

ILLINOIS POLLUTION CONTROL BOARD
July 18, 1996

RODNEY B. NELSON, M.D.,)	
)	
Complainant,)	
)	
v.)	PCB 94-244
)	(Enforcement - Water, Citizens)
)	
KANE COUNTY FOREST PRESERVE,)	
JACK E. COOK, CHAIRMAN, KANE)	
COUNTY BOARD, WARREN)	
KAMMERER, CHAIRMAN,)	
)	
Respondents.)	

RODNEY B. NELSON, M.D. APPEARED PRO SE;

JOSE VELA, JR., ASSISTANT STATE'S ATTORNEY APPEARED ON BEHALF OF THE KANE COUNTY BOARD; and

PATRICK M. KINNALLY and TIMOTHY O'NEIL, MURPHY, HUPP, FOOTE, MIELKE & KINNALLY APPEARED ON BEHALF OF KANE COUNTY FOREST PRESERVE.

OPINION AND ORDER OF THE BOARD (by E. Dunham):

This matter comes before the Board on a complaint filed on September 6, 1994 by Rodney B. Nelson, M.D. (Nelson) against Kane County Forest Preserve (Forest Preserve), Jack E. Cook, Chairman, and Kane County Board (Kane County), Warren Kammerer, Chairman. The complaint alleges that Midway/Settlers' Hill Landfill is leaking leachate causing pollution to the groundwater and threatening to cause pollution to the Fox River in violation of Sections 12 (a) and (d) of the Environmental Protection Act (Act) (415 ILCS 5/12 (a) and (d) (1994)).

Hearings were held on August 11, 1995, October 6, 1995 and November 3, 1995 before hearing officer Allen Schoenberger in Geneva, Illinois. Dr. Nelson filed a post hearing brief on December 26, 1995. Kane County filed its response brief on January 29, 1996 and the Forest Preserve filed its response brief on February 5, 1996. Dr. Nelson filed a reply brief on February 13, 1996.

BACKGROUND

Settlers' Hill Golf Course (a.k.a. Midway Landfill) is a closed solid waste landfill on which a golf course has been constructed. (Comp. at 1.)¹ Midway Landfill was closed in October of 1982 because it had reached its design capacity. (Tr3. at 57, 73.) Settlers' Hill Landfill is an operating solid waste landfill adjacent to Settler's Hill Golf Course. (Comp. at 1.) These facilities are located in Geneva, Illinois. (Comp. at 3.) The Fox River located west of the landfill, flows in a north-south direction. (Tr2. at 62.)

At the hearings, Nelson presented testimony and exhibits to support his allegations and did not call any other witnesses. Kane County presented testimony from Tim Harbaugh, director of environmental management for Kane County, Joan Underwood, senior consultant in hydrogeology with Rust Environmental, and Dale Hoekstra of Waste Management, division president of Settlers' Hill Recycling & Disposal Center.

Dale Hoekstra, provided testimony concerning the groundwater monitoring program at the facilities. Midway Landfill has 7 wells that monitor groundwater. (Tr3. at 58.) Settlers' Hill Landfill has 12 wells that monitor groundwater. (Tr3. at 58.) One well between Settlers' Hill and Midway Landfill is shared by both facilities. (Tr3. at 58.) Testing is performed quarterly and reported to the Illinois Environmental Protection Agency. (Tr2. at 101.) Five basic parameters are measured at Midway Landfill. (Tr2. at 101.) Fourteen inorganic parameters and 41 volatile organic compounds are tested for at Settlers' Hill Landfill. (Tr2. at 101.)

The golf course contains surface water drainage ponds which are used for irrigation. (Tr3. at 60.) The drainage ponds are not located on top of any refuse areas. (Tr3. at 60.) The water drainage ponds on the golf course were constructed of clay materials to handle the runoff and surface water drainage from the facility. (Tr3. at 60.) Mr. Hoekstra also testified that the liner at Midway Landfill is an in-situ liner and consists of a minimum of 10 feet of clay material. (Tr3. at 50.)

Nelson contends that through the course of examination of groundwater monitoring reports, he believes that leachate is contaminating and polluting the groundwater, and potentially will contaminate and pollute the Fox River. (Comp. at 3.) He contends that the groundwater underlying the entire site becomes commingled so that the continued use of the landfill creates a water pollution hazard. (Comp. at 3.) He further alleges that due to the commingling of groundwaters, the landfill is not monitorable. (Comp. at 3.) Nelson contends that the golf course watering program is adding to the leachate production. (Comp. at 3a.)

¹ Comp. at ___ refers to the complaint filed by Nelson. The transcript from the hearing held on August 11, 1995 is designated by (Tr1.). References to the transcripts from the hearings held on October 6, 1995 and November 3, 1995 are designated by (Tr2.) and (Tr3.) respectively. Exhibits presented by Dr. Nelson are referenced by Nel. Exh. Exhibits presented by Kane County are referenced by Kane Exh.

Nelson observes that there is a thousand-fold difference in iron content in the shallow aquifer groundwater in wells only a few hundred feet apart. (Comp. at 3b.) Nelson asserts that the iron content measured in wells around Midway Landfill show an enormous variation in iron concentration that cannot be reasonably accounted for by chance alone. (Tr1. at 15.) Nelson alleges that significant groundwater degradation has occurred in the area and that the degradation is getting worse. (Tr1. at 19.) Nelson urges the Board to adopt the German and Canadian standard of a maximum limit of 300 ug/L for iron in groundwater that is used for drinking water. (Tr1. at 68.)

To support his allegations, Nelson performed a two-tailed t-test on the iron data collected from the monitoring wells. The results of this statistical analysis were submitted as an exhibit. (Nel. Ex. 9.) Nelson used the data from wells G11D and G109. (Tr2. at 221.) Well G11D is located west of Midway landfill and well G109 is located on the southeast edge of the landfill. (Tr2. at 221, Kane Exh. 17.) To prepare the table Nelson transcribed data from the readings for iron content of the groundwater for each well from the quarterly monitoring reports. (Tr1. at 64.) He then placed the data in a tabular form identifying the columns by the well number and the rows by the date. (Tr1. at 64.) The bottom column is a computation of the arithmetic mean determination of each of those determinations. (Tr1. at 64.) Using the statistical analysis program Quatro-Pro, he performed a t-test for paired samples on the means of two of the wells to show that there is a highly statistically significant difference in the groundwater iron between two of those wells. (Tr1. at 64.) The remainder of the table identifies some of the actual statistical parameters that are involved in performing the paired two [sic] t-test. (Tr1. at 64.)

Nelson claims that the variation in iron in the groundwater shows that leachate is escaping from Midway Landfill. (Tr1. at 15.) Nelson selected iron because iron is easily measured, its presence in groundwater is related to the quality of potable water and it creates a reducing environment. (Tr2. at 7.) Nelson testified that iron rich water fosters the spread of disease. (Tr1. at 13.) He also stated that iron ingestion in high quantities is a threat to approximately one in 500 people who are afflicted with the disease hemochromatosis. (Tr. at 13.) Nelson admits that the iron measured in the wells does not exceed any Illinois regulatory standard for iron content in groundwater. (Tr2. at 50.) Nelson did not perform any analysis for other constituents. (Tr2. at 79.)

Nelson asserts that the golf course is irrigated using retention pond water based on the presence of sprinklers and hoses at the facility. (Tr1. at 61.) Nelson asserts that Midway Landfill was not constructed with a clay or synthetic bottom liner. (Tr1. at 61.)

Nelson asserts that the critical aspect of his complaint is that there is a potential source that contaminates the upgradient well and renders the monitoring system at Settlers' Hill Landfill improper. (Tr2. at 84.) Nelson claims that Settlers' Hill cannot be adequately monitored for leachate escape and should be immediately closed. (Tr1. at 20.) Nelson also asserts that the methane collection system of the closed Midway Landfill and Settlers' Hill Landfill are connected based on a review of the engineering designs. (Tr1. at 61.) He also asserts that the leachate collection systems are connected. (Tr1. at 61.)

Nelson contends that there is a potential pathway that runs downhill from the landfill to the Fox River. (Tr2. at 36.) He observes that there is a point on the banks of the Fox River where the dolomite layer comes to the surface. (Tr2. at 36.)

Tim Harbaugh, director of environmental management for Kane County explained the monitoring performed at Settlers' Hill and Midway Landfills. (Tr2. at 101.) Mr. Harbaugh testified that Settlers' Hill Landfill was constructed with a leachate collection system and that Midway Landfill was retrofitted with a leachate collection system underneath portions of the facility. (Tr2. at 111.) He described the liner under Settlers' Hill Landfill as a recompacted clay liner and the liner under Midway Landfill as an in-situ liner. (Tr2. at 111.)

Mr. Harbaugh testified that the standard for iron in Class 1/Class 2 groundwater is 5 mg/L. (Tr2. at 114.) He further observed that the groundwater quarterly reports for Midway from 1990 to the present show that this iron standard has not been violated. (Tr2. at 114.) He also testified that iron is naturally occurring in this area. (Tr2. at 115.)

Mr. Harbaugh indicated several errors made by Dr. Nelson in transcribing numbers from the monitoring reports to the statistical test. (Tr2. at 119-121.) He also noted that Nelson used 100 for readings that were nondetect. (Tr2. at 119.) Nondetect readings are usually recorded as 50. (Tr2. at 190.)

Joan Underwood senior consultant in hydrogeology with Rust Environmental testified that the variation in iron content can be accounted for by chance. (Tr2. at 169.) She testified that since iron is a naturally occurring element in groundwater you can see a lot of variation in iron content. (Tr2. at 169.) She also testified that iron is a poor indicator of contamination due to its variability in nature. (Tr2. at 187.) Ms. Underwood presented iron data from private wells in the surrounding township that show a variation in the level of iron in these wells. (Tr2. at 178.) Ms. Underwood testified that there is no continuous flow from the landfill area to the Fox River. (Tr2. at 183.) She also testified that the monitoring program adequately monitors the groundwater at the site. (Tr2. at 186.) She stated that the wells at the landfills are placed to detect any potential impacts by looking at the groundwater flow directions and the background water. (Tr2. at 186.)

Miss Underwood also stated that the t-test is not an appropriate test to apply for the comparison of monitoring data from two wells. (Tr2. at 199.) She testified that the t-test looks at whether you have similar data between two data sets and assumes that the data is normally distributed. (Tr2. at 199.) She further stated that sets from the monitoring wells are not normally distributed so the t-test would not apply. (Tr2. at 199.)

Kane County submitted a monitoring report by the USEPA from a site assessment performed at Midway Landfill in February 1995. (Kane Exh. 1.) The USEPA sampled the groundwater for volatile organic compounds, semivolatile organic compounds, and metals. (Kane Exh. 1 at 2.) The USEPA reported that no contamination of the groundwater was detected or identified. (Kane Exh. 1 at 3.)

DISCUSSION

In an enforcement proceeding before the Board, the burden of proof is by a preponderance of the evidence. (Lefton Iron & Metal Company, Inc. v. City of East St. Louis (April 12, 1990), PCB 89-53 at 3, 110 PCB 19, 21; Bachert v. Village of Toledo Illinois, et al. (November 7, 1985), PCB 85-80 at 3, 66 PCB 279, 281; Industrial Salvage Inc. v. County of Marion (August 2, 1984), PCB 83-173 at 3-4, 59 PCB 233, 235-236, citing Arrington v. Water E. Heller International Corp., 30 Ill. App. 3d 631, 333 N.E.2d 50, 58, (1st Dist. 1975).) A proposition is proved by a preponderance of the evidence when it is more probably true than not. (Industrial Salvage at 4, 59, 233, 236, citing Estate of Ragen, 79 Ill. App. 3d 8, 198 N.E.2d 198, 203, (1st Dist. 1979).) A complainant in an enforcement proceeding has the burden of proving violations of the Act by a preponderance of the evidence. (Lake County Forest Preserve District v. Neil Ostro (March 31, 1994), PCB 92-80.). Once the complainant presents sufficient evidence to make a prima facie case, the burden of going forward shifts to the respondent to disprove the propositions. (Illinois Environmental Protection Agency v. Bliss (August 2, 1984), PCB 83-17, 59 PCB 191.)

The issue before the Board is whether the complainant has first made a prima facie case and then proven by a preponderance of the evidence that respondents, Kane County and Forest Preserve, have violated Sections 12(a) and 12(d) of the Act in the operation of Settlers' Hill Golf Course and Settlers' Hill Landfill. Section 12 of the Act provides in relevant part;

No person shall :

a) cause or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois,

* * *

d) Deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard;.....
(415 ILCS 5/12)

Section 3.55 of the Act defines water pollution as an "alteration of the physical, thermal, chemical, biological or radioactive properties of any water of the State, or such discharge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish, or other aquatic life." (415 ILCS 5/3.55.) In those court cases that discuss the meaning of the phrase "cause or allow", the courts have determined that the phrase relates to a person's past or ongoing acts or omissions. (Perkinson v. IPCB, 187 Ill. App. 3d 689, N.E.2d 901, (3rd Dist. 1989); Hindman v. EPA, 42 Ill. App. 3d 766, 356 N.E.2d 669, (5th Dist. 1976); Freeman Coal Mining Corp. v. IPCB, 21 Ill. App. 3d 157, 313 N.E.2d 616, (3rd Dist. 1974); Meadowlark Farms v. IPCB, 17 Ill. App. 3d 851, 308 N.E.2d 829, (5th Dist. 1974); Bath, Inc. v. IPCB, 10 Ill. App. 3d 507, 294 N.E.2d 778, (4th Dist. 1973); (see also Goose Lake Association v. Drake (February 25, 1993), PCB 90-

170, Turner v. Chicago, Title & Trust Co. (February 27, 1992), PCB 91-146, 130 PCB 227; Turner v. Franke (February 27, 1992), PCB 91-148, 130 PCB 259; County of Jackson v. Taylor (January 10, 1991), AC 89-258, 118 PCB 37.)

Nelson's prima facie case consists of statistical analysis which he contends shows a trend towards increasing concentrations of iron in wells downgradient from the landfill complex. Nelson asserts that if the Board were to adopt a German and Canadian standard for iron in drinking water, the landfills would exceed the standard.

Section 12(a) of the Act prohibits discharges "... so as to cause or tend to cause water pollution in Illinois" (emphasis added). Water quality standards were adopted in Illinois to reflect natural background levels of constituents, when naturally occurring, and to be protective of human health and environment. Adoption of a German and Canadian standard of 300 ug/L, while it may be enforceable in those countries, does not take into account the natural presence of iron in groundwater in Illinois. Further, as a policy matter, the Board will not change a rule in order that a violation may be found in an enforcement case. Adoption of rules can only be accomplished through a petition for rulemaking comporting to Section 28 of the Act.

The Board finds the complainant, Nelson, has failed to prove by a preponderance of the evidence that respondents, Kane County and Forest Preserve, have violated Sections 12(a) and (d) of the Act. The evidence presented by Nelson shows that there is a variation in iron levels measured in the monitoring wells at the facility. This variation is insufficient to support a finding of violation of Section 12 of the Act. The record indicates that the variation in iron could be due to natural variations of iron in groundwater, variations in flow of the groundwater under the landfill or from sources other than the landfill. (See *supra* testimony of Joan Underwood.) There is nothing in the record to indicate that leachate is leaking from the landfill resulting in contamination to groundwater or the Fox River.

Nelson's own testimony indicates the speculative nature of the theories he presented to the Board. Nelson stated "[o]ne very likely explanation for this enormous variation in ground water iron is leachate escape from Midway Landfill" (Tr1. at 15) and "[m]any potential explanations could be advanced for this phenomenon" (Tr1. at 16).

The record contains insufficient information concerning the watering system at the golf course to support a finding that the watering practice at the facility is contributing to an increase in the production of leachate. The record does not contain a full description of the watering practices at the facility including the volume of water used, sources of water, frequency of watering or soil content of cover. Lacking this type of information concerning the watering practices at the facility, the Board is unable to determine what effect, if any, the watering practices have on the production of leachate at the facility. In addition, there is no quantitative data in the record to show the amount of leachate production or an increase in the production of leachate.

The USEPA performed a site assessment at the facility in February of 1995 and found nothing to indicate that leachate was leaking from the landfill and contaminating the groundwater. (Kane Exh. 1.) The monitoring reports from the facilities are sent to the Agency for review. The Agency has the authority to order remedial action or to bring an enforcement action against Kane County if the monitoring reports indicate any contamination. There is nothing in the record to indicate that the monitoring reports have indicated any pollution problems at the facility. In fact, the record indicates that the monitoring reports have shown that the parameters tested are within the allowable levels. There is nothing in the record that would warrant the Board to require that additional action be taken in monitoring the activities at these facilities.

In its response brief, the Forest Preserve requests that it be dismissed from this matter on the grounds that Nelson has failed to prove ownership of the golf course by the Forest Preserve. The Forest Preserve maintains that the allegation of ownership is "simply untrue". By finding for respondents on the merits of the case, the Board need not reach the merits of these arguments.

The above opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

The Board hereby finds that complainant has failed to prove by a preponderance of the evidence that the respondents, Kane County and Forest Preserve, have violated Sections 12(a) and (d) of the Act.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1994)) provides for the appeal of final Board orders within 35 days of the date of service of this order. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246 "Motions for Reconsideration.")

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the ____ day of _____, 1996, by a vote of _____.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board