

CLAIM HISTORY AND APPEAL PROCEEDINGS:

The Worker began working for the municipal Employer in 1999, primarily in sewage treatment plants as a sewer worker, but he also did some other maintenance and cleaning duties. In April, 2003, the Worker stopped work and took sick leave. When those benefits were exhausted, he received Employment Insurance sick benefits. The Employer terminated the Worker's employment on June 12, 2003.

On July 14, 2003, the Worker filed a Report of Accident with the Board, noting his symptoms of headaches, severe nausea, loss of appetite, and pain in his stomach. The Worker indicated that his lungs and stomach had been injured by working around sewer gases and toxins, from raking sludge, going down manholes, repairing sewer lines, and entering spaces to turn valves off and on with without proper air packs on.

The Board denied recognition of the Worker's claim, finding his symptoms were not related to work-related exposures. On appeal, a Hearing Officer agreed, and denied recognition of the claim. On further appeal to the Tribunal, the Worker filed some additional medical evidence pertaining to his treatment, as well as scientific evidence about the possible health risks from working as a sewer worker. The Tribunal referred the appeal back to the Hearing Officer for reconsideration in light of the additional evidence.

Prior to reconsidering the appeal, the Hearing Officer requested an opinion from a Board Medical Adviser on the additional evidence filed. The Hearing Officer conducted an oral hearing before denying recognition of the Worker's claim again, this time in a December 20, 2006 decision. The Worker appealed the Hearing Officer's decision back to the Tribunal.

The Tribunal proceeded by oral hearing. The Worker testified and his representative made oral submissions. The Worker was the only participant at the hearing. No new written submissions were received in respect of the current appeal from any participant.

ISSUE AND OUTCOME:

Did the Worker suffer a personal injury by accident that arose out of and in the course of his employment?

Yes, I find it as likely as not that the Worker's constellation of symptoms resulted, at least in part, from workplace exposures to gases, toxins and/or chemicals. He has suffered a personal injury by accident which arose out of and in the course of his employment. The Board will determine the Worker's entitlement to benefits flowing from this decision.

ANALYSIS:

The *Workers' Compensation Act*, S.N.S. 1994-95, c.10, as amended (the "Act") applies to this appeal.

Section 187 of the *Act* requires me to give the Worker the benefit of the doubt, which means that if the disputed possibilities are evenly balanced on an issue of compensation, then the issue will be resolved in the Worker's favour. Essentially, the Worker must show that his symptoms are *as likely as not* related to exposures in the workplace.

Neither the Employer nor the Board benefit from the reduced standard of proof, and they must demonstrate their case to the ordinary civil standard. That is, the Employer and/or Board must show that it is *more likely than not* that the Worker's constellation of symptoms are not caused by his work-related exposures.

Causation need not be proven to a scientific certainty. Where reasonable, causation may be inferred through the use of common sense. The work exposures do not have to be the sole, or even the primary cause of the Worker's symptoms. It is sufficient for purposes of recognizing his claim as compensable that the exposures materially contributed to his symptoms.

In the Report of Accident received by the Board on July 28, 2003, the Worker said that he was exposed to many gases and toxins over a 4 ½ year period, and that these had caused him to have headaches, severe nausea, stomach pain, and lack of appetite.

Submissions

The Worker's Adviser acknowledges that the evidence is not ideal. There are no air quality tests or gas monitoring to document sewer gas levels. Neither are there any blood tests to document increased concentrations of chemicals or toxins in the Worker's body.

Notwithstanding this lack of evidence, the Worker's Adviser says the Worker's sworn testimony, the medical and other evidence, and the lack of any other identified cause, support the work-relatedness of the Worker's symptoms.

The Employer provided evidence at the outset of the Worker's claim for compensation, but did not participate after this, and particularly, did not attend any of the three oral hearings in which the Worker testified.

The Employer says that the Worker never complained of unsafe working conditions while at work, and that he only made the complaint and claim for compensation after his employment was terminated for other reasons. The Employer said it terminated the Worker's employment because he failed to obtain his GED, as required of all municipal employees. The Employer did not address why this only became a barrier to his continued employment in 2003.

The Employer strongly objected to any allegation the Worker had been exposed to liquified chlorine gas during his employment. The Employer said that there are stringent regulations concerning the hookup of these bottles, and only trained individuals [not the Worker] wearing proper respiration equipment do this work.

The Employer provided material safety data sheets (“MSDS”) for liquified chlorine, hydrated lime, as well as a number of cleaning agents that the Worker could have used when doing cleaning duties. Those included CLR Metal Clear, VITRI, Lime-a-way, Home Hardware Iron Remover, Murphys Oil Soap Liquid, Green Bin Deodorizer, Home Hardware Kettle, Coffeemaker & Steam Iron Cleaner, Home Hardware Toilet Bowl Cleaner, Folex Nonionic (carpet spot remover), and Green Knight General Purpose Cleaner, provided, the Employer included chemicals and agents used for cleaning too.

The Employer indicated that the Worker only occasionally did janitorial work.

Evidence

The Worker worked primarily at the Western Shore and Chester sewer plants, but also filled in at the Mill Cove plant when the individual there went on vacation. He also worked every second Saturday at the scale at the landfill, weighing trucks, and the other Saturday at the recycling facility where hazardous wastes were received.

The Worker described several sources of potential exposures that he feels caused his symptoms.

Adding Hydrated Lime

The Worker was responsible for putting hydrated lime into the lagoon at the Western Shore and Chester sites regularly each week, and at the Mill Cove site when he relieved at that location. This was added to maintain the Ph level, and control the smell. It was only added during the summer months from approximately April to October.

The Worker described taking bags of lime weighing approximately 70 pounds, cutting open the top, and carrying it halfway across a cement bridge that traversed the lagoon. He would pour the lime into a barrel where it be mixed with water before going into the lagoon. The Worker said that the lagoon was open to the air, and as he poured the lime, any wind would cause the lime, which was in powdered form, to blow back in his face. He said this “would take your breath away.” He also said it burned his eyes when it blew back into his face.

The Worker estimated using 3-4 bags of lime per week at the Western Shore site, and 3 bags per week at the Chester site.

The Employer acknowledged that the Worker handled hydrated lime, but said that there were strict procedures for its use. The Employer said that the liming could not be done on

a windy day, and that suits or protective clothing were always worn, as were dust masks. The Employer indicated that the Worker was offered a full face respirator, but that he felt it too uncomfortable. The Employer said it insisted the Worker wear a dust mask and other protective equipment when he was around the lime, and never asked him to lime without anyone present.

As to protective equipment, the Worker said that he sometimes wore disposable protective coveralls when adding the hydrated lime. The supply of these often ran out. In their place, the Worker said he would use a garbage bag with cut-outs for his arms. The Worker said he routinely drove home with his coveralls coated in lime. The Worker said that he did not wear these all the time, nor was he advised to by his Employer.

The Worker said there were dust masks available, but he only wore them sometimes. He testified that he was not required to wear a mask when adding lime, as stated by his Employer. He acknowledged that wearing these might have helped with lime blowing back into his face. He also wore leather work gloves.

The Worker says that showers were not available, and that was only able to clean up and remove his contaminated clothing when he arrived at home.

The Worker reiterated that the Employer did not require that he wear protective clothing or dust masks. He says that he was never given a course in Health and Safety, noting that his co-worker, D.P. would attend Health and Safety meetings, but that he was never part of those meetings.

The Worker evidence about his exposure to hydrated lime is consistent across the three occasions he testified. His evidence about his intermittent use of protective equipment is also consistent over time. The Employer's evidence that the Worker only handled lime in calm conditions, and that he never handled it alone or without protective equipment is contained in written information provided at the outset of the claim. It is not sworn evidence. Generally, sworn evidence is preferred over unsworn evidence. I have no reason to discount the Worker's sworn evidence on this point, and I accept his testimony as to his practices using the lime over the information provided by the Employer.

Cleaning the Clarifiers

The Worker said that he and a co-worker, D.P., were responsible for cleaning the clarifiers of rocks, leaves and debris. There was one clarifier in Western Shore, and two in Chester, and each would be cleaned a couple of times per year. After the sewage was pumped out of the clarifier, he and D.P. would go down the 15-20 feet to the bottom to clean it out with hoses and remove any rocks that had accumulated. He said that although it was open at the top, there was no fresh air at the bottom, and it smelled bad.

The Employer did not address the Worker's duties in cleaning the clarifiers. I accept the Worker's evidence on this point.

Raking Sludge

The Worker said that at the Western Shore site, raw sewage or “sludge” would be pumped to two big open-air beds, where it would be left to dry for two or three days. He said the beds were essentially fields of sand. When the sludge was dry, he and D.P. would rake the sludge to the middle of the beds, and using wheelbarrows, move it onto a trailer. They would then take the trailer full of sludge to the landfill where it would be unloaded by hand.

The Worker described the consistency of the sludge they were moving as perhaps a little damp, but powdery and dusty. He said at the landfill, the sludge would blow onto you as you unloaded the trailer. The Employer acknowledged that this might occur at the landfill.

The Worker initially said (in his June 23, 2003 complaint to the occupational health and safety (“OHS”) officer) that sludge raking was done twice a week. In the most recent hearing, he said it occurred about four times per month. He explained that each bed was done twice a month, thus, four occasions. The Employer said in a July 16, 2003 memo that the raking occurred no more than once every two weeks. The job description provided for the Worker’s position indicated that the sludge was to be raked at the Western Shore plant weekly. I accept the Worker’s evidence on this point.

The Worker estimated that it would take half a day to rake one bed and haul the material to the landfill. This work was done in the months April to October, the same months the lime was added to the lagoon.

The Employer said that other employees, D.P. and a summer student, did this work too, and did not complain, but that all employees had access to respirators, and knew of their right to refuse unsafe work. No direct evidence from those other individuals is on file. The Worker said that he never wore the respirator when doing this work.

Cleaning the Lagoon

The Worker described an occasion in the first year of his employment with the Employer, where he and D.P. had to scrape the sludge off the bottom of the lagoon so that repairs could be made to its asphalt lining. In his June 23, 2003 letter to OHS, the Worker said they worked 10-12 hour days over a nine day period to complete this scraping. The Employer said that the work only took three days, but that the 10-12 hour days were accurate. At the most recent hearing, the Worker initially said the work took four or five days, but when advised of what his Employer said, he conceded that it probably only took three days.

In order to make the repairs, the lagoon had to be pumped out, and the bottom scraped out by hand using plastic snow shovels. The Worker said the smell was bad, and that fresh air did not eliminate this because they were below grade. During his testimony before me, he estimated the depth of the lagoon at 12-13 feet. When told of the Employer’s evidence that the lagoon was 25 feet wide and five feet deep, he conceded the

depth, but added that it sloped down from the sides to the middle, where it would be deeper.

The Worker said that when he stopped for a break or lunch while doing this work, he could not eat because he felt nauseated by the strong smell in the lagoon.

The Employer said that as this was an open-air lagoon, that any smell would be completely eliminated with any breeze. The Worker said that the no fresh air made it to the bottom of the lagoon, and that the smell was unbearable.

In the article about protecting workers from the hazards of wastewater plants, it says that hydrogen sulfide [one of the primary constituents of sewer gas] is "heavier than air and concentrates in dense pockets in low-lying areas." This might well help to explain the apparent conflict between the Worker's and Employer's evidence on this point. While one might think that gas or odours in the lagoon might easily be dispersed where it is open to the air, and that a breeze would eliminate any gases present, the properties of sewer gas make it such that it concentrates in low lying areas. This is the precise location where the Worker was scraping out the sludge.

Based on this evidence, I find it as likely as not that the gas in the lagoon would not have dispersed as readily as thought by the Employer, and that the Worker may well have been exposed to concentrations of sewer gas in that environment.

Repairing Sewer Lines

The Worker said that he helped repair broken sewer lines. He said that co-worker's would dig up the sewer line in order to find the location of the break. The Worker would often go down the manhole to turn off the pressure valve before the repair could begin. He said this was a confined space, and that he "could hardly breathe for the smell", but that the gas levels were never tested.

The Worker said that once the valve was shut off, he and D.P. would go down into the hole where the break was, and clear out around the pipe with picks and shovels. Again, he said the smell was very bad, but the gas levels were never checked.

The Worker said the repairs would often take a full day, and breaks in the lines happened frequently, perhaps 6-8 times per summer.

The Employer says that municipal employees rarely enter confined spaces, as most work of this sort is contracted out. When they did enter confined spaces, however, the Employer says that all safety precautions, including testing for gas, was done. The Employer says that it knows of only one occasion when the Worker entered a confined space, and that testing was done on that occasion.

The Employer says that testing for gas is not done during sewer break repairs because the

excavations are done in such a way that gas does not present itself, and testing is not required.

It seems to me that the act of turning on and off valves would be involve a short time span, and thus, the amount of exposure from those duties would be relatively small. As to the work in the trench, digging out around the pipes, there may well have been some exposure here, but given the manner of the excavation and set backs, as indicated by the Employer, testing was not required because gas did not present itself. I accept this evidence and find the Worker's exposure in that context would not be significant.

Sewer Gas

There are no MSDS sheets on sewer gas, as it is not a specific manufactured product, but rather a by-product of the sewage treatment process.

Dr. Haigh, Board Medical Advisor, said in his September 23, 2003 opinion that sewer gas in domestic sewers is made up primarily of water vapour, methane, methyl mercaptan, and hydrogen sulfide

Information on file from POISINDEX on sewer gas that indicates that it is made up primarily of hydrogen sulfide and methane. This is essentially consistent with the information supplied by Dr. Haigh. The information on hydrogen sulfide indicates that it,

... may be released spontaneously from decomposing sulfur compounds and is also produced by bacterial action on sewage effluents containing sulfur compounds when oxygen has been consumed by excessive organic loading of surface water ("sewer gas")

In a September 24, 2003 opinion, Dr. Haigh noted that there was no MSDS for sewer gas, but cites the Employer's assertion to an "excellent tight spaces program" and that the Worker was never exposed. He notes that the Worker is a janitor, not a sewer worker.

Dr. Haigh was incorrect as to the Worker's occupation. He was primarily a sewer worker, with only occasional janitorial duties.

As to the degree of exposure to sewer gas, Dr. Haigh inferred that the Worker would have no exposure because of the Employer's tight spaces program, and because the Worker did not perform this work.

There are two problems with this conclusion. It is premised on the idea that sewer gas only presents itself in enclosed spaces such as down manholes. I have already accepted that the Worker did, in fact, perform some of this work, and would have been exposed to sewer gas in that environment, albeit for short periods of time.

The scientific evidence about wastewater risks indicates that sewer gas presents in other areas of areas of treatment facilities, more widespread than considered by Dr. Haigh.

In the article, "Protecting Workers From Exposure to Chemical and Physical Hazards at Wastewater Treatment Plants", from the Water Environment Research Foundation, at page 2-5, the authors discuss the prevalence of hydrogen sulfide, as follows:

Hydrogen sulfide is usually produced from anaerobic biodegradation of sulfates and organics in wastewater. The gas is found in sewer lines, wet wells, anaerobic digesters, sludge dewatering processes, and lagoons.

From this information, it would appear that hydrogen sulfide [or sewer gas] may be present not only in sewer lines, but also in the sludge dewatering process, and in the lagoons, both of which are present in this case. The lagoons are present at each site, while the sludge beds, where it is dried and raked, is only present at the Western Shore site. Notwithstanding, the Worker's duties are primarily in relation or in proximity to the lagoons, and he was involved with the raking of sludge each week.

Cause and Effect

There is insufficient evidence to find that the Worker was exposed to liquified chlorine. Exposure to chlorine was not argued at the hearing.

As to hydrated lime, the MSDS information indicates that it is an irritant to skin by contact, that it would cause a severe irritation to the eyes, and that inhalation would cause breathing problems and a cough. Ingestion would cause pain, vomiting blood, diarrhea, collapse and a drop in blood pressure. Effects of chronic exposure was contact dermatitis.

In the "Protecting Workers..." article, cited above, the authors address the effects of exposure to various levels of sewer gas. Concentrations above 10-20 ppm causes eye, nose, and throat irritation, headache, fatigue and diarrhea. Exposure for an hour or more at 5- ppm can cause severe eye tissue damage. Long-term exposure to higher levels can affect the central nervous system. At very high levels of 500 ppm, it causes paralysis of the respiratory system, unconsciousness and death.

Medical Opinion - Causation

Dr. Haigh said the cleaning agents all had known surface reactivity and no chronic systemic illnesses. He said that chlorine and hydrated lime were exceptions, but notes the Employer's evidence that the Worker was not exposed to these. Notwithstanding, Dr. Haigh says these would cause skin and respiratory reactions, not to the GI tract. He says the Worker's clinical presentation does not support a history of exposure.

As to the effects of sewer gas, Dr. Haigh said,

... water vapour is benign, methane is a simple asphyxiant, methyl mercaptan smells bad and is a mucous membrane irritant, hydrogen sulphide is an acute chemical asphyxiant with multi-system symptoms. There is no chronicity involved in hydrogen sulphide exposure and my search of the toxicological literature does not report an exclusively GI reaction. Bioaggressors would require prolonged direct contact with domestic sewage as would occur in urban sewer workers. I don't doubt that the worker feels bad but there is absolutely no scientific proof to support a causal or aggravation link to the work environment.

Dr. Pennell, the Worker's family doctor since 1989, provided a June 25, 2004 medical-legal report. He noted that the Worker had pre-existing problems with headache and gastritis, but that he reported those symptoms worsening after he started to work for the Employer. Dr. Pennell noted seeing the Worker numerous times, and that he responded poorly to treatment. Aside from a March 2000 gastroscopy that showed some distal gastritis, all other testing by way of ultrasounds, CT scans, and a barium test were negative.

Dr. Pennell saw the Worker in April 1999, February 28, 2000, October 26 2000, October 23, 2001, February 14, 2002, January 13, 2003, April 15, 2003, and April 22, 2003 for epigastric pain. He saw the Worker on April 7, 2003 for abdominal pain. He also saw the Worker in February 2002 for severe headaches. He saw the Worker on July 15, 2003 for nausea and headaches since working at his current job. It was at this point that Dr. Pennell referred the Worker to Dr. Fox.

Dr. Fox provided an October 24, 2003 report. The Worker had reported to Dr. Fox his duties in repairing sewer line leaks without protective equipment, his duties shoveling sludge which would blow up in his face and be inhaled, and the work scraping the lagoon over a 1 ½ week period when he experienced nausea, dizziness, headaches, and lack of appetite. The Worker's sleep was also affected. The Worker told Dr. Fox that he began to experience headaches beginning in the occipital region, and that these would occur three times per week. He was also nauseated much of the time, he felt a burning sensation in his epigastrium, and his eyes would burn in some environments. He lacked energy, and told Dr. Fox that he noticed poor short term memory. The Worker said that he had some gastrointestinal problems before this, but not to the extent he had at that time.

Dr. Fox said the Worker had been exposed to sewer gas, which was "known to be an occupational hazard due to the volatile organic compounds present." Dr. Fox said that "headache, chronic fatigue, disturbed sleep, etc. can be seen with this sort of exposure." Dr. Fox commented that he "could see no other factors which would explain the development of these symptoms and the interrelation of these symptoms."

Dr. Fox also provided medical-legal reports dated May 6, 2004 and September 30, 2004.

In the May 30, 2004 report, Dr. Fox identified hydrogen sulfide as the major gas in sewer

gas, but said that “depending on the source of the sewage, it might have industrial and/or agricultural waste, the latter of which may include pesticides. He said that the Chester plant “would have employed a variety of chemicals, everything from alkaline cleaners, organic solvents, disinfectants, lubricant, hydraulic fluids, and even pesticides.”

Dr. Fox said the plant would also use disinfectants including alcohols, ammonia and liquid chlorine in cleaning the wastewater facilities, that lubricants and hydraulic fluids would be used to service plant equipment, that pesticides would be used to control rodents and insects, and that chlorine would be used for a wide variety of purposes including odour control and chemical neutralization. He also noted the use of lime.

The Worker had reported that he worked down manholes on many occasions, repairing sewer lines, and turning valves on and off, and that the air was never tested for the presence of gas. The Worker said he did not wear a mask. Based on this history, Dr. Fox offered an opinion that,

... it is certainly possible that the symptoms which [the Worker] developed were related to his employment. I cannot say with certainty that his symptoms are occupationally induced. However, I can offer no reasonable alternative explanation to explain his symptoms.

With respect to the Worker’s symptoms, Dr. Fox said these initially consisted of GI upset, anorexia, abdominal pain, dizziness, malaise, headaches and disturbed sleep. At the time of the report, the Worker still had some headaches, abdominal pain and difficulty sleeping. The dizziness, upset stomach and loss of appetite had abated. Dr. Fox said that the reason the symptoms continued after the Worker stopped work in April 2003 was because these represented symptoms of chronic exposure.

In his September 30, 2004 report, Dr. Fox commented on two reports from the Water Environment Research Foundation. He says the first report on “Waterborne Infectious Pathogens...” is relevant to the Worker’s situation because it says that sludge composting personnel may be exposed to elevated levels of mold, which can result in infections and allergic reactions.

With respect to the “Protecting Workers...” report, Dr. Fox notes that hydrogen sulfide is found in “sewer lines, wet wells, anaerobic digesters, sludge dewatering processes, and lagoons...” The materials suggest that workers employed as maintenance, coordinators, plant operators, labourers and assistant supervisors might receive a “medium level of exposure.” Dr. Fox also noted other literature on chronic low level exposure by Kilburn supported neurobehavioural impairment.

The scientific evidence as to the risks of sewer gas, and of working in waste facilities supports that sewer gas may well present itself in the general duties regarding the maintenance of the lagoon, and duties dealing with the sludge. Prior to this evidence, it appeared from the evidence that sewer gas would have only been present in confined spaces such as down manholes, and in pumping stations. The Worker’s exposure if that

were the case would be much more limited. As a great deal of the Worker's duties and time was spent in and around the lagoons, I find he would have had a significant exposure to sewer gas.

Dr. Fox also noted that as a child, the Worker was diagnosed as being atopic, and suffered from eczema, asthma, and inhalant allergies. According to Dorland's Illustrated Medical Dictionary, 27th edition, "atopy" is "a genetic predisposition toward the development of immediate (type 1) hypersensitivity reactions against common environmental antigens..." The most common clinical manifestation is allergic rhinitis; bronchial asthma, atopic dermatitis, and food allergy occur less frequently."

The Worker testified that he was cured of his allergies by age 10 or 11. There is no evidence to contradict this statement.

Dr. Fox also noted the Worker had emotional difficulties in his teens, and that he had chronic prostatitis as an adult. Dr. Fox noted evidence from a Urologist in respect of that condition that the Worker was convinced something else was causing his symptoms. The Urologist felt the Worker was fixated on this idea, and perhaps may not have been compliant with treatment.

Dr. Fox said that the "atopy and stress secondary to emotional issues would render him more susceptible to the effects of environmental factors." He also said that "[o]ne might also argue that the prostatitis information suggests a tendency to misattribute symptoms to other causes."

Dr. Fox concluded,

Considering all of the above it is my opinion that [the Worker] did suffer adverse effects to his health as a consequence of his work for the municipality of Chester. These effects consisted of worsening of GI symptoms and the development of several other issues including subtle neurobehavioural symptoms.

As indicated above, Dr. Haigh was of the opinion that the Worker was a janitor, not a sewer worker. He also said there was insufficient evidence of exposure, given the Employer's tight spaces program. He also indicated that the Worker was not exposed to hydrated lime on the basis of evidence from the Employer.

Dr. Haigh's premises are flawed. The Worker was a sewer worker primarily, and his janitorial duties were minor in comparison. Dr. Haigh also misinterpreted the Employer's evidence in saying the Worker was not exposed to hydrated lime or sewer gas. Clearly, he was exposed to hydrated lime, because his duties required that he add the lime to the lagoons at the Western Shore and Chester sites each week. The Worker was also exposed to sewer gas through his duties dealing with the lagoons, and in raking the sludge. The scientific information on the risks of waste water employees provides the support for this conclusion.

After the Tribunal referred the matter back to the Hearing Officer for reconsideration, the Hearing Officer asked another Board Medical Adviser, Dr. Premsagar, to review the material submitted and provide an opinion.

In a November 3, 2005 opinion, Dr. Premsagar said that there was no scientific basis to link the Worker's symptoms to an environmental exposure. This was "notwithstanding his exposure to sewer gas". Dr. Premsagar said the Worker had been exposed to a "very low dose and there were no actual recordings of the concentration of the various gases." He noted the literature on chronic low dose exposures was limited. In response to questions asked, Dr. Premsagar said "no" that the Worker's workplace exposure did not cause environmental illness. Dr. Premsagar said that his opinion was "unlikely" to change even if one accepted the Worker's testimony as to his exposures in relation to the safety equipment used as fact.

Dr. Premsagar reiterated both these opinions on January 19, 2006. In relation to whether his opinion would change if the Worker's evidence as to exposures was accepted, he said "there is clearly no basis for this assumption and any suggestion to this end is highly speculative and scientifically unproven."

Dr. Premsagar's opinion is not well supported by the evidence. He says the Worker had a very low dose of exposure to sewer gas, but acknowledges that there were no recordings of the concentration.

Dr. Premsagar also said that irrespective of whether one believed the Worker's evidence of exposure over that of the Employer, his opinion would not change. He said there was no basis for the assumption, and that this was speculative and unproven. This opinion suggests a closed mind on the issue of whether the Worker's symptoms were related to an occupational exposure. Essentially, nothing the Worker could say would appear to be sufficient to alter the Medical Adviser's opinion. I reject Dr. Premsagar's opinions as not well founded or considered.

Dr. Fox's opinions relied on some evidence that was incorrect or not in evidence as well. In particular, he relies on the Worker scraping sludge over 1 ½ weeks as opposed to three days, as I have accepted actually occurred. In addition, he has presumed exposure to chemicals that may well not have been present. He discusses the toxins that may be found in waste, including industrial chemicals, pesticides, agricultural waste, etc, but there is no evidence that any of those were present. By the same token, there is no way of knowing what exactly the Worker was exposed to during his time at this job. Those elements may have been present, but their presence is more speculative.

Generally, however, the rest of the information supplied to Dr. Fox by the Worker is consistent with evidence on file or given at the hearings.

There is evidence of the Worker having a childhood history of allergies, and of his diagnosis of being atopic, which is essentially a predisposition to allergies from everyday environmental antigens. There is no evidence to contradict the Worker's testimony that

he was “cured” of his allergies by age 10 or 11. Dr. Fox indicates some emotional issues as an adult, and perhaps, based on comments from a urologist, a tendency to mis-attribute symptoms to another cause. The evidence from the urologist, and of the context of those comments is not on file. This type of evidence might tend to be used to undermine the credibility of a worker seeking compensation. I find the evidence falls far short of the standard needed to make such an adverse finding.

In terms of cause and effect, one problem with the Worker’s symptoms is that they did not accord with the generally accepted effects of exposure to either hydrated lime and/or sewer gas, in that he did not experience contact irritation or respiratory irritation. His symptoms were of nausea, headache, sleep problems, etc.

The article on “Protecting Workers...” does indicate that the effects of 10-20 ppm exposure to sewer gas included headache, fatigue, diarrhea, as well as the more typical eye, nose, and throat irritation. In addition, Dr. Fox certainly considered all of the factors, including the Worker’s history, and the scientific evidence before concluding that the Worker’s symptoms most likely result from exposures at work. He could cite no other reasonable explanation for the development of those symptoms.

I am persuaded by Dr. Fox’s opinions over that of the Board doctors. I found flaws in the Board doctor opinions that affected the accuracy or completeness of those opinions. Dr. Fox considered all the evidence, medical, scientific, and from the Worker, as well as the lack of an alternate cause for the symptoms before finding the symptoms work-related. Essentially, his was a diagnosis of exclusion. The effects of sewer gas are said to have primarily contact and respiratory symptoms, but there is evidence that supports the development of malaise, headaches, nausea, being the effects of CNS involvement, and that the continuation of his symptoms after removal from the workplace are evidence of chronic exposure.

I find there is sufficient evidence to support that the Worker’s constellation of symptoms when he went off of work in 2003 were at least partly the result of his exposures to chemicals, gases and toxins at his workplace.

CONCLUSION:

The Worker’s appeal is allowed. I find it as likely as not that the Worker’s constellation of symptoms when he stopped working in 2003 were at least partly the result of work-place exposures. I find the Worker has sustained a personal injury by accident that arose out of and in the course of his employment. The Board will determine the Worker’s entitlement to benefits flowing from this decision.