

Health Unit

Your Health Partner for Life!
Haliburton, Kawartha, Pine Ridge District

A. Hukowich, M.D., C.C.F.P., D.P.H. · Medical Officer of Health · Executive
Officer, Board of Health

March 12, 2002

Mrs. Enid Lipsett
R.R. 1
Warkworth ON K0K 3K0

Dear Mrs. Lipsett

Enclosed is a copy of my report relating to your complaint concerning illness in your granddaughter Madison. I have concluded that your granddaughter did suffer from an adverse health effect as a result from the storage of sewage sludge from the Ashbridges plant of the City of Toronto on a neighbouring property. The standard that I have used in reaching this conclusion is the civil standard of a balance of probabilities, in that I have concluded that it is more likely than not that she suffered an episode of respiratory distress and that this was a result of the highly offensive odour from the sewage sludge. However, I do not believe that I can come to a conclusion that the storage of the sewage sludge was a health hazard as defined within the meaning of the Health Protection and Promotion Act as I believe that I would require a higher standard of objective evidence to conclude that a legally sanctioned activity was indeed a health hazard.

While I have discussed your complaint in general terms with representatives of the Ministry of the Environment as I am required to do under Section 11 of the Health Protection and Promotion Act, I have not provided my specific findings or any of the information contained in the report I have provided to you. With your permission, I would of course be pleased to supply a copy of this report to the

Ministry of the Environment.

Since it is my understanding that the neighbouring property no longer has a Certificate of Approval for further deposition of sewage sludge, there should not be a repeat of the circumstances of this past summer. However, in my discussions with representatives of the Ministry of the Environment I have advised them that given the specific circumstances of the strength of odour from the sewage sludge produced by the Ashbridges plant in the City of Toronto, that should the Health Unit receive further complaints of illness attributable to storage or spreading of this particular material, the Health Unit will investigate, and if it is able to find any objective evidence of human illness, I would be prepared to conclude that there was a health hazard within the meaning of the Health Protection and Promotion Act and issue appropriate orders to reduce or eliminate such hazard. As well, the Health Unit would attempt to evaluate the degree of material discomfort suffered by a panel of persons, including myself, so that I might be in a position to conclude that the material was resulting in an adverse health effect. In such a case I would strongly recommend to the Ministry of the Environment that they make appropriate use of their legislative authority to suspend those activities resulting in such an adverse health effect.

Should you require any additional information or interpretation of my report or conclusions, I would be most pleased to discuss this matter with you.

Sincerely,

C.C.F.P., D.P.H. Medical Officer of Health

enc.

REPORT RE LIPSETT COMPLAINT

Background

Mr. and Mrs. Lipsett have owned the property described as Lot 3 Concession 4 Percy Township located on the east side of Stone Road for approximately three years and spend most weekends at this property. They state that they have

considerable experience living in a rural area and are familiar with periodic odours from manure which they accept and which do not bother them.

Madison, their granddaughter, was born in November 2000, and along with her parents was a regular visitor to the Stone Road property, having been present on at least 15 occasions up until July 2001. These visits were generally of a two-day duration, although over the Christmas season of December 2000 and January 2001, she was in attendance for approximately 10 days. While initially breastfed, by the summer of 2000, she was being bottle fed with formula being prepared with bottled water and not the well water of the property. By that summer she was also eating commercial baby food. During these visits she did not develop any illnesses, in particular had no history of respiratory difficulties or diarrhea. She was noted to have an allergy to their dog, in particular that she would develop a rash on her face if licked by the dog.

On the weekend of July 13 - 15, on their arrival, they noted that material which they subsequently learned was sewage sludge from the Ashbridges plant of the City of Toronto, was being stockpiled on the west side of Stone Road on the property described as Lots 5, 6,7,8 Concession 4 Percy Township. The presence of this material was resulting in a strong odour which they describe as an overpowering putrid stench to be present on their property when the wind direction was from the west. They found the odour resulted in some nasal irritation and feelings of nausea. Since their property does not have central air conditioning, they had to leave windows open and this resulted in their inability to enjoy their property both inside and outside because of the odour.

Madison visited during one weekend in August, arriving on Saturday morning and leaving on Sunday afternoon. During this visit she developed diarrhea.

She again visited on the weekend of September 8 and 9, arriving the morning of September 8. The Lipsetts were not present but had a telephone conversation with their daughter during the afternoon of September 8. She indicated that Madison was developing some difficulty breathing and diarrhea. They remained at the residence until Sunday afternoon, when they took Madison to the Markham-Stouffville Hospital on their way home. They arrived at approximately 6 pm and left the hospital at 9 pm. Madison was assessed by the hospital nurse and physician. The history as obtained by the parents was noted of shortness of breath, wheezing and cough. No history of diarrhea was noted. Notations available from the medical record were brief and some illegible. However, the record disclosed a history of allergy to dogs, that the child was not the child was in no respiratory distress, there was no indrawing and that the chest was clear to oscillation. Vital signs were recorded as a temperature of 35.7, pulse rate of 118,

respiratory read of 20 and an oxygen saturation of 99%. The infant was treated with Ventalin, a bronchodialator, and the parents taught the use of an aero chamber for further administration of Venatalin.

Spreading of the sewage sludge occurred on September 21 and 22.

Madison was again in attendance at the property on the weekend of September 29 and 30. She arrived on Saturday, September 29 and left early on Sunday, September 30, again because of some symptoms of diarrhea.

Legislative framework

Section 11 under the Health Protection and Promotion Act requires that "where a complaint is made to a Board of Health or Medical Officer of Health that a health hazard related to occupational or environmental health exists in the health unit served by the Board of Health or the Medical Officer of Health, the Medical Officer of Health shall notify the Ministry of the Government of Ontario that has primary responsibility in the matter and in consultation with the Ministry, the Medical Officer of Health shall investigate the complaint to determine whether the health hazard exists or does not exist." Further subsection 2 states that "the Medical Officer of Health shall report the results of the investigation to the complainant, but shall not include in the report medical information in respect of other than the complainant without the consent of the person or in the case of a child, of a parent or other person who has lawful custody of the child."

The Ministry of the Environment is aware of the complaint by Mrs. Lipsett. An investigation at the time by staff of the Ministry of the Environment determined that activities relating to the initial stockpiling of sewage sludge and its eventual spreading and its incorporation into the soil was in accordance with the Certificate of Approval issued by that Ministry.

In addition, Section 12, (1) of the Act requires that "every Medical Officer of Health shall keep himself or herself informed respective to matters related to occupational and environmental health."

I believe that these sections were included in the Health Protection and Promotion Act not for some academic purpose, but so as to allow members of the public to have an independent evaluation of cases of illness suspected of being caused by environmental matters.

Section 13 provides for extensive authority for a Medical Officer "by a written order" to "require a person to take or to refrain from taking any action that is specified in the order in respect of a health hazard" in order to "decrease the effect of or to eliminate the health hazard." The determination of existence of a health hazard requires the Medical Officer of Health to come to "the opinion, upon reasonable and probably grounds that a health hazard exists in the health unit served by him or her." While Section 13 is permissive and does not require that a Medical Officer of Health issue an order, it does seem open to making Section 11 of the Act rather inconsequential.

Historically, Boards of Health and Medical Officers of Health had broader authorities and investigative powers under the Public Health Act which existed in Ontario prior to 1983. This Act allowed for the investigation of complaints regarding "nuisance" and to take all necessary steps as "provided by this Act or provided by the Regulations to abate or remedy the same." No definition of nuisance was provided in the legislation. When the Public Health Act was replaced by the Health Protection and Promotion Act in 1983, no authority for dealing with a nuisance was retained in the legislation. Rather authority was provided to issue orders concerning "maintenance of sanitary conditions and the prevention or elimination of health hazards." A

health hazard is defined in the Act as: a) a condition of a premises b) a substance, thing, plant or animal other than man c) a solid, liquid, gas or combination of any them that has or that is likely to have an adverse effect on the health of any person.

No definition of adverse effect is provided in the legislation. To date there has been only a single court interpretation related to the definition of health hazard. In the 1994 case of Bracy v.s. Kendal et al, the judge found that the definition of health hazard was capable of various meanings and is ambiguous. The judge went on to say that "the meaning in a given statute depends upon the context and subject matter of the statute and that it is clear from Section 2 that the purpose and intent of the Act is to ensure community health protection of the people of Ontario and is not directed to the health issues peculiar to an individual that should be addressed by an individual's physician."

The authority of the Ministry of the Environment under its legislation appears to be much broader. Section 1 of the Environmental Protection Act defines adverse effect as including "impairment of the quality of the natural environment, harm or material discomfort of any person rendering any property, plant or animal life unfit for human use, loss of enjoyment of normal use of property and interference with

the normal conduct of business." Section 14 (1) prohibits the "discharge of a contaminant that causes or is likely to cause an adverse effect." The only limitation in the section comes in (2) which exempts animal waste when disposed of in accordance with normal farming practice. Section 14 of the Act allows a director under the Environmental Protection Act to issue orders to repair injury/damage and to prevent injury/damage resulting from the discharge of a contaminant. Contaminants are also defined under subsection (1) as including "odour resulting from human activities that may cause an adverse effect." While the definition is somewhat circular, it is clear that the legislation intended that the authority under the Environmental Protection Act be much broader in relation to adverse effects than the authority under the Health Protection and Promotion Act where no such broad definitions of inclusion of odour or issues of material discomfort were included in the definition. Ontario Regulation 346 section 6 under the Environmental Protection Act states that "no person shall cause or permit to be caused the emission of an air contaminant to such an extent or degree as to a) cause material discomfort to persons, b) cause loss of enjoyment of normal property use." While the authority within the Ministry of the Environment appears much greater, the Ministry of the Environment does not have medical personnel and is therefore dependent upon the finding by a local Medical Officer of Health that an activity is producing or has produced "an adverse health effect."

Air-borne Contaminants and Health

There is a substantial body of scientific evidence relating to human illness which can be caused by a wide variety of air-borne contaminants. The mechanisms for such human illness can be briefly described as relating to either an infectious agent, a toxin or poison, an irritant or an odour causing agent. Irritants may somewhat overlap with toxins but may also include materials such as dust which produce a directly irritating effect and pollens which can produce an allergic reaction. Infection, poisoning, irritation and allergy are often the most readily demonstrable human effects and have the potential for being objectively verified through various independent observations and testing procedures on a human being. However, identification of a causative or causative substances in air is difficult because of the need to carry out sampling at the time of contamination and because of a lack of a clear objective standard for most substances to allow for the interpretation of air quality test results. On the other hand, the adverse health effect of odours are often the least capable of being verified by independent test evaluation, either within a human being or in air and similarly there is usually no independent air quality standard that can be used to interpret an air quality result for odour even if an objective test method were available. This latter issue does not apply to a small number of toxic materials including hydrogen sulphide, which do have a specified concentration in air which is considered to be harmful to human health. Unfortunately, for many such

substances, the odour threshold, i.e., the concentration at which the substance can be detected by its odour, is well below the concentration at which the substance would be considered harmful to human health such that detection of the odour of the substance provides no evidence that a harmful concentration of the substance is present.

Despite the lack of any clear objective standards relating to most odours, there is in my view sufficient scientific support, as well as personal understanding, that offensive odours can result in both personal discomfort and such health effects as loss of appetite, nausea, vomiting, loss of well-being and perhaps headache, loss of concentration, feeling unwell or other such nonspecific and general symptoms.

Conclusion

Based on my consideration of all the foregoing material, I believe that the Lipsett's granddaughter Madison, did suffer from an adverse health effect on the weekend of July 13 - 15 resulting from the storage of sewage sludge from the Ashbridges plant of the City of Toronto being stockpiled on the west side of Stone Road on lots 5, 6, 7, 8 of Concession 4 Percy Township. While there is no objective evidence of Madison suffering from any infection or exposure to a poison, allergen or irritant material, I believe it is reasonable to conclude that exposure that weekend to an odour that is described as "highly offensive" and as "an over powering putrid stench," could and did result in the triggering of respiratory distress in this 10 month old child. Unfortunately, apart from the nature of the treatment prescribed by the physician who saw Madison, there was no documentation relating to any objective evidence to substantiate an asthmatic attack or any effect beyond some transient respiratory distress. It can however be argued that such objective evidence cleared between the time Madison was removed from exposure to the offensive odour and the time she was assessed by the physician. It is also possible, although I have no specific proof that Madison suffered from some temporary respiratory distress due to the concentration of some irritant material present in the sewage sludge in a concentration sufficient to affect her but not adults present. Infants and young children do have a normally higher respiratory rate and do inhale larger volumes of air for their body sizes as compared to adults. An infant such as Madison would reasonably be considered as being more susceptible to the presence of any air-borne irritant contaminant. However, even a prolonged period of crying as occasioned by an offensive odour or other discomfort could equally result in some temporary period of respiratory distress.

A. Hukowich, M.D., C.C.F.P., D.P.H.

Medical Officer of Health

March 12, 2002