ILLINOIS POLLUTION CONTROL BOARD
June 22, 2000

MATTESON WHP PARTNERSHIP,	)	
	)	
Complainant,	)	
	)	
v.	)	PCB 97-121
	)	(Enforcement - RCRA, Citizens)
JAMES W. MARTIN and EVA D. MARTIN, individually and d/b/a MARTIN'S OF MATTESON,	)	
	)	
Respondents.	)	

JOSEPH R. PODLEWSKI, JR., OF ROSENTHAL & SCHANFIELD, APPEARED ON BEHALF OF COMPLAINANT; and

DAVID L. RIESER, OF ROSS & HARDIES, APPEARED ON BEHALF OF RESPONDENTS.

OPINION AND ORDER OF THE BOARD (by C.A. Manning):

This citizen enforcement action concerns alleged chemical contamination from a dry cleaning business at a shopping center in Matteson, Cook County, Illinois. Matteson WHP Partnership (Matteson), the operating entity of the shopping center, alleges that the dry cleaner, James W. Martin and Eva D. Martin, individually and doing business as Martin's of Matteson, disposed of the chemical perchloroethylene at the shopping center, contaminating the soil and groundwater. Matteson maintains that the Martins thereby violated the Environmental Protection Act (Act) (415 ILCS 5/1 *et seq*. (1998)), and the Board's regulations.

Specifically, Matteson alleges that the Martins violated Section 21(e) of the Act (415 ILCS 5/21(e) (1998)), by improperly disposing of waste and Section 21(f)(1) of the Act (415 ILCS 5/21(f)(1) (1998)), by conducting a hazardous waste disposal operation without a RCRA permit.[1] Matteson further alleges that the Martins violated Section 12(a) of the Act (415 ILCS 5/12(a) (1998)), and the Board's regulations at 35 Ill. Adm. Code 620.115, by causing or allowing the discharge contaminants so as to violate groundwater quality standards. The

[1] A "RCRA permit" is "a permit issued by the [Illinois Environmental Protection Agency] pursuant to authorization . . . from the United States Environmental Protection Agency under Subtitle C of the Resource Conservation and Recovery Act of 1976, (P.L. 94-580) (RCRA) and which meets the requirements of Section 3005 of RCRA and of this Act." 415 ILCS 5/3.29 (1998).

Martins allegedly violated these provisions through the dry cleaning business that they operated at the shopping center.

The Board finds that the Martins, through their dry cleaning business, violated Section 21(e) of the Act by improperly disposing of waste. The Board finds, however, that the Martins did not conduct a "hazardous waste-disposal operation" such as would require a RCRA permit. The Board therefore finds that the Martins did not violate Section 21(f)(1) of the Act. The Board further finds that the Martins did not violate Section 12(a) of the Act or Section 620.115 of the Board's regulations because the evidence regarding contamination of groundwater is insufficient. The Board orders the Martins to remediate the contamination on the property to the extent that the property owner grants them access for that purpose.

PROCEDURAL HISTORY

Matteson filed its complaint on January 17, 1997. After a period of discovery, Matteson filed a motion for summary judgment on December 24, 1997. On March 8, 1998, the Board granted the Martins' motion to strike references in the document to certain reports on which the motion relied; Matteson subsequently withdrew the motion. On August 2, 1998, Matteson filed a second motion for summary judgment, which the Board denied on November 5, 1998. Discovery continued during and after the pendency of Matteson's summary judgment motions. On October 19, 1999, the parties filed a "Stipulation to Uncontested Facts."[2]

Chief Hearing Officer John Knittle held a hearing in this matter on October 19-21, 1999. Three witnesses testified on behalf of Matteson: James Persino, one of the general partners in Matteson; Jeffrey McClelland, project manager for Pioneer Environmental, Inc., who oversaw some of the soil and groundwater sampling work performed around the Martins' store; and C. Michael Perkins, a hydrogeologist. Four witnesses testified on behalf of the Martins: Eva Martin; Claude Stevens, an employee of the Martins who was closely involved in the operation of the Martins' dry cleaning equipment; David Pyles, a geologist; and Frederick Krikau, an environmental engineer.[3]

Matteson filed a brief on December 13, 1999. The Martins filed a brief on January 24, 2000. Matteson filed a reply brief on February 7, 2000.[4]

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[2] The complaint is cited as "Comp. at _." The stipulation is cited as "Stip. _."

[3] The transcript of the hearing is cited as "Tr. at _." Matteson's hearing exhibits are cited as "Comp. Exh. _."

[4] Matteson's first brief is cited as "Comp. Br. at _." The Martins' response brief is cited as "Resp. Br. at _." Matteson's reply brief is cited as "Reply Br. at _."

FACTS

The Site

Matteson is an Illinois general partnership. Stip. ¶ 1. It is the operating entity of property located at 5601-17 West Vollmer Road in Matteson, Illinois. Tr. at 15. The general partners in Matteson are the sole beneficiaries of a land trust that holds title to the property. *Id.*; Stip. ¶ 2. An approximately 11,000 square foot convenience retail shopping center is located on the property. Tr. at 16-17. The shopping center was constructed in 1981. Tr. at 17. The Martins were original tenants in the shopping center. Tr. at 18. The Martins leased the store located at 5603 West Vollmer Road (the site) from 1981 to 1997. Tr. at 18-19. Before the shopping center was built, the property was used for agriculture. Tr. at 18.

The Martins' Operation

During their possession of the site, the Martins conducted an on-premises dry cleaning operation. Tr. at 19. The Martins operated the dry cleaning business for five years as franchisees of Martin Franchises, Inc., of Cincinnati, Ohio, under the name "One Hour Martinizing." Tr. at 216; Stip. ¶ 11. Later, the Martins operated their own dry cleaning business at the site under the name "Martin's of Matteson." Stip. ¶ 11. Eva Martin was owner of the dry cleaners at the site from 1981 until 1997. Tr. at 212-13. Eva Martin states in an affidavit that she and her husband James Martin were responsible for every aspect of operation of the business. Comp. Exh. R at ¶ 1.

The Martins' dry cleaning machine used tetrachloroethene (also known as perchloroethylene or perc).[5] Stip. ¶ 12. No other tenant at the shopping center used perc. Tr. at 20. In the course of the Martins' business, Eva Martin and Claude Stevens, an employee of the Martins, were the only people who worked with the perc. Tr. at 232. Neither of them observed any leak, spill, or other release of perc from or around any of the dry cleaning equipment or anywhere else at the site. Tr. at 231-32, 310-11. Nobody on the staff of Martin's of Matteson ever reported observing any leaks of perc to Eva Martin. Tr. at 232.

Environmental Assessments

In May 1995, to help sell the business, the Martins retained Pioneer Environmental, Inc. (Pioneer) to perform a Phase I environmental assessment. Tr. at 21; Stip. ¶ 14. A Phase I environmental assessment includes studying past and current uses of a subject property to determine if there are potential environmental conditions of concern. Tr. at 36. Pioneer was recommended to Eva Martin by James Persino, one of the partners in Matteson, a 50% beneficial owner of the property, and the sole officer of the corporation that manages the property. In one of these capacities, Persino acted as landlord to the Martins. Tr. at 15-16,

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[5] Perc is a chlorinated solvent classified as a "hazardous substance" under Section 3.14 of the Act, 415 ILCS 5/3.14 (1998).

20. Persino required that he approve any environmental consultant before the consultant performed any environmental assessment on the property. Tr. at 21, 234-35.

The Phase I assessment indicated that use of perc in the dry cleaning process represented a potential environmental concern. Stip. ¶ 15. Eva Martin subsequently hired Pioneer to conduct a Phase II assessment. Stip. ¶ 16. A Phase II assessment consists of soil testing, which sometimes leads to groundwater testing, to see if recognizable environmental conditions have impacted a subject property. Tr. at 36-37. On May 24, 1995, Pioneer bored two holes in the site and selected one soil sample from each boring location for a laboratory to test. Comp. Exh. B. Analysis of the two samples indicated that perc was present in the soil under the site. Perc was present in one soil sample at 21,000 parts per billion and in the other soil sample at 14,000 parts per billion. *Id.*

Pioneer was engaged to further investigate the subsurface to more adequately characterize the extent of perc contamination at the site. Stip. ¶¶ 22-23. On June 14, 1995, Pioneer returned to the site. Stip. ¶ 24. This time, Pioneer bored six additional holes around the site. Samples from two of the newly drilled borings also showed contamination by perc and the compounds into which perc degrades. Comp. Exh. C; Stip. ¶ 27. Also, water appeared in two of the borings. Comp. Exh. C.

Pioneer returned to the property on April 23 and 24, 1996, to further investigate the subsurface. Stip. ¶ 31. Eva Martin engaged Pioneer to gather additional data regarding the extent of the contamination, and to perform a pilot test for a soil vapor extraction (SVE) remediation system. Stip. ¶ 29-30. The purpose of the SVE pilot test was to provide data necessary to determine the feasibility, efficiency, and size requirements of a SVE remediation system for the property. Comp. Exh. E. During its investigation, Pioneer bored ten more holes around the site. *Id.* Samples from five of the new borings indicated contamination. *Id.*

During the April 1996 investigation, Pioneer encountered groundwater at the site. Comp. Exh. E. Pioneer had not expected to encounter any groundwater. Tr. at 122. Concurrent with that round of soil testing, Pioneer installed nine groundwater monitoring wells to determine the site's groundwater elevation and whether groundwater had been impacted. Comp. Exh. E. Elevation of the water table differed from well to well by up to six feet. *Id.* Pioneer attributed this variation to foundation footings and fill materials associated with the on-site structure. *Id.*

Pioneer took groundwater samples on several different dates, including April 24, 1996, April 26, 1996, May 17, 1996, and June 25, 1996. Comp. Exh. E, Table 2. Water samples from six monitoring wells indicated that perc was present in the groundwater. *Id.* Samples from four of these wells also indicated that trichloroethylene, a compound into which perc degrades, was present. *Id.*

Pioneer's report places the site at the center of both the soil and groundwater contaminant plumes. Tr. at 83-84; Comp. Exh. E, fig. 3, 4.

Pioneer's Well Construction and Sampling Methods

Pioneer's protocol to install groundwater monitoring wells and sample them calls for Pioneer to use a hollow stem auger to bore the hole for the well. Comp. Exh. E, App. C. A hollow stem auger is similar to a large drill bit with an open center. Tr. at 96-97. While drilling, a cap on the bottom prevents soil from coming up through the inside. Tr. at 97. When drilling is complete, the cap is removed and the well casing inserted. *Id*. Due to limited space at the site, however, Pioneer did most of the boring with a hand auger. Comp. Exh. E, App. D; Tr. at 69. A hand auger is inserted into a hole and twisted into the soil, then pulled up and the soil knocked out; this process is repeated until the desired depth is reached. Tr. at 98. Using a hand auger is not the preferred method to drill a groundwater monitoring well. Comp. Exh. T; Tr. at 365-68. It allows surficial contaminants to carry down through the bore hole repeatedly. Tr. at 335. Furthermore, the hand auger itself could smear contaminants down the inside of a bore hole. Tr. at 99. The preferred method to drill a monitoring well is to use a hollow-stem auger. Comp. Exh. T. Nevertheless, using a hand auger is an accepted methodology to drill monitoring wells. *Id.*

Pioneer also deviated from its protocol when it developed the monitoring wells and collected water samples. Under the protocol, Pioneer is to develop a well by purging from five to ten well volumes of water. Comp. Exh. E, App. C. There is no evidence that Pioneer did this at the site. Under the protocol, Pioneer generally is to purge three to five well volumes before sampling to ensure that the sample accurately represents groundwater conditions. *Id*. Due to low hydraulic conductivity of the soil under and around the site, however, Pioneer was unable to purge three to five well volumes; the wells recharged too slowly. Tr. at 70. Instead, Pioneer purged one well volume, waited for the well to recharge, and then took samples. Tr. at 114. This sampling procedure, while not ideal, is not inappropriate given the circumstances at the site. Purging a single well volume before sampling is acceptable under United States Environmental Protection Agency (USEPA) protocols when working with wells in an area of low conductivity. Comp. Exh. T.

Finally, Pioneer's Quality Assurance/Quality Control (QA/QC) procedure to sample groundwater calls for Pioneer to collect a field blank between sampling events. A field blank is rinsate water from decontaminating between sampling events to ensure proper decontamination. The QA/QC procedure also requires that Pioneer include a trip blank with samples transported to the laboratory for analysis. A trip blank is a de-ionized water sample to ensure that samples are not contaminated during transit. Comp. Exh. E, App. C. When it sampled at the site, Pioneer took only one field blank, and did not use any trip blanks. Tr. at 118-120.

ANALYSIS OF ALLEGED VIOLATIONS

The complaint has three counts. In count I, Matteson alleges that the Martins violated Section 21(e) of the Act by improperly disposing of waste. In count II, Matteson alleges that the Martins violated Section 21(f)(1) of the Act by conducting a hazardous waste disposal operation without a RCRA permit. Finally, in count III, Matteson alleges that the Martins

violated Section 12(a) of the Act and Section 620.115 of the Board's regulations by causing or allowing the discharge of contaminants so as to violate the Board's water quality standards. The Board will address these counts in turn.

Count I: Improper Waste Disposal

In count I of the complaint, Matteson alleges that the Martins violated Section 21(e) of the Act. Section 21(e) provides:

> No person shall:
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> * * *
>
> e. Dispose, treat, store or abandon any waste . . . except at a site or facility which meets the requirements of this Act and of regulations and standards thereunder. 415 ILCS 5/21(e) (1998).

The Martins argue that the Board cannot find that they violated Section 21(e) because there is no evidence that any act or omission on their part resulted in the contamination. Resp. Br. at 6-10. Matteson asserts that the Board can infer from circumstantial evidence that the Martins' operation was the source of the perc in the soil, and that disposal of perc from the Martins' business must have occurred at or around the site. Comp. Br. at 13.

Evidence may be either direct or circumstantial. Circumstantial evidence is the proof of facts and circumstances from which the fact finder may infer other connected facts that usually and reasonably follow according to common experience. Direct evidence, by contrast, is proof of a fact without the necessity of inference. See People v. Sherman, 110 Ill. App. 3d 854, 859, 441 N.E.2d 896, 900 (2d Dist. 1982). There is no legal distinction, as to weight or sufficiency, between these two types of evidence. See People v. Robinson, 14 Ill. 2d 325, 331, 153 N.E.2d 65, 68 (1958).

In this case, Matteson presented no direct evidence that the Martins leaked, spilled, dumped or otherwise disposed of perc at the site. Unrefuted evidence, however, shows that: (1) the Martins' business used perc in its dry cleaning operations; (2) no other tenant of the shopping center used perc; (3) perc was found in the soil around and under the site; and (4) the site is roughly at the center of the affected area. These facts constitute persuasive circumstantial evidence that the Martins' business was the source of the perc contamination in the soil.

The Board finds that the Martins, through their business, disposed of perc at the site. The evidence is insufficient to find that the disposal was knowing or intentional, but neither knowledge nor intent is an element of a violation of Section 21(e). "Disposal" includes "spilling" and "leaking." 415 ILCS 5/3.08 (1998). It is undisputed that the site does not meet the requirements of the Act or its implementing regulations for waste disposal. Accordingly, the Board finds that the Martins, through their business, violated Section 21(e) of the Act.

Count II: Hazardous Waste Disposal Operation Without a RCRA Permit

In count II of the complaint, Matteson alleges that the Martins violated Section 21(f)(1) of the Act. Section 21(f)(1) provides in relevant part:

> No person shall:
>
> * * *
>
> f. Conduct any hazardous waste-storage, hazardous waste-treatment or hazardous waste-disposal operation:
>
> 1. without a RCRA permit for the site issued by the [Illinois Environmental Protection] Agency . . . . 415 ILCS 5/21(f)(1) (1998).

The Board's first inquiry is whether the Martins engaged in conduct for which a RCRA permit was required. "Operation," as used in this context, is not defined in the Act, the RCRA permitting regulations that the Board adopted, the federal regulations from which the Board derived those regulations, or RCRA itself. There are a number of indications in the federal materials, however, that RCRA and the regulations implementing it are not intended to require permits for unintentional releases.

USEPA stated this proposition most clearly when it promulgated the federal RCRA regulations, from which the Board derived Illinois' RCRA regulations. USEPA notes:

> Several commentors suggested that the statutory definition of "disposal" given in Section 1004(3) of RCRA [42 U.S.C. § 6903(3)] should be reworded to make it clear that an unplanned release or discharge of hazardous waste does not constitute disposal. They argued that this change is necessary because, otherwise, accidental discharges will have to be permitted before they are allowed to occur.
>
> Regardless of whether a discharge of hazardous waste is intentional or not, the human health and environmental effects are the same. Thus, intentional and unintentional discharges are included in the definition of "disposal".
>
> However, [USEPA] agrees that permits logically can only be required for intentional disposal of hazardous waste. Therefore, the definition of "disposal facility" has been modified to indicate [USEPA's] intent that the term does not apply to activities involving truly accidental discharge of hazardous waste. 45 Fed. Reg. 33066, 33068 (May 19, 1980).

The Board derived Illinois' RCRA permitting regulations, including the definition of "disposal facility," from the federal rules. The Board adopted them as identical-in-substance rules, as provided for in Sections 7.2 and 22.4(a) of the Act (415 ILCS 5/7.2, 22.4(a) (1998)).

Thus, if the federal scheme was not intended to impose permitting requirements on accidental discharges of waste, that same intent underlies Illinois' scheme.[6] The evidence in this case fails to demonstrate that the Martins knew of or intended the waste disposal at the site. Although leaking or spilling of perc at the site constitutes "disposal," the Board finds that the Martins' drycleaning business was not a "disposal facility," and the Martins were not conducting a "hazardous waste-disposal operation" as that term is used in Section 21(f)(1). Consequently, the Board finds that Matteson failed to prove that the Martins violated Section 21(f)(1).

Count III: Discharge of Contaminants So As To Violate Water Quality Standards

In count III of the complaint, Matteson alleges that the Martins violated Section 12(a) of the Act and Section 620.115 of the Board's regulations. Section 12(a) provides:

> No person shall:
>
> a. Cause or threaten or allow the discharge of any contaminants into the environment in any State . . . so as to violate regulations or standards adopted by the Pollution Control Board under this Act. 415 ILCS 5/12(a) (1998).

Section 620.115 provides:

> No person shall cause, threaten or allow a violation of the Act, the [Illinois Groundwater Protection Act] or regulations adopted by the Board thereunder, including but not limited to this part. 35 Ill. Adm. Code 620.115.

Matteson alleges that the Martins violated these provisions by causing or allowing the discharge of perc and trichloroethylene to groundwater so as to violate the applicable water quality standards. The standards for these compounds are found at 35 Ill. Adm. Code 620.420(b),[7] which sets a standard of 25 µg/L for each.

Before deciding whether the Martins violated Section 12(a) and Section 620.115, the Board will address whether groundwater was present at the site and, if so, whether the methods used to sample it were adequate.

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[6] The Board acknowledges that states may impose more stringent requirements than the federal counterparts. The Board did not do so in this instance.

[7] Section 620.420 contains the standards for Class II groundwater, general resource groundwater. Part 620 classifies groundwater depending on the water use or the aquifer's geological characteristics. Class II is the default classification. There has been no allegation or evidence that the groundwater at the site falls into any other classification. The Board therefore looks to the Class II standards to determine whether the Martins have violated the provisions alleged.

Presence of Groundwater at the Site

Matteson premises the Martins' alleged violations of Section 12(a) and Section 620.115 on the supposition that the water found in the wells that Pioneer drilled was "groundwater" for purposes of the Board's groundwater quality standards. The Martins contest this characterization.

The Act defines groundwater as follows:

> "Groundwater" means underground water which occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure. 415 ILCS 5/3.64 (1998).

Martins' Arguments. The Martins argue that Matteson never proved that there was groundwater at the site. Resp. Br. at 19. The Martins contend that Pioneer's investigation was inadequate to establish that groundwater was present. Pyles, a geologist who testified on behalf of the Martins, opined that the evidence that Matteson presented did not document that groundwater was present. Tr. at 352. He noted that the presence of water could be an intermittent event, which could not be ruled out because Pioneer did not document meterologic conditions. Tr. 354. Further, Pyles testified that if Pioneer's evidence of mounded water under the site is accurate, it suggests that the water may have come from a source, such as a sewer, that he would not characterize as groundwater. Tr. 357-358.

Matteson's Arguments. Matteson argues that the testimony of its expert, Perkins, established that groundwater was present at the site. Reply Br. at 5. Perkins explained that if water collects in the monitoring wells from the saturated soil, the water is assumed to have an internal pressure greater than the atmospheric pressure and a differential pressure head. Tr. at 157. Perkins noted that when Pioneer bailed the monitoring wells, the wells recharged, indicating that groundwater was present. *Id.*

Discussion. Groundwater is a subset of underground water that occurs within saturated geologic material where fluid pressure is equal to or greater than atmospheric pressure. "Saturated zone" means the part of the earth crust in which all voids are filled with water. See 35 Ill. Adm. Code 620.110. In this zone, the moisture content equals the porosity because all pore space is filled with water and the fluid pressure is greater than atmospheric pressure. The saturated zone occurs below the water table, which generally is defined as the surface at which the fluid pressure in porous medium is equal to the atmospheric pressure. The water table's location is usually determined by the level at which water stands in a shallow well open along its length that penetrates surficial deposits enough to encounter standing water. Under the statutory definition of "groundwater," underground water that occurs below the water table is considered groundwater for regulatory purposes.

Pioneer found water in most of the monitoring wells in and around the site during the 1996 sampling events. When Pioneer purged the wells, they exhibited the ability to recharge.

These facts indicate that groundwater was present. If water collects in the monitoring wells, it generally is assumed to be flowing within the saturated zone where internal fluid pressure is greater than atmospheric pressure.

The monitoring data from the 1996 sampling events indicate that groundwater was present. The Board finds credible Pioneer's observation that the variation of water table elevations likely was due to the foundation footings and fill material associated with the on-site structures, which could make groundwater flow unpredictable. Further, seasonal and yearly fluctuations of the water table can significantly affect the water table observations. Regardless of the source of the mounded water, once the water reaches the saturated zone, it is by definition groundwater for regulatory purposes. The Board finds that the water in the wells was groundwater.

Well Construction Methodology

The Martins also argue that the Board should not rely on Pioneer's sampling data because it is unreliable. The Martins assert that because Pioneer constructed most of the monitoring wells with a hand auger, the sampling data is unreliable. Matteson argues that, notwithstanding deviations from preferred methodology, using a hand auger was appropriate in this case.

Martins' Arguments. The Martins argue that Pioneer deviated from its protocols for constructing groundwater monitoring wells. The Martins note that the protocols require Pioneer to use hollow stem augers to install monitoring wells. Here, Pioneer used a hand auger both inside and outside the dry cleaning facility. Resp. Br. at 13. The Martins referred to Pyles' testimony to argue that the wells that Pioneer constructed with the hand auger were less reliable. Pyles stated that repeatedly inserting and removing a hand auger allows contaminants to carry through and down the bore hole. Tr. at 335.

Matteson's Arguments. Matteson acknowledges that Pioneer deviated from its well construction protocols by not using hollow stem auger. However, Matteson argues that site conditions required that Pioneer deviate. McClelland, Pioneer's engineer, testified that a hand auger had to be used to construct wells because space at the site was limited. Tr. at 69. Matteson asserts that using a hand auger is not inappropriate. Comp. Br. at 21. Matteson notes that USEPA acknowledges that a hand auger is appropriate technology to drill a bore hole for a groundwater monitoring well. Furthermore, contends Matteson, the fact that using a hollow stem auger may be preferred given ideal site conditions does not necessarily invalidate the results that Pioneer obtained. *Id*.

Discussion. It is evident from the record that using a hollow stem auger is the preferred method to drill bore holes for groundwater monitoring wells. However, it is also evident from the record that other methods, including use of a hand auger, may be used to construct monitoring wells. Because of space limitations, Pioneer used a hand auger to install monitoring wells instead of using a hollow stem auger. Using a hand auger has certain drawbacks. Nevertheless, it is one of the methods listed in the USEPA's *Handbook of*

Suggested Practice for Design and Installation of Groundwater Monitoring Wells. Comp. Exh. T at 35. The handbook states that hand augers may be used to install shallow (0-15 feet) monitoring wells up to 2 inches in diameter with bore hole diameters ranging from 3 to 9 inches. In light of this, and the lack of any direct evidence of any impact, the Board cannot find that the integrity of groundwater monitoring data was compromised merely because Pioneer installed the monitoring wells with a hand auger.

Well Development and Purging

The Martins also argue that Pioneer's practices to develop and purge the monitoring wells before sampling resulted in unreliable data. Matteson argues that Pioneer's practices, while not ideal, were sufficient to generate representative data.

Martins' Arguments. The Martins point to the fact that Pioneer failed to follow its protocols for developing and purging groundwater monitoring wells. Resp. Br. at 16. The Martins explain that the protocols require Pioneer (1) to remove 5 to 10 well volumes to develop a well and (2) to remove 3 to 5 well volumes to purge the well. The Martins argue that Pioneer removed only one well volume before sampling.

Matteson's Arguments. Matteson argues that although Pioneer deviated from its protocols, the procedures it followed satisfy the minimum requirements for collecting groundwater from monitoring wells set in soils that exhibit low hydraulic conductivity. Comp. Br. at 23-24. Further, Matteson contends that the procedures that Pioneer followed are consistent with the practice of the Illinois Environmental Protection Agency for sampling wells that are screened in the saturated section of clay soils. Tr. at 181.

Discussion. Developing a well is part of constructing the well. Purging a well is part of sampling. Both developing and purging a well involve bailing the volume of water in the well. The purpose of developing a well is to remove contaminated fines that may have been dislodged by constructing the well. Tr. at 114. On the other hand, the purpose of purging a well is to remove the static water collected in the well before collecting a sample. Tr. at 344.

Developing a well enhances the flow of groundwater into the well and minimizes the amount of sediment in the water samples collected from the well. The final step in developing a well involves removing sediment deposits caused by drilling, so that the samples collected accurately represent groundwater conditions.

A monitoring well is purged before sampling to remove the static water, so that the samples collected from the recharged well accurately represent groundwater conditions. The procedure that Pioneer followed to purge the wells, *i.e.*, purging one well volume before sampling, is consistent with USEPA protocols for wells in an area of low conductivity.

However, to develop the wells, it appears that Pioneer did nothing. Matteson argues that Pioneer followed minimum requirements. From the record, however, exactly what those minimum requirements are is not clear. Perkins stated that Pioneer appears to have followed the procedures described in the *Practical Guide for Ground-Water Sampling*, which is

identified at 35 Ill. Adm. Code 620.510. Comp. Exh. M at 7. While that guidance document acknowledges that procedures to develop monitoring wells in relatively unproductive geologic materials are somewhat limited, it does specify a methodology to develop a well in such geology. Comp. Exh. M at 3. Pioneer did not use this methodology.

Developing a well is important because it ensures that samples obtained from the well accurately represent the groundwater flowing through the geologic formation. Purging a well is particularly important when a hand auger is used because there is a greater risk that contaminated fines will deposit at the bottom of the boring. It is apparent from the record that Pioneer assumed that purging the wells once before sampling would adequately address both well development and sampling concerns. This is inconsistent with the method for developing wells described in the USEPA guidance document identified in the Part 620 regulations. The Board finds that because Pioneer failed to properly develop the wells, the sampling data is unreliable.

Quality Assurance and Quality Control

The Martins also contend that because Pioneer failed to follow proper quality control measures when it sampled the groundwater, the sampling data is unreliable. The Martins assert that the sampling data therefore cannot be used to demonstrate that they violated any groundwater standards. Matteson again argues that, while not ideal, Pioneer's sampling procedures were sufficient to produce reliable data.

Martins' Arguments. The Martins note that Pioneer did not include trip blanks and field blanks to assure quality control when it sampled the groundwater. Resp. Br. at 17. Trip blanks are used to document that samples were not contaminated during shipment from the field to the laboratory. Field blanks are used to demonstrate that decontamination procedures followed during sampling of multiple wells are adequate. The Martins contend that because Pioneer failed to include trip blanks and field blanks, its data may not be accurate. Tr. at 360.

In addition, the Martins point out that Pioneer did not follow the groundwater sampling requirements at 35 Ill. Adm. Code 620.510(c). Resp. Br. at 13. They note that Section 620.510(c) requires a report on field quality control and chain of custody control. The Martins assert that the Part 620 regulations and protocols impose a duty on any complainant to present to the Board sampling data that meets these standard quality control requirements when seeking to prove a violation of the Act.

Matteson's Arguments. Matteson argues that the absence of field blanks does not mean Pioneer did not follow proper decontamination procedures in the field. Matteson maintains that even if it is inferred that Pioneer did not follow proper decontamination procedures when it sampled on April 26 and May 17, 1996, the same cannot be said of samples that Pioneer collected on April 24, 1996, which were accompanied by field blanks. Comp. Br. at 26. Although Pioneer failed to use trip blanks, Matteson argues that the Martins' suggestion that contamination detected in the samples may be from sources other than the shallow groundwater at the site is unfounded. Matteson asserts that because the samples were collected at the site

where perc was used for many years and perc has been found in soil from the property, another source is highly unlikely. Comp. Br. at 26.

Discussion. Trip blanks and field blanks serve to demonstrate that the samples sent for a laboratory to analyze accurately represent the groundwater sampled at a site. The record indicates that Pioneer used a field blank only once. There is no evidence that Pioneer ever used any trip blanks.

The lack of quality control measures does not necessarily mean that the sample results are invalid. However, it does raise concerns about their reliability. These concerns are heightened when the Board is considering the data to decide whether a person has violated the Act or Board regulations. The Board has specified minimum requirements for reporting groundwater monitoring results at 35 Ill. Adm. Code 620.510(c). These requirements, which include both field quality control and chain of custody control measures, constitute minimum requirements that must be followed to show compliance with the groundwater quality standards. By extension, they also constitute minimum requirements that must be followed to establish a violation. Because Pioneer did not follow the Part 620 requirements, the Board concludes that the sampling results cannot be used to demonstrate that the Martins violated the groundwater quality standards.

Conclusion

The Board finds that groundwater was present at the site. The Board also finds that using a hand auger to construct monitor wells did not, by itself, render the data from those wells unreliable. However, Pioneer failed to develop the wells before sampling. This omission did render the data unreliable, notwithstanding that Pioneer's sampling practices may have been appropriate. Furthermore, Pioneer did not meet the minimum quality control requirements specified in Section 620.510 because it failed to include sufficient field blanks and trip blanks. Accordingly, the Board cannot rely on the data to find that the Martins violated the groundwater quality standards.

The Board finds that Matteson has failed to establish that the Martins caused or allowed a discharge of contaminants so as to violate groundwater quality standards. The record does not demonstrate the alleged violation of Section 12(a) of the Act or 35 Ill. Adm. Code 620.115.

In passing in its brief, Comp. Br. at 17, and more explicitly in its reply brief, Reply Br. at 7-8, Matteson raises the theory that, if they did not cause or allow a violation of groundwater quality standards, the Martins at least "threatened" a violation. Matteson did not allege this in its complaint. See Comp. at 9, ¶ 16. While pleadings may be amended to conform to proof at hearing, Matteson never sought to do so. A party must prevail, if at all, on and according to the case made in the pleadings. See Lempa v. Finkel, 278 Ill. App. 3d 417, 424, 663 N.E.2d 158, 163 (2d Dist. 1996). The Board therefore will not consider whether the Martins threatened to violate groundwater quality standards.

REMEDY

Having found that the Martins, through their dry cleaning business, violated Section 21(e) of the Act, the Board turns to the question of an appropriate remedy.

Section 33(c) Factors

To determine an appropriate remedy, the Board must consider the factors listed in Section 33(c) of the Act. Section 33(c) provides:

> In making its orders and determinations, the Board shall take into consideration all the facts and circumstances bearing upon the reasonableness of the emissions . . . involved including, but not limited to:
>
> i. the character and degree of injury to, or interference with the protection of the health, general welfare and physical property of the people;
>
> ii. the social and economic value of the pollution source;
>
> iii. the suitability or unsuitability of the pollution source to the area in which it is located, including the question of priority of location in the area involved;
>
> iv. the technical practicability and economic reasonableness of reducing or eliminating the emissions, discharges or deposits resulting from such pollution source; and
>
> v. any subsequent compliance. 415 ILCS 5.33(c) (1998).

Character and Degree of Injury or Interference

The evidence is insufficient to quantify the effect of the contamination. However, it cannot be disputed that the contamination has adversely affected the value and marketability of the property, and may have foreclosed potential uses of the property. Furthermore, even though this record is insufficient to find that groundwater has been contaminated, the presence of perc in the soil presents a continuing threat of groundwater contamination. Thus, the degree to which the contamination has injured the property and interfered with the protection of health and general welfare is substantial.

Social and Economic Value of Pollution Source

The Board acknowledges that a dry cleaning business can have social and economic value, but the dry cleaning business that was the source of the pollution stopped operating in 1997. The Board recognizes, however, that the shopping center has social and economic value to the community. It is possible that remediating contamination would disrupt business at the

shopping center, to the detriment of the community. The Board considers this in its analysis below.

Suitability of Pollution Source

A shopping center, like that operated by Matteson, appears to be an appropriate location for a dry cleaners. It is clearly not an appropriate location to dispose of waste; however, the Board found that the evidence in the record did not demonstrate that the release was intentional. The Board cannot find that the Martins' business was unsuitably located.

Technical Practicability and Economic Reasonableness of Reducing Deposits

The parties argue at length about the extent to which remediating the contamination is economically reasonable. Matteson argues that the Martins should be required to remediate the contamination to background levels. (Actual background levels were never established, but may be as low as zero or at least below the detection level of the analytical procedures that the laboratory used to analyze Pioneer's samples.) Matteson urges that the property owner should not be required to accept the property back from the Martins in worse condition than when it was delivered to the Martins. Comp. Br. at 30-31. Matteson bases this argument on language in Section 2(b) of the Act, which establishes as one of the purposes of the Act "to assure that adverse effects upon the environment are fully considered and borne by those who cause them." 415 ILCS 5/2(b) (1998).

The language of Section 2(b) is not dispositive, however. The Board still must determine what it means to "bear" adverse environmental effects. The Martins argue that the Tiered Approach to Corrective Action Objectives (TACO), 35 Ill. Adm. Code 742, can be applied in this case. The Martins further argue that remediation beyond TACO levels is not economically reasonable. Resp. Br. at 25. TACO provides a tiered approach for establishing numeric remediation objectives based on risks to human health, allowing future use of the contaminated site to be considered. Also, under TACO, remediating to these numeric objectives can be avoided where routes of exposure to contaminants can be eliminated, such as through engineered barriers or institutional controls (*e.g.*, deed restrictions). Matteson replies that participating in the Site Remediation Program, 35 Ill. Adm. Code 740, one of the programs that uses TACO, is voluntary, and inasmuch as the Martins are not owners of the property, they cannot dictate conditions on the property's use. Reply Br. at 10.

In this case, TACO can provide a benchmark for what is economically reasonable. TACO includes tables of contaminant concentrations. The Board found these concentrations acceptable (*i.e.*, not a threat to health) for land to be used for various purposes. The most stringent soil remediation objectives are for residential property. See 35 Ill. Adm. Code 742.505-742.510, 742.Appendix B, Table A. Residential objectives provide, for each contaminant, a separate remediation level for each of three exposure routes (*i.e.*, ingestion, inhalation, and the soil component of groundwater ingestion). The most stringent of the three levels applies unless one or more of these exposure routes are excluded. See 35 Ill. Adm. Code 742.510(a)(6). If contaminated soil is remediated so that remaining contaminant

concentrations meet the soil remediation objectives for residential property use, the property is considered safe for any use. The Board finds that requiring the Martins to remediate beyond these levels would not be economically reasonable. Similarly, requiring the Martins to remediate any groundwater contamination beyond TACO's most stringent groundwater remediation objectives, Class I groundwater remediation objectives under 35 Ill. Adm. Code 742.505-742.510, 742.Appendix B, Table E, would not be economically reasonable.

The Martins suggest, Resp. Br. at 24-25, that it would be economically unreasonable to require them to spend more money to remediate than the property's diminution in value from the contamination. The Board need not reach this question. Neither Matteson nor the Martins introduced evidence from which the Board could quantify the contamination's impact on the property's value.

The Board further finds that remediating to the TACO levels described above is technically practicable. Krikau testified about existing technologies that could be used in this case to clean up contaminated soil and, if necessary, groundwater. Tr. at 418-24. The Martins suggest, Resp. Br. at 24, that a remedy is not technically practicable when it cannot be achieved within a "reasonable time." Even if the Board accepted this condition on practicability, the evidence regarding the time needed to remediate is inconclusive. All testimony on the subject assumed remediation to "background" levels, which the Board will not require here.

Subsequent Compliance

The Martins stopped operating their dry cleaning business in 1997. There is no evidence that any perc was disposed of after that date, at the latest. Thus, the Board cannot find that the Martins violated Section 21(e) of the Act after they stopped operating the dry cleaner. However, neither have the Martins taken any steps to remediate the contamination resulting from the earlier violations.

Discussion

Matteson seeks an order:

> A. Directing the Respondents to cease and desist from further violations of Section 21(e) of the Act;
>
> B. Mandating and directing the abatement of the continuing violations of Section 21(e) of the Act by the Respondents through the remediation of Complainant's Property and removal of all contamination on the Property resulting from the disposal of chlorinated solvents thereon; and
>
> C. Granting such other relief as the [Board] may deem appropriate. Comp. at 5.

The Board does not need to order the Martins to cease and desist from further violating Section 21(e). As noted, the Martins stopped operating their dry cleaning business in 1997. By all indications, the Martins will not further violate Section 21(e). However, based on the factors discussed above, the Board finds that it is appropriate to order the Martins to remediate the contamination.

Under TACO:

> Any person . . . may elect to proceed under [the TACO rules] to the extent allowed by State or federal law and regulations and the provisions of [Part 742]. A person proceeding under [Part 742] may do so to the extent such actions are consistent with the requirements of the program under which site remediation is being addressed. 35 Ill. Adm. Code 742.105(a).

Thus, the Martins, to the extent they are able, may proceed under TACO. This does not mean, however, that the Martins can force the property owner to take any action or accept any restriction on the property's future use. Moreover, the extent to which the Martins must remediate will depend on the extent to which the property owner gives them access to the property to do so.

The Martins therefore must remediate to the most stringent remediation objectives under TACO for which the property owner provides the Martins access to achieve. For example, the owner might not allow the Martins to demolish the on-site buildings. In that case, the Martins may not be able to achieve residential remediation objectives under TACO through reasonably available technology. The most stringent remediation objectives under TACO would be residential remediation objectives for soil and, depending on groundwater classification, Class I or Class II remediation objectives for groundwater.

The owner of the property is not before the Board. Matteson is the "operating entity" of the property, a relationship that was never defined. The property is held in a land trust. Persino is a 50% beneficiary of the land trust, but the beneficiary of the other 50% was not identified. Persino is a partner in Matteson and appeared as a witness on Matteson's behalf, but he is not before the Board in his individual capacity. Matteson throughout these proceedings has argued and conducted itself as if acting on behalf of the owner. However, there is no evidence establishing Matteson's authority with respect to the property. Because neither the legal owner nor the beneficiaries of the land trust are before the Board, none will be bound by any order that the Board issues today.

The Board will order the Martins to remediate the contamination. The extent to which they must remediate depends on the extent to which the property owner grants them access to remediate. If the owner allows necessary access, the appropriate soil remediation objectives will be TACO residential levels, 35 Ill. Adm. Code 742.505-742.510. Because one of the residential levels is based on the soil component of the groundwater ingestion exposure route,

the Martins must classify the groundwater as Class I or Class II under TACO to determine the appropriate soil remediation objective for residential property use.[8] This is not to say that the Martins cannot opt under TACO to remediate to less stringent levels or to eliminate exposure routes, but rather that the Martins cannot exercise these options without the owner's consent. Similarly, with the property owner's consent, the Martins must determine whether groundwater has been impacted and, if it has been, remediate any groundwater that exceeds, as applicable, Class I or Class II groundwater remediation objectives under TACO, 35 Ill. Adm. Code 742.505-742.510.

The Board recognizes that remediating to these levels may mean that the property remains more contaminated than its state before the Martins occupied the site. However, the Board finds that remediating to these levels is all that is required under the Act in this case. Matteson's main objection to a remediation to levels less stringent than "background levels" concerned impact on property value. As noted, however, Matteson presented no evidence from which the Board could quantify that impact.

CONCLUSION

The Board finds that the Martins, through their dry cleaning business, violated Section 21(e) of the Act. Matteson has failed to prove that the Martins violated Sections 21(f)(1) or 12(a) of the Act or 35 Ill. Adm. Code 620.115. The Board will order the Martins to remediate the soil and any groundwater contaminated with perc or any of the compounds into which the chemical degrades. The extent to which the Martins must remediate will depend on the extent to which the property owner gives the Martins access to the property to remediate. The remediation must achieve remediation objectives under TACO, as explained in the order below.

ORDER

1. The Board finds that respondents James W. Martin and Eva D. Martin, through their dry cleaning business, violated Section 21(e) of the Act. The Board finds that the record does not demonstrate that the Martins violated Sections 21(f)(1) or 12(a) of the Act or 35 Ill. Adm. Code 620.115.

2. The Martins must, under TACO, 35 Ill. Adm. Code 742.510(b)(2), classify the groundwater as Class I or Class II groundwater. The Martins are not required to perform this work at the property beyond the extent to which the property owner grants the Martins access to the property to do so.

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[8] For purposes of TACO, Class I groundwater is groundwater that meets the Class I potable resource groundwater criteria of 35 Ill. Adm. Code 620, while Class II groundwater is groundwater that meets the Class II general resource groundwater criteria of 35 Ill. Adm. Code 620. See 35 Ill. Adm. Code 742.200.

3. The Martins must remediate the soil contaminated with perchloroethylene or any of the compounds into which it degrades, including trichloroethylene, to the most stringent soil remediation objectives under TACO, 35 Ill. Adm. Code 742, for which the property owner provides the Martins access to the property to achieve. Accordingly, if the property owner grants them access to do so, the Martins must remediate the soil contamination to the most stringent TACO residential objectives (35 Ill. Adm. Code 742.505-742.510), but not to any more stringent levels.

4. The Martins must determine whether the groundwater has been contaminated by perchloroethylene or any of the compounds into which it degrades, including trichloroethylene, above, as applicable, Class I or Class II groundwater remediation objectives under TACO. 35 Ill. Adm. Code 742.505-742.510. The Martins are not required to perform this work at the property beyond the extent to which the property owner grants the Martins access to the property to do so.

5. The Martins must remediate any groundwater contaminated with perchloroethylene or any of the compounds into which it degrades, including trichloroethylene, to the most stringent groundwater remediation objectives under TACO for which the property owner provides the Martins access to the property to achieve. Accordingly, if the property owner grants them access to do so, the Martins must remediate any groundwater contamination to, as applicable, Class I or Class II groundwater remediation objectives under TACO, but not to any more stringent levels.

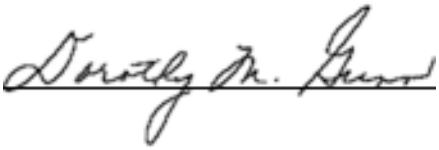
6. Investigation and remediation under this order must be consistent with any applicable program requirements. Nothing in this order may be construed to require that the Martins or the property owner participate in the Site Remediation Program, 35 Ill. Adm. Code 740, or that the property owner accept any restriction under TACO on the future use of the property. Notwithstanding anything in this order to the contrary, the Martins may use institutional controls and engineered barriers under TACO, but only to the extent that the property owner consents.

IT IS SO ORDERED.

Board Member M. McFawn dissented.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1998)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of service of this order. Illinois Supreme Court Rule 335 establishes such filing requirements. See 172 Ill. 2d R. 335; 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 22nd day of June 2000 by a vote of 5-1.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board