nov. 1, 1999 through June 30, 2002 for Putney Pasta.*

**FINDINGS OF FACT:**

1. *Stipulations 1 through 9 are accepted as true.*

Claimant's Symptomatology:

2. *Claimant suffered numerous health problems prior to her employment at Northeast Rebuilders, including fibromyalgia, chronic fatigue, heart palpitations, headaches, hyperthyroidism/hypothyroidism, anxiety, gastrointestinal problems, weight problems, and allergies. Fibromyalgia is a rheumatological condition characterized by fatigue in which there is widespread musculoskeletal pain in conjunction with tenderness at a minimum number of tender points. Taft v. Blue Mountain Union School, Opinion No. 10-99WC Findings of Fact #59 (1999). Chronic Fatigue Syndrome (CFS) is debilitating fatigue of at least six months duration accompanied by other symptoms such as a fever, myalgia, and depression. Id. at #60.*
3. *Mary McVean, MS, FNP, who treated claimant for her pre-existing fibromyalgia, testified that claimant's symptoms related to fibromyalgia were in remission when she began work at Northeast. However, in her statement Ms. McVean refers to first treating claimant in 1998 and finding that claimant had a significant problem with her weight, fibromyalgia, and fatigue syndrome. Since claimant had significant problems with fibromyalgia and fatigue in 1998, I cannot accept her contention that those conditions were in remission when she began her work at Northeast in September of that year.*
4. *Beginning in May 1999, while working for Northeast, claimant began having symptoms of light-headedness, nausea, loss of concentration, burning sensation in her throat and tongue, a metal taste in her mouth, and extreme fatigue. She was taken to the Springfield Hospital emergency room for treatment of dizzy spells.*
5. *Claimant saw Dr. Wendy Klein, her personal physician, on August 27, 1999 out of concern for shortness of breath. Dr. Klein evaluated claimant for possible cardiac and/or coronary disease and referenced multi-system constitutional symptoms including fatigue, headaches, and difficulty concentrating. All tests performed by Dr. Klein were normal and no toxins were detected.*

6. Next, claimant saw Dr. Barry Elson, a physician who focuses on the treatment of those with chronic diseases, allergies, and environmental medical problems. He holds no board certifications.

7. *Dr. Elson first examined claimant on September 7, 1999. At this visit, he noted a one-year history of chemical exposure at work, a history of chronic fatigue since January 1999, and a diagnosis of fibromyalgia a few years before. He administered a provocative urine test to assess whether the claimant had been exposed to toxic elements. Doctor's Data, Inc.'s laboratory evaluation revealed that the claimant's urine lead was higher than expected; that is, higher than that of the reference population. Urine mercury was higher than expected but not sufficiently high to assume that symptoms would result directly. Dr. Elson's diagnosis after claimant's first visit was: 1) fibromyalgia; 2) fatigue; 3) irritable bowel syndrome; 4) impaired nutrition and cognition; and 4) a need to rule out disbiosis. Claimant began treatment with Dr. Elson on that same day and continues today.*
8. *Claimant had eight lead amalgam fillings in her teeth, which Dr. Elson recommended should be removed.*
9. *Approximately two weeks before claimant left Northeast, she went back to the emergency room following exposure to diesel fumes while riding behind a truck on a trip unrelated to her work. The results of all tests performed at the emergency room were normal and no toxins were detected.*
10. *In October 1999, claimant complained of several months of nausea, fatigue, mental confusion, and overall malaise. Blood tests performed by Specialty Labs on October 13, 1999 indicate that mercury and lead levels in claimant's blood were within normal limits at that time.*
11. *On November 1, 1999, claimant began working as an administrative assistant for Putney Pasta (Putney). While working at Putney, claimant was bothered by fumes and odors from paint and floor stripping. Claimant quit her job at Putney on June 30, 2002.*
12. *Dr. Elson next examined claimant on November 15, 1999, after she had left Northeast. He diagnosed claimant with MCS. He causally related the onset of claimant's MCS to an exposure to Volatile Organic Chemicals (VOCs) at Northeast. He also stated that claimant's MCS aggravated her pre-existing fibromyalgia.*

13. *In Dr. Elson's opinion, exposure to lead and mercury did not cause the MCS. He stated this opinion in his deposition taken November 14, 2003. When asked if lead and/or mercury exposure initiated or caused claimant's multiple chemical sensitivities, Dr. Elson replied, "In fact, it's unlikely." Rather, VOCs, as documented in the Marin Report, were the "likely" initiating factor of claimant's multiple chemical sensitivities, in his opinion. Dr. Elson cited fumes from solvents, particularly VOCs such as trichloroethylene and polychloroethylenes, and noted that his understanding that these substances were present in claimant's work environment came from the Marin Report, which reported an excess of these solvents in soil samples taken at Northeast. His description of how these substances were inhaled by claimant came directly from claimant's description of the office layout and ventilation. Further, Dr. Elson stated that he had seen "many situations where VOCs were not present where MCS certainly did develop."*
14. *On May 16, 2000, over eight months after she had left Northeast, claimant reported to Springfield Hospital with complaints of clumsiness, weakness, numbness, tingling in her left arm and leg, and headaches. Dartmouth Hitchcock eventually ruled out the possibility that she had suffered a stroke.*
15. *Claimant did not see Dr. Elson again until August 21, 2002, almost three years later. She reported increased symptoms from May 2002 onward (fatigue, headaches, confusion, and chemical taste), and stated that she had been generally well except two or three times per year for the past three years. Claimant had worked full time since leaving Northeast, but had stopped as of June 30, 2002. Dr. Elson's diagnosis in August 2002 was: 1) MCS, 2) fibromyalgia, and 3) chronic fatigue.*
16. *Four months later, when Dr. Elson saw claimant on December 19, 2002, claimant was better. However, since she reacted to substances in various public places, claimant was unable to work outside of her home. Dr. Elson recommended performing a functional nutritional evaluation, serial endpoint titration, intradermal testing, a chelation-provoked urinalysis for heavy metals, an adrenal evaluation, and a neuropsychological evaluation. The claimant's lack of funds and lack of insurance coverage prevented her from having these tests performed.*

17. *When claimant met with Dr. Elson on November 13, 2003, claimant's symptoms were bad, especially after exercise. Triggers included exhaust fumes, paint, carpets, shoe stores, among others. She remained unable to work. Dr. Elson questioned whether she now had toxic chemical encephalopathy, an exposure to toxic substances that causes impairment of brain function. His diagnoses included fibromyalgia, fatigue, and multiple chemical sensitivity.*

### **Multiple Chemical Sensitivity (MCS):**

18. *MCS can generally be described as an ongoing sensitivity to exposure to certain chemicals or environmental conditions in the aftermath of some previous, usually more intense, exposure to the same or different chemicals. Petit v. North Country Union High School, Opinion No. 20-98WC ¶46 (1998).*
19. *There is great controversy in the scientific community whether MCS exists. The American Medical Association, the American College of Allergy and Immunology, and the American College of Environmental and Occupational Medicine do not recognize MCS. On the other hand, the Social Security Administration has recognized MCS as a disability and the Department of Housing and Urban Development has recognized MCS as a factor in public housing decisions. New Hampshire Supreme Court has found MCS compensable. See Appeal of Kehoe, 139 N.H. 24, 648 A.2d 472 (1994) (claimant exposed to chemicals at work site for more than a decade). American Academy of Environmental Medicine, an organization to which Dr. Elson belongs, recognizes MCS.*
20. *There is no accepted theory for the causation of MCS. Some believe it may be precipitated by smell; others disagree. Some believe there is a psychological component. To date there is no valid double-blind study using control groups. Petit, Opinion No. 20-98WC at ¶48.*
21. *No clinical definition of MCS has gained acceptance in the medical community. Amy P. Spagnole, Note: The MCS Controversy: Admissibility of Expert Testimony Regarding Multiple Chemical Sensitivity Syndrome Under the Daubert Regime, 4 Suffolk J. Trial & App. Adv. 219, 223 (1999). The most widely used definition in the U.S. was set forth by Dr. Mark R. Cullen, professor of medicine and epidemiology at Yale University, who also coined the title "Multiple Chemical Sensitivity." Id. Cullen postulated that MCS is the designation for those meeting the following criteria:*

*(1)[T]he patient acquires the syndrome usually after the occurrence of a clearly evident--although not necessarily serious--health event caused by environmental exposure, such as solvent intoxication, respiratory track irritation, pesticide poisoning, or sick building syndrome; (2) the patient experiences multiple symptoms referable to several organ systems, almost always including the central nervous system; (3) although there may be persistent complaints between exposures, the patient's symptoms are characteristically and predictably precipitated by a perceived environmental exposure; (4) the agents that may precipitate the patient's symptoms are multiple and chemically diverse; (5) the dose of these agents that precipitate symptoms are at least two orders of magnitude lower than the established thresholds for acute health effects; (6) no test of physiologic function can explain the symptoms and although there may be clinical abnormalities, such as mild bronchospasm or neuropsychologic dysfunction, these are insufficient to explain the illness pattern; (7) no other organic disorder is present that can explain the pattern of symptoms.*

*Id.* at 223

22. *Claimant's treating provider, Nurse Practitioner Mary McVean, who treated claimant for her pre-existing fibromyalgia, and Dr. Barry Elson, who treated claimant for her MCS, concur that claimant is suffering from the following conditions: a) Aggravation of fibromyalgia; b) Multiple Chemical Sensitivity Syndrome; and c) Chronic fatigue.*
23. *Based on his medical evaluation, laboratory findings, and the Marin Environmental Assessment, Dr. Elson found a causal relationship between claimant's environmental exposures at Northeast during 1999 and her current condition. He noted that claimant had "ample exposure to chemical fumes in the workplace and did not have chemical or heavy metal exposures at home." These included VOCs, chlorinated solvents, and petroleum hydrocarbons. As of November 13, 2003, according to Dr. Elson, claimant suffered from fibromyalgia, fatigue, MCS, and encephalopathy. Dr. Elson recommended a course of treatment; however, claimant's current financial condition made it impossible for her to undergo the treatment.*

24. *Dr. Elson believes that at the present time, claimant's chemical sensitivities prevent her from performing work-related physical activities such as sitting, standing, walking, lifting, carrying, handling objects, hearing, speaking, or traveling.*

25. *Dr. John A. Davis performed a records review of this case to determine whether claimant had a clinical basis for diagnosis of an organic disease as a result of her employment at Northeast and whether there was sufficient clinical evidence to support the MCS diagnosis and the ascribed diagnoses of mercury and lead toxicity. In that capacity, he reviewed the claimant's medical records and selected environmental testing results supplied by the defense. He neither examined claimant, nor the site. He also did not speak to the claimant's physicians. Dr. Davis is board-certified in internal and occupational medicine and a member of the American College of Occupational and Environmental Medicine. Dr. Davis does not recognize MCS as a medical condition.*

26. *Dr. Davis found no basis for a diagnosis of either lead or mercury toxicity because no lead or mercury was utilized at the worksite. In his testimony at the Department hearing, he questioned the use of provocative urine testing as an unproven diagnostic test and noted that Dr. Elson's test did not show chemical exposure. The claimant's serum lead level was within the normal range; mercury was in the mid-30s. The claimant did not have heavy metal toxicity and noted that the Vermont Department of Health tested for mercury and did not detect it. The air quality test for VOCS, conducted in August 1998 while claimant worked at Northeast, found no elevated readings. This is when, according to Dr. Davis, the claimant would have been exposed. The later Marin Report also did not detect VOCs. Therefore, there was no basis to conclude that claimant's condition resulted from exposure to VOCs at Northeast.*

27. *Dr. Davis also found no evidence that claimant's preexisting fibromyalgia had changed since her employment at Northeast.*

Environmental Testing at Northeast Rebuilders:

28. *The property upon which Northeast Rebuilders is situated contains underground storage tanks. EPA has classified the property as a Superfund site. Environmental assessment and cleanup activities began in 1997.*

29. *Defendant never notified claimant of the designation or the cleanup and did not provide her with information about toxins in the workplace.*

30. *The shop was not properly ventilated or cleaned. The resulting fluids, as well as oils and coolants from old machines, were stored in barrels in the machine shop (shop) or in a back room. Some were disposed of through a central local sewer drain. Some of the old machine parts were originally manufactured in the 1950s and 1960s; some as early as the 1930s. Most paint manufactured before 1978 contained lead.*

31. *Several environmental tests have been performed at the building complex where Northeast Builders is located. Only three tests measured the air quality of the building. No test ever detected volatile organic compounds (VOCs) inside the building or in the air.*
32. *Dr. Elson opined that exposure to VOCs was the causal link between Northeast Rebuilders and claimant's MCS. See # 21 for more information.*
33. *According to the Environmental Protection Agency,<sup>1</sup> VOCs are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Examples include benzene, formaldehyde, and methylene chloride. A wide array of products, numbering in the thousands, emit VOCs. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. OSHA regulates formaldehyde, a common VOC, as a carcinogen. Otherwise, the states regulate VOCs individually. See State of Vermont, Agency of Natural Resources, Air Pollution Control Regulations (December 31, 2003), available at <http://www.anr.state.vt.us/air/docs/apcregs.pdf>.*
34. *Only one test was performed close in time to claimant's alleged exposure. A Supplemental Site Investigation (Site Investigation) conducted in August 1998 on groundwater samples detected vinyl chloride and trichloroethene in groundwater samples. These compounds are not constituents of fuel oil and the Site Investigation reported that the groundwater hydrocarbon was likely from the former machine tool shop. The Site Investigation screened the basement for VOCs using a photoionization detector (PID). No elevated readings associated with the underground storage tanks were observed in the basement.*

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<sup>1</sup> EPA, *Sources of Indoor Air Pollution – Organic Gases (Volatile Organic Compounds-VOCs)* (Feb. 19, 2004) at <http://www.epa.gov/iaq/voc.html>.

35. *After claimant left Northeast Rebuilders, on December 14, 1999, Philip Jones, Industrial Hygiene Engineer for the Vermont Occupational and Radiological Health, Occupational Health Consultation Program (VOSHA), conducted air sampling at Northeast for carbon monoxide (CO) and mercury. Jones detected CO at an average level of 9 ppm in the office. The VOSHA permissible exposure level is 35 ppm. While less than the regulatory limit, Jones stated in his report that the exposure level was higher than expected for an office environment. Jones cited a forklift as the source of the CO and ordered Northeast to submit documentation showing that it had tuned the forklift and that emission testing now showed less than 50 ppm of CO at the tailpipe of the forklift. Jones sampled mercury in the air with a real time meter with a detection limit of 0.005 mg/cubic meter. He did not detect mercury in the air. Northeast submitted the required forklift CO emission test results and Jones issued a memo that the consultation file could be closed on July 20, 2000.*
36. *According to Thomas Broido, Branch Manager and Principal Scientist at ATC Associates, Inc. of Richmond, Vermont, an environmental testing firm hired by Northeast Rebuilders to interpret the results of the 1998 VOSHA air study, the average level of CO detected at Northeast Rebuilders was approximately four times less than the VOSHA-permissible level. Mercury was "undetected" by an instrument capable of detecting mercury at levels several orders of magnitude lower than the VOSHA permissible level. Broido concluded that no serious hazards were detected during this air quality test.*
37. *ATC is a national consulting firm specializing in environmental monitoring. Broido compared test results to various industry and federal standards. The standards attempt to set thresholds "above which a potential health risk may exist in a workplace." The standards do not necessarily mean that hypersensitive individuals will not be affected by air quality that meets or exceeds various standards. Petit at ¶136.*
38. *In March 1999, wastewater sampling detected levels for chemicals higher than local levels permitted.*
39. *On November 16, 1999, as a result of claimant's workers' compensation claim, The Hartford, defendant's insurance*

*company, conducted an air quality assessment at Northeast to assess the probability that the claimant may have inadvertently been over-exposed to a hazardous chemical while there. The result of this study was that it was extremely unlikely that the claimant was over-exposed to potentially hazardous chemical while employed at Northeast. She never was required to work with potentially hazardous chemicals and no mercury or lead workplace exposure was found. However, this investigation did not involve the sampling, testing, and measurement of air samples.*

40. *In August/September 2001, Marin Environmental, Inc. (Marin) conducted a Phase II Environmental Site Assessment at the Precision Valley Development Corporation property—the location of Northeast Rebuilders. The assessment was performed for the Southern Windsor County Regional Planning Commission. Marin detected VOCs in soil and groundwater samples outside of the complex and beneath the basement. Previous site investigations had been performed in 1997 and 1998 due to the closure of underground storage tanks and installation of monitoring wells. No elevated readings associated with the former fuel oil underground storage tanks were observed in areas of the basement. The Phase III Environmental Site Assessment, conducted in March and April 2002 by Griffin International found the chlorinated VOC contamination detected in groundwater beneath the site to not merit active remediation based on currently available data.*
41. *On September 12, 2002, Jones of VOSHA conducted wipe sampling and air sampling. The air samples were analyzed only for lead; the lab analyzed the wipe samples for nineteen different metals. Jones found no serious hazards during this site visit. He did find detectable levels of lead in settled dust in wipe samples from the top of the copier and the floor under the administration desk and recommended cleaning of the office area. He referenced the old Housing and Urban Development (HUD) floor standard of 100 ug/ft to determine if a workplace is in compliance with the hygiene section of the lead general industry standard (29 CFR 1910.1025). The air sample results did not detect any lead in air from a person sample on a machinist conducting a turret rebuild, a shop area sample, or an office area sample.*

42. According to Broido, the VOSHA sampling and subsequent reports indicate that mercury was not detected in the air at the site. Carbon monoxide was detected below VOSHA regulatory limits and was attributed to a forklift, which was then serviced and retested. Settled dust wipe testing indicated the presence of lead in the office at levels above the current HUD standard for floors following lead abatement in target housing. However, the HUD standard does not apply to the manufacturing setting at Northeast. Based on the air sampling results, Broido found it that the lead present in settled dust was not significantly present in the air. The VOSHA PEL for lead in air is  $0.05 \text{ mg/m}^3$ . The air samples results were less than  $0.001 \text{ mg/m}^3$  and less than  $0.0008 \text{ mg/m}^3$ —at least ten times less than the VOSHA regulatory standards.

43. *The claimant's husband then hired Herb Bacon, an environmental consultant, to evaluate the work and shop areas. In August 2002, four years after the claimant left Northeast, Bacon took wipe samples on behalf of the claimant in her work area and in the lunch/break table area. He had them tested in September 2002 by Anachem, Inc., an environmental testing company. The samples detected measurable levels of certain heavy metals, including lead and mercury, in the settled dust at Northeast. There were excess levels of chromium, cadmium, barium, lead, mercury, and arsenic. Bacon also tested the air conditioning unit and found that these heavy metals were located in the air filter—an indication, the claimant contends, that the heavy metals, such as lead, were in fact present in the office air which the claimant was exposed to on a daily basis. No air sampling was performed.*

**CONCLUSIONS OF LAW:**

1. *Claimant has been diagnosed with MCS. Claimant contends that VOCs chemical exposure at work aggravated her existing condition, fibromyalgia. Defense maintains that claimant does not have MCS, there were no measurable VOCs in the workplace, claimant's fibromyalgia has not been affected, and there is no certainty that something in the environment at Northeast was the incident or ongoing condition that led to her heightened sensitivity. The sole legal issue here is whether the claimant, on or before September 10, 1999, suffered a personal injury arising out of and in the course of her employment at Northeast.*
2. *Concluding that the claimant suffers from MCS, or that such an illness is work-related is a difficult task. To do so requires the claimant to prove that she became ill after leaving Northeast because her body in some way had lost the capacity to rebound from relatively minor environmental traumas occurring in everyday life as a result of the air quality at Northeast.*
3. *Claimants have pursued MCS claims with the Department on three past occasions. See *Petit v. North Country Union High School*, Opinion No. 20-98WC (1998); *Latouche v. North Country Union High School*, Opinion No. 58-98WC (1998); and *Taft. V. Blue Mountain Union School*, Opinion No. 10-99WC (1999). In all three cases, the Department denied the claims because claimants could not prove the necessary causal link between an*

*alleged ongoing heightened sensitivity to chemicals and a purported initial exposure to chemicals in the workplace. This case is no exception.*

4. *In a previous claim, Stoddard v. Northeast Rebuilders, Opinion No. 30SJ-03WC (2003), the Department of Labor and Industry (the Department) classified claimant's injury as a personal injury by accident rather than an occupational disease.*
5. *It is well established in Vermont that claimant has the burden of proof on this claim. King v. Snide, 144 Vt. 395 (1984). The claimant must establish by sufficient credible evidence the character and extent of the injury as well as the causal connection between the injury and the employment. Egbert v. The Book Press, 144 Vt. 367 (1984). Further, personal injury by accident need not be instantaneous to be compensable as a work-related injury in Vermont. Campbell v. Henrich Savelberg, Inc., 139 Vt. 31, 36 (1980). The Department has recognized that cumulative micro-trauma arising out of and in the course of employment is compensable. Petit, Opinion No. 20-98WC at Conclusion 3.*
6. *An employer takes each employee as is and is responsible under workers' compensation for an injury which disables one person and not another. Morrill v. Bianchi, 107 Vt. 80 (1935); Perkins v. Community Health Plan, Opinion No. 39-98WC (1998); and Winckler v. Travelers & Foley Rail Co., Opinion No. 29-01WC (2001). Further, there must be created in the mind of the trier of fact something more than a possibility, suspicion, or surmise that the incidents complained of were the cause of injury and the inference from the facts proved must be the more probable hypothesis. Burton v. Holden Lumber Co., 112 Vt. 17 (1941). The trier of fact may not speculate as to an obscure injury that a layperson could have no well-grounded belief as to its causation, and under those circumstances expert testimony is the sole means of laying a foundation for an award. Lapan v. Berno's, Inc., 137 Vt. 393, 395-96 (1979)*
7. *The fact that claimant may be hypersensitive to these conditions, or that the conditions in fact may meet or exceed governmental standards, is legally irrelevant in a workers' compensation case, as the law does not distinguish between "weak" and "strong" employees. See Petit, Opinion No. 20-98WC at Conclusions of Law 22.*

*It is Uncertain Whether the Claimant Has MCS*

8. *The claimant's MCS diagnosis was first made in August 1999. Since all the claimant's symptoms during her time at Northeast could have been accounted for by her pre-existing fibromyalgia and chronic fatigue, diagnosed prior to her employment at Northeast, one cannot say with the necessary degree of probability that the MCS-precipitating event or ongoing exposure occurred while she was at Northeast. Since the symptoms of MCS overlap with those of fibromyalgia and chronic fatigue, one cannot say with the necessary degree of probability that the claimant has MCS.*

9. *There is no clinical objective test to determine if claimant has MCS. The closest is Dr. Cullen's criteria. This Yale professor coined the term "multiple chemical sensitivity" and identified the criteria to establish whether a patient has MCS. (See Findings of Fact # 29.) In this case, the claimant meets only two of the seven criteria detailed by Dr. Cullen for a patient to be diagnosed as having MCS: 4) The agents that may have precipitated the claimant's symptoms are multiple and chemically diverse; and 5) The dose of these agents that precipitate symptoms are at least two orders of magnitude lower than the established thresholds for acute health effects. In fact, none of the suspected elements occurred in a detectable amount in the air within the claimant's workplace. The air quality in the workplace falls within allowable levels as required by VOSHA and OSHA. Applying the rest of Dr. Cullen's criteria, 1) No clearly evident health event caused by environmental exposure can be pinpointed; 2) Although the claimant experienced multiple symptoms referable to several organ systems that included the central nervous system, she had preexisting conditions to which these symptoms can be attributed; 3) The claimant's symptoms were not characteristically and predictably precipitated by a perceived environmental exposure; instead, a wide variety of elements triggered her symptoms and these reactions occurred both inside and outside of the workplace; 6) and 7) Other organic disorders that can explain the pattern of symptoms—fibromyalgia and chronic fatigue—have been tested for and are present in the claimant.*
10. *The experts called by the claimant's and defense's attorneys disagree on whether or not the claimant has MCS. Compounding this problem is a reliance on the patient's reported symptoms rather than medical testing or functional benchmarks. Claimant told Dr. Elson that she had been exposed to chemicals at work.*
11. *Claimant had elevated urine levels of mercury and lead, but Dr. Elson does not attribute her illness to these heavy metals. He implicates the VOCs. In a statement made July 21, 2002, Dr. Elson stated that his initial impression was that she was suffering from MCS and that claimant had found that exposures to chemicals at work had spread to include reactions to chance chemical exposure in other public places. Dr. Elson says he advised claimant to change her job, notify the state*

*about the work environment, and avoid future chemical exposures as much as possible. Her symptoms were much improved at the November 15, 1999 follow-up meeting, which occurred after claimant had been out of Northeast for one month.*

12. *The examinations performed by both physicians were flawed. Although, Dr. Elson met and examined claimant in August and November 1999, he failed to ask her about her work environment and document specific details of how she might have been exposed to heavy metals. Since the claimant's injury is compensable under Workers' Compensation only if caused by the work environment or materials claimant may have handled, it is crucial to document her manner of exposure.*
13. *Due to the very nature of MCS, it is extremely difficult to determine the etiology of MCS symptoms in any patient. Dr. Elson causally relates the onset of claimant's MCS to any exposure of chemicals at Northeast. Specifically, Dr. Elson believes that the cause of claimant's MCS symptoms was an initial exposure to VOCs at Northeast. He further believes that claimant's MCS aggravated her pre-existing fibromyalgia and opined that claimant's ability to recover from her MCS has been hindered due to the elevated levels of lead and mercury in her body. As with claimant's MCS, Dr. Elson causally related claimant's elevated levels of mercury and lead to her employment at Northeast. During his hearing testimony, Dr. Elson stated that he derived his knowledge of the chemicals present at Northeast entirely from the Marin Report. His opinions regarding mercury and lead were derived from the provocative urine test performed on the claimant. Neither OSHA, nor Dr. Davis, recognize provocative urine testing as the gold standard for identifying mercury and lead exposure. And the Marin Report described chemicals below the surface of claimant's work site.*
14. *Dr. Barry D. Elson's opinion on causation does not convince me that workplace exposure is the likely cause of claimant's illness. Dr. Elson is not board-certified in occupational, environmental, or allergic medicine. He has not completed any training in the absorption, ingestion, and inhalation of chemical compounds. Nor does he have any specialized training in toxicology, immunology, or epidemiology. He relied instead on limited testing, personal observation, and clinical experience, but could not point to meaningful empirical*

*support such as peer-reviewed testing. Dr. Elson derived his knowledge of the chemicals present at Northeast entirely from the Marin Report. He did not review the other environmental tests performed at Northeast. He acknowledged that, at best, he could provide only an "educated guess" regarding which specific VOCs or chemicals to which claimant had been exposed. Regardless, based on the claimant's reports and his speculation that claimant inhaled substances that were never measured, Dr. Elson concluded that the initiating factor in claimant's MCS was exposure to VOCs—and there is no agreement in the medical community that ongoing MCS symptoms arise from exposure to a toxic environment. No testing of the claimant confirmed any exposure to VOCs.*

15. *In a Massachusetts workers' compensation case decided in 1999, the Industrial Accident Reviewing Board (IARB) deemed evidence of MCS, its diagnosis, and causal link admissible. The Appeals Court of Massachusetts affirmed this decision. See Canavan's Case, 720 N.E.2d 43 (1999). The physician/expert witness in that case was able to identify specific chemicals present in the employee's workplace and conducted a number of diagnostic tests. Id. at 44, 47. On appeal, however, the Supreme Judicial Court overruled the decision, applying the exacting standards of Daubert v. Merrill Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) and Com. v. Lanigan, 641 N.E.2d 1342 (Mass. 1994). See Canavan's Case, 733 N.E.2d 1042, 1050 (2000). The Massachusetts high court noted that the expert witness' test results showed that the claimant sustained chemical exposure, but did not show that the claimant suffered from MCS. Id. at 1050-51.*
16. *This case presents a similar issue. Not only were specific chemicals unidentifiable in the employee's workplace, but diagnostic tests were not performed on the claimant or the workplace in a timely manner, and the physician/expert acknowledged that exhaust fumes outside of the work environment affected the claimant. As such, the general finding of chemical exposure does not support the more specific diagnosis of MCS.*
17. *The Department decided Petit nearly six years ago. At that time, the Department deferred to the "ever constantly changing, evolving, living science" of medicine in recognition that MCS might attain acceptance in the medical community. Petit, Opinion No. 20-98WC at Conclusion of Law 17. At this time, however, MCS is still not regarded as a genuine medical disorder by health organizations such as the Centers for Disease Control and Prevention, the American Medical Association, ACOEM, and the American Academy of Allergy, Asthma, and Immunology. Even an official medical definition of MCS has yet to be adopted—because symptoms and chemical exposures are often unique and vary widely between individuals. Compounding our ability to make a causal link between chemical exposure and MCS is a lack of scientific corroboration, or explanation for, the claim that an initial exposure to a chemical or chemicals results in a subsequent sensitivity to exposure to other unrelated chemicals. Without this verification, the claimant cannot prove a*

*causal link between the alleged workplace exposure and ongoing sensitivity to unrelated chemicals.*

18. *As in Petit, the Department is not prepared to exclude medical testimony regarding MCS on a Daubert basis because of the lack of progress in expanding the medical knowledge and experience with MCS. Thus, the Department has accepted the testimony of Dr. Elson in this case regarding the possible causation of the claimant's symptoms.*

19. *Unconvincing, however, is Dr. Elson's opinion that lead and mercury inhibit claimant's ability to recover from MCS-like symptoms. Since a blood test performed less than one month after claimant's urine revealed mercury and lead indicated that mercury and lead levels in claimant's blood were within normal limits, it appears that the presence of lead and mercury in the claimant do not contribute to the claimant's ability to recover from MCS-like symptoms. These symptoms, according to Dr. Elson, persisted after claimant left Northeast; however, a blood test performed on December 1, 2000 revealed that the level of lead in claimant's blood was well within accepted limits.*
20. *Dr. Davis testified that, in his review of claimant's medical records, he did not see any evidence that there was a change in her pre-existing fibromyalgia. Since the claimant has failed to provide medical records prior to 1998, it is impossible to determine the exact nature and seriousness of claimant's symptoms prior to her employment at Northeast. Since the symptoms she attributes to Northeast predated her employment there, however, it is impossible to forge a causal link between these symptoms and chemical exposure at Northeast.*
21. *The claimant's logic is faulty. Just because tests of claimant's home for lead found levels within acceptable levels there, it does not necessarily follow that whatever lead was present in her urine or blood originated from Northeast. The levels of lead there were also acceptable.*

*Was the Environment at Northeast Rebuilders the Cause of the Claimant's MCS?*

22. *There is no question, based on the evidence, that the claimant is ill; that her illness is real and not feigned; and that her illness substantially impairs her ability to work. The fundamental issue here is whether her current illness arises out of an in the course of her employment at Northeast.*
23. *An injury arises out of employment when it occurs in the course of it and as the proximate result of it, and when an injury is a natural and necessary incident or consequence of the employment, though not foreseen or expected, it arises out of it. Rae v. Green Mountain Boys Camp, 122 Vt. 437 (1961). The defendant does not challenge the fact that the claimant is sick.*

*As treating physicians, the diagnoses and opinions of Drs. Klein and Elson are entitled to preferential consideration and, were this simply a test of credibility between Dr. Elson and Dr. Davis, deference would be given to the claimant's treating physicians. Gardner v. Grand Union, Opinion No. 24-97WC (1997).*

24. *However, this case is not simply a comparison of medical opinion. Despite all the evidence submitted in this case, including expert testimony, environmental analyses, and the submission of numerous scientific and medical articles on MCS, CFS, and fibromyalgia, the etiology of the claimant's illness remains unknown. Dr. Elson believes fervently that the air quality at Northeast caused the claimant's illness. He relies on the claimant's descriptions of her symptoms and one environmental report. Just as fervently, however, Dr. Davis believes that the claimant's existing fibromyalgia is responsible for her symptoms and there is no reliable scientific evidence that MCS even exists. He has more impressive credentials, but he did not examine the claimant or the work site.*
25. *In looking for the truth in this matter, one must consider all of the evidence while remembering that the claimant has the burden of proof. Against that standard, I cannot find, by a preponderance of the evidence that the claimant has demonstrated that her illness arose out of and in the course of her employment. In reaching this conclusion, the Department is influenced by the following:*
- a. The absence of any agreement in the medical community that an illness like the claimant's can, under any circumstances, arise from exposure to a toxic environment.*
  - b. The claimant's contention that the only source for the exposure to toxic chemicals was Northeast when the claimant, herself, reported symptoms arising from automobile exhaust while driving and many other substances found in her home and subsequent work environments.*
  - c. The fact that no environmental test detected VOCs anywhere inside the building complex and claimant failed to present any evidence showing that she was ever actually exposed to VOCs at Northeast.*
  - d. Dr. Elson's lack of logic in contending that since the Marin Report found chemicals present and the claimant was sick, the chemicals that were there must have made her sick. Other chemicals may have been present but not found when the testing was done, or the chemicals present when the testing was done might not have been present when claimant worked at Northeast.*

- e. *The serious lack of scientific method in the testing done. There is no factual data on the presence of heavy metals in the work area and a dearth of useful scientific data. Claimant's husband obtained samples of the "black dust" that claimant testified was located in her work area and in the lunch/break table area in August 2002 and had that tested in October 2002. The claimant's husband then hired Herb Bacon, an environmental consultant, to evaluate the work and shop areas. Bacon's dust sampling occurred almost four years after claimant had left the company. He failed to perform air quality tests and tried to use post-abatement levels required in residences as a standard because OSHA does not regulate settled dust. He could draw no direct correlation between the presence of lead and mercury in his wipe samples and the air in Northeast. The only code violation Bacon noted was a lack of a break and lunch area outside of the work area.*
- f. *The overlap in claimant's symptoms making it extremely difficult to determine the etiology of MCS symptoms in the claimant. To conclude that the claimant's symptoms would not have occurred "but for" her employment at Northeast is speculative. Claimant reported reacting to automobile exhaust while driving to work as well as reactions to exhaust fumes, paint, carpets, shoe stores, etc. even after she left Northeast. There is no way to trace a triggering substance to Northeast. Further, there was no identification of the triggering agents. Claimant has a history of fibromyalgia and chronic fatigue—conditions that continued after she left Northeast and whose symptoms overlap with MCS. This makes it difficult to determine if claimant's post-Northeast episodes had their origin in workplace chemical exposure.*
- g. *The fact that the claimant was able to work full-time at Putney Pasta from November 1, 1999 through June 30, 2002.*
- h. *Claimant's contention that heavy metal exposure in the workplace was responsible for claimant's MCS. Defense's expert found no evidence of heavy metal toxicity. He noted that the Vermont Department of Health tested the workplace for mercury and did not detect it. No indoor air quality tests detected VOCs. The air quality test performed closest to when claimant would have been exposed, in August 1998, found no elevated readings for*

*VOCs. Therefore, there is no basis to conclude that claimant's condition resulted from VOCs in the air at Northeast.*

i. *The fact that no environmental tests ever detected VOCs in any area of Northeast where claimant actually worked. The Marin Report is the only test to mention VOCs and found them in a soil sample 12 to 165 feet below ground surface in a monitoring well located outside the building complex and in soil and groundwater samples taken beneath the basement of the building complex. The Marin Report detected no VOCs in the air at Northeast. One cannot conclude that the presence of VOCs outside of and underneath the building means they are present inside the building. The only test of the air inside the building was negative for VOCs.*

23. *This is not to conclude that MCS may never be found to be work-related in Vermont. Rather, under these facts and circumstances, and with this expert testimony, the claimant has failed to carry her burden of proof.*

**ORDER:**

*Therefore, based on the foregoing findings of fact and conclusions of law, this claim is DENIED.*

*Dated at Montpelier, Vermont this 26<sup>th</sup> day of July 2004.*

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*Michael S. Bertrand  
Commissioner*

**Appeal:**

*Within 30 days after copies of this opinion have been mailed, either party may appeal questions of fact or mixed questions of law and fact to a superior court or questions of law to the Vermont Supreme Court. 21 V.S.A. §§ 670, 672.*