

ILLINOIS POLLUTION CONTROL BOARD

January 6, 2005

IN THE MATTER OF: )  
)  
PETITION OF HAYDEN ) AS 04-03  
WRECKING CORPORATION FOR AN ) (Adjusted Standard - Public Water Supply)  
ADJUSTED STANDARD FROM )  
35 ILL. ADM. CODE 620.410(a) )

OPINION AND ORDER OF THE BOARD (by J.P. Novak):

Hayden Wrecking Corporation (Hayden) owns property in St. Clair County on which it operated two landfills for approximately thirty years until 1992. In order to close its landfill site and complete the sale of that property at the contracted price of \$475,000, Hayden must demonstrate that groundwater at its site meets Class I groundwater quality standards. After conducting groundwater sampling in that vicinity, Hayden concluded that it cannot demonstrate compliance with those standards for arsenic, iron, manganese, and lead because those chemicals are migrating to Hayden's site from the Milam Recycling and Disposal Facility owned by Waste Management of Illinois, Inc. Consequently, Hayden petitions the Board for an adjusted standard reflecting levels of those inorganic chemicals that it attributes to flow onto its site from that other source. The Illinois Environmental Protection Agency (Agency) has twice recommended that the Board grant the proposed adjusted standard, although it has suggested conditions and sought additional information from Hayden.

In the southwestern direction downgradient, along which groundwater flows at this site, Hayden is adjacent to the right-of-way for Interstate Highway 55/70 and Illinois State Highway 203. Further southwest from Hayden across Highway 203 is the Gateway International Raceway property. Directly to the west of Hayden is the parking lot of the Gateway Midstate Truck Plaza.

In today's opinion and order, the Board finds on the basis of the record before it that Hayden has provided sufficient justification for an adjusted standard for its St. Clair County site under Section 28.1 of the Environmental Protection Act (Act) (415 ILCS 5/28.1 (2002)). Hayden remains subject to Class I groundwater quality standards for inorganic chemicals other than arsenic, iron, lead, and manganese as specified in this order, and to all other state and federal requirements.

This opinion will first briefly outline the procedure through which petitioners may seek adjusted standards before describing the procedural background of this case. The Board then summarizes the factual background of this petition and the standard of decision applicable to it under the Act. In subsequent sections, the opinion contains both the current generally applicable groundwater standard and the adjusted standard proposed by Hayden for its site. Finally, the Board evaluates the statutory factors it must address in reviewing this petition before reaching its conclusion and order.

### **ADJUSTED STANDARD PROCEDURE**

The Act and Board rules provide that a petitioner may request, and the Board may grant, an environmental standard that is different from the generally applicable standard that would otherwise apply to the petitioner. This is called an adjusted standard. The general procedures governing an adjusted standard proceeding are found at Section 28.1 of the Act and Part 104, Subpart D of the Board's procedural rules. 415 ILCS 5/28.1 (2002); 35 Ill. Adm. Code 104.400 *et seq.* Specifically, the Board's rules for the contents of the petition and Agency recommendation are found at Sections 104.406 and 104.416, respectively. 35 Ill. Adm. Code 104.406, 104.416.

### **PROCEDURAL BACKGROUND**

On April 29, 2004, Hayden filed its petition (Pet.) for an adjusted standard from 35 Ill. Adm. Code 620.410(a), the Board's Class I groundwater standards, for four specified inorganic chemicals. Although Hayden reserved its right to request a hearing after reviewing the Agency's recommendation on that petition, Hayden at that time waived its right to a hearing. Pet. at 12; *see* 35 Ill. Adm. Code 104.422(a)(1).

On May 24, 2004, the Agency filed with the Board its Recommendation to Petition for Adjusted Standard (Rec.). The Agency recommended that, subject to certain conditions, the Board grant the petition and the requested adjusted standard from the requirements of 35 Ill. Adm. Code 620.410(a). Rec. at 1, 6. Specifically, the Agency recommended two conditions that should be included in any adjusted standard adopted by the Board: "1) clarification of the specific regulations which are addressed by the Petition and Adjusted Standard; and 2) correction of the applicability of the revised standards to exclusively the Hayden's permitted facility." Rec. at 6.

Section 28.1 of the Act (415 ILCS 5/28.1 (2002)) and the Board's regulations (35 Ill. Adm. Code 104.408(a)) require publication of notice of a petition for an adjusted standard "in a newspaper of general circulation in the area likely to be affected by the petitioner's activity that is the subject of the adjusted standard proceeding." 35 Ill. Adm. Code 104.408(a). Notice must be published within 14 days of filing a petition for an adjusted standard with the Board. *Id.* As required, Hayden timely filed with the Board a certificate of publication indicating that the *News-Democrat* of Belleville published notice of the petition on May 11, 2004. *See* 35 Ill. Adm. Code 104.410. No party filed a request for a hearing in this matter.

In a June 3, 2004 order (Order), the Board found that Hayden's petition did not fully satisfy the informational requirements contained in Section 28.1(c) the Act (415 ILCS 5/28.1(c) (2002)) and the Board's rules at 35 Ill. Adm. Code 104.406. Accordingly, the Board directed Hayden to provide specified information, without which the Board stated it would be unable to grant the petition. On June 7, 2004, Hayden filed its Response to IEPA Recommendation to Petition for Adjusted Standard (Resp.).

On July 21, 2004, Hayden filed an Amended Petition for an Adjusted Standard (Am. Pet.). Hayden submitted this Amended Petition in response to the Board's June 4, 2004 request for additional information and in order to present information that had become available since Hayden filed its original petition on April 29, 2004. Am. Pet. at 1. Hayden incorporated into its Amended Petition both its original petition and its June 3, 2004 response to the Agency's Recommendation. Am. Pet. at 1.

On September 7, 2004, the Agency filed its Amended Recommendation to Amended Petition for Adjusted Standard (Am. Rec.). The Agency again recommended that the Board "grant the Amended Petition and the requested Adjusted Standard from the requirements of 35 Ill. Adm. Code 620.410(a), subject to certain conditions." Am. Rec. at 1. The Agency incorporated its May 21, 2004 recommendation and its review of the original petition, noting "Petitioner merely amends the initial April 27, 2004 [Petition], filing supplemental information and data for consideration." Am. Rec. at 2. The Amended Recommendation addressed deficiencies that had been identified in earlier pleadings. *Id.* In its conclusion of its amended recommendation, the Agency "notes more issues with the Amended Petition than with the Petition" (Am. Rec. at 14) and also notes that certain required information may still be missing from Hayden's petition. Am. Rec. at 15. Nonetheless, the Agency stresses that contaminants are migrating from off-site and that modeling will show that attenuation of those contaminants occurs within areas under institutional controls. *Id.* Ultimately, with conditions reflecting those in its amended recommendation, the Agency "suggests that the proposed Adjusted Standard be granted." *Id.*

On September 27, 2004, Hayden filed the Response to Amended Recommendation of the Illinois Environmental Protection Agency to Amended Petition for Adjusted Standard (Resp. Am. Rec.). To the extent necessary and as described, Hayden incorporated by reference into the response "all of Hayden's previous filings in this matter." Resp. Am. Rec. at 2. In the response, Hayden addressed six conditions proposed by the Agency in recommending that the Board grant the requested adjusted standard.

No hearing was ever requested or held.

### **FACTUAL BACKGROUND**

For approximately 31 years until 1992, Hayden operated two landfills covering 13 acres near the intersection of Illinois Route 203 and Interstate Highway 55/70 in St. Clair County. Pet. at 2. Hayden's landfills were permitted to accept only brick, mortar, wood, and metal for disposal. Pet. at 2. Hayden's site is located downgradient from the Milam Recycling and Disposal Facility, a 208-acre landfill site operated by Waste Management of Illinois, Inc. Pet. at 3. The Milam landfill has been in operation since the 1960s and accepts municipal waste, special waste, and yard waste. Pet. at 3. The Hayden site is now graded and covered with clean limestone for use as a parking lot by the adjacent Gateway International Raceway. Pet. at 2. In 1999, the Gateway Motorsports Corporation contracted to purchase the Hayden site for \$475,000. As part of the process of closing its landfills and selling the site, Hayden must demonstrate that the groundwater in the vicinity of the site satisfies Class I groundwater quality standards. Pet. at 3; *see also* 35 Ill. Adm. Code 805.508, 807.524. Hayden states that its site

exceeds Class I groundwater standards for arsenic, iron, lead, and manganese because those chemicals originate from an upgradient, off-site source. Pet. at 12. Hayden further states that, even if it remediated on-site groundwater, groundwater exceeding Class I standards for these four chemicals will continue to flow beneath the property. *Id.*

In the southwestern downgradient direction, the Hayden site is adjacent to the right-of-way for Interstate Highway 55/70 and Illinois State Highway 203. Am. Pet., Exh. 1, Figure 1. Southwest from Hayden across Route 203 is situated the Gateway International Raceway property. *Id.* Directly to the west of Hayden is the Gateway Midstate Truck Plaza. The southern two-thirds of that site nearest to Hayden is now used solely for parking. *Id.* Hayden has determined that there are no public water supply wells, potable water wells, or private water supply wells within 2500 feet of its site. Resp. Am. Rec. at 3.

### **STANDARD OF DECISION**

The Agency “does not take substantive issue” (Rec. at 2) with Hayden’s statement that the regulation of general applicability at 35 Ill. Adm. Code 620.410 “does not specify a level of justification required for the Board to grant Hayden’s Request for Adjusted Standard.” *Id.* Therefore, pursuant to Section 28.1(c) of the Act, the burden of proof is on the petitioner to demonstrate that:

1. Factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
2. The existence of those factors justifies an adjusted standard;
3. The requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
4. The adjusted standard is consistent with any applicable federal law. 415 ILCS 5/28.1(c); 35 Ill. Adm. Code 104.426(a).

### **CURRENT APPLICABLE STANDARDS**

The groundwater standards applicable to Hayden’s site are set forth at 35 Ill. Adm. Code 620.410(a), which provides:

Except due to natural causes or as provided in Section 620.450, concentrations of the following chemical constituents must not be exceeded in Class I groundwater:

Constituent	Units	Standard
Antimony	mg/L	0.006
Arsenic	mg/L	0.05

Barium	mg/L	2.0
Beryllium	mg/L	0.004
Boron	mg/L	2.0
Cadmium	mg/L	0.005
Chloride	mg/L	200.0
Chromium	mg/L	0.1
Cobalt	mg/L	1.0
Copper	mg/L	0.65
Cyanide	mg/L	0.2
Fluoride	mg/L	4.0
Iron	mg/L	5.0
Lead	mg/L	0.0075
Manganese	mg/L	0.15
Mercury	mg/L	0.002
Nickel	mg/L	0.1
Nitrate as N	mg/L	10.0
Radium-226	pCi/L	20.0
Radium-228	pCi/L	20.0
Selenium	mg/L	0.05
Silver	mg/L	0.05
Sulfate	mg/L	400.0
Thallium	mg/L	0.002
Total Dissolved Solids (TDS)	mg/L	1,200
Zinc	mg/L	5.0

35 Ill. Adm. Code 620.410(a).

### **HAYDEN'S PROPOSED ADJUSTED STANDARD**

In its petition, Hayden proposed the following Adjusted Standard:

35 Ill. Adm. Code § 620.410(a): Inorganic Chemical Constituents: Except due to natural causes or as provided in Section 620.450, concentrations of the following chemical constituents must not be exceeded in Class I groundwater:

Constituent	Units	Standard	Proposed Standard
Arsenic	mg/L	0.05	0.082
Iron	mg/L	5.0	735

Lead	mg/L	.0075	0.220
Manganese	mg/L	0.15	24.2

Pet., Exh. G; *see* 35 Ill. Adm. Code 620.410(a).

In its June 7, 2004 Response to the Agency's recommendation, Hayden clarified the specific regulation addressed by its petition: Section 620.410(a) of the Board's rules. Resp. at 1-2; *see* 35 Ill. Adm. Code 620.410(a). Hayden also proposed for a Board order language intended to restrict an adjusted standard exclusively to its site. Resp. at 2. Hayden voiced "no objection to" (Resp. at 1) and "does not oppose" (Resp. at 4) supplying this information in response to the Agency's recommendation. While clarifying these aspects of its petition, Hayden proposed the same adjusted numerical standards for arsenic, iron, lead, and manganese (Resp. at 2) as those proposed in its petition. Pet., Exh. G.

Hayden's original request for adjusted standards for these four constituents was based on the highest concentration found at Hayden's site. Am Pet. at 7. In preparing its amended petition, Hayden discovered that the southern site boundary it had earlier relied upon was actually the highway right-of-way situated to the south of and parallel to that southern boundary. *Id.* Consequently, three monitoring wells believed to have been located at the southern edge of its property are now believed to be off-site wells. *Id.* Because the adjusted standard it had originally requested was based in part on concentrations that now appear to be off-site, Hayden changed its proposed adjusted standard to reflect the highest concentrations found at the monitoring wells located at or within its property boundary. *Id.* Specifically, Hayden proposed the following language:

**620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater**

- a) Inorganic Chemical Constituents: Except due to natural causes or as provided in Section 620.450, concentrations of the following chemical constituents must not be exceeded in Class I groundwater (those limitations marked with an \* shall apply only to Hayden Wrecking Company's former landfill sites located near the intersection of Illinois Route 203 and Interstate 55/70 in Madison, St. Clair County, Illinois):

Constituent	Units	Standard
Antimony	mg/L	0.006
Arsenic	mg/L	0.05 (*0.082)
Barium	mg/L	2.0
Beryllium	mg/L	0.004
Boron	mg/L	2.0
Cadmium	mg/L	0.005
Chloride	mg/L	200.0
Chromium	mg/L	0.1
Cobalt	mg/L	1.0

Copper	mg/L	0.65
Cyanide	mg/L	0.2
Fluoride	mg/L	4.0
Iron	mg/L	5.0 (*735) (*373)
Lead	mg/L	0.0075 (*0.220)
Manganese	mg/L	0.15 (*24.2) (*9.12)
Mercury	mg/L	0.002
Nickel	mg/L	0.1
Nitrate as N	mg/L	10.0
Radium-226	pCi/L	20.0
Radium-228	pCi/L	20.0
Selenium	mg/L	0.05
Silver	mg/L	0.05
Sulfate	mg/L	400.0
Thallium	mg/L	0.002
Total Dissolved Solids (TDS)	mg/L	1,200
Zinc	mg/L	5.0

Am. Pet at 7-9. In its response to the Agency's amended recommendation, Hayden again proposed the same adjusted numeric standards for these four constituents. Resp. Am. Rec. at 9-11.

### **SUBSTANTIALLY DIFFERENT FACTORS**

Hayden notes that, under Section 28.1 of the Act, the Board may grant an adjusted standard when, among other factors, it determines that "factors relating to the petitioner are substantially and significantly difference than the factors relied upon by the Board in adopting the general regulation applicable to the petitioner." Pet. at 9; 415 ILCS 5/28.1 (2002); *see* 35 Ill. Adm. Code 610.410. Hayden states that it can satisfy this factor: "[I]n enacting 35 Ill. Adm. Code § 610.410, the Board adopted the USEPA's 'principle that groundwaters that are naturally potable should be available for drinking water supply without treatment.'" Pet. at 10, citing Groundwater Quality Standards (35 Ill. Adm. Code 620), R89-14(B), slip op. at 18 (Nov. 7, 1991).

In addressing this factor, Hayden states that the groundwater that exceeds standards for arsenic, iron, lead, and manganese originates upgradient from an entirely different source. Pet. at 10. Hayden substantiates its assertions with groundwater monitoring results that show the highest concentrations of arsenic, iron, lead, and manganese generally occurred in the monitoring wells located along the upgradient edge of the site. Pet., Exh. C. Since it cannot address the use of surrounding land or water quality violations originating there, Hayden states that it “cannot meet Class I groundwater standards unless the Adjusted Standard is granted.” Pet. at 10. Since Hayden in its justification emphasizes that it has used and relied on a local ordinance adopted by the City of Madison and an environmental land use control (ELUC) to forbid potable use of the site’s groundwater (Pet. at 10-11), Hayden appears to argue that the rule’s underlying principle of protecting potable groundwater does not apply in its specific circumstances where the evident source of the contamination is activity occurring on another property that it neither owns nor controls. In its recommendation, the Agency “does not take issue with the substantive representations made by Hayden” (Rec. at 5) with regard to its statement of justification.

## **EFFORTS TO ACHIEVE COMPLIANCE AND ALTERNATIVES**

### **Petition**

In its petition, Hayden notes that groundwater beneath its site exceeds applicable standards for arsenic, iron, lead, and manganese because those inorganic chemicals originate at the upgradient Waste Management-owned Milam landfill. Pet. at 7. Because groundwater continuously migrates from that source, Hayden characterizes any effort to remediate that groundwater as “futile.” *Id.* “Unless the source is addressed, any remediation efforts by Hayden would be both prohibitively expensive and continual without prospect of completion.” Pet. at 8. Accordingly, Hayden did not include in its petition any analysis of the costs required to comply with the generally applicable standard. *Id.*

### **Recommendation**

In its recommendation, the Agency stated that “it should be noted that the Petition fails to address the costs corresponding to achieving the proposed Adjusted Standard.” Rec. at 5. The Agency further noted that “[t]he Petition fails to provide a description of the efforts that would be necessary, along with the compliance alternatives and corresponding costs which would be incurred, if Hayden were to comply with the regulation of general applicability.” Rec. at 3.

### **Response to Recommendation**

In its response to the Agency’s recommendation, Hayden first states that, because the requested adjusted standards reflect the highest concentrations of four inorganic chemicals found at its site, “there are no additional efforts necessary and there are no corresponding costs associated with achieving the Adjusted Standard.” Resp. at 2-3. Hayden further states that it has two compliance options other than the adjusted standard it seeks: attempting to locate the source of the four inorganic chemicals and instituting an action to require remediation, or seeking to enlist an environmental enforcement agency to do so. Resp. at 3. Hayden states that the costs

and delay involved with either option are “unquantifiable, speculative, and prohibitive,” (*Id.*) and are not guaranteed to achieve groundwater quality standards. *Id.*

In its June 3, 2004 order, the Board noted that “the petition does not describe the efforts and corresponding costs that would be necessary to comply with the regulation of general applicability.” Order at 2. The Board further noted that “the petition does not describe any compliance alternatives and corresponding costs that would be necessary to comply with the regulation of general applicability.” *Id.*

In response, Hayden states that it identified and considered four options for compliance with the regulation of general applicability. First, Hayden could “attempt to locate the source of the exceeded levels of inorganic constituents and proceed with a judicial/administrative action to force the source to remediate both its on and off-site constituents.” Resp. at 3; Am. Pet at 5, fn. 2. As a second alternative, Hayden could “attempt to convince the IEPA/U.S. EPA to become involved to force the source to remediate the on and off-site constituents.” *Id.* For both of these options, Hayden believes that “the corresponding costs and timeframe associated with either option are unquantifiable, speculative, and prohibitive (especially if litigation and/or state resource costs are factored in).” Resp. at 3.

As a third alternative, Hayden considered whether it could “install a hydraulic barrier either upgradient of the Hayden site or around the entire Hayden site.” Am. Pet. at 5. Hayden concluded that this option is “technically impractical” because the site is located in the Mississippi River floodplain and would require a depth of at least 80-100 feet for effective control of groundwater flow. *Id.* Hayden states that a barrier constructed to that depth “is not feasible and/or would be prohibitively expensive.” *Id.* Hayden also states that, while such a barrier would reduce the site’s effect on downgradient groundwater, it “would have no impact on the upgradient sources or contaminants.” *Id.*

As a fourth option, Hayden considered the possibility that it could “pump and treat groundwater” to meet the applicable standards but regards that option as “prohibitively expensive.” Am. Pet. at 5-6. The total cost, including operations and maintenance for 15 years, is estimated to be greater than \$3.5 million, an amount far in excess of the property’s value of \$475,000. Am. Pet. at 6. Hayden further states that the source of contaminants is believed to be off-site, from which contaminated groundwater would continue to flow. For that reason, Hayden states that it may be required to “pump-and-treat” indefinitely without any prospect of completion. *Id.*

### **Amended Recommendation**

In its amended recommendation, the Agency further evaluates information supplied by Hayden on the cost of compliance alternatives to the proposed adjusted standards. It first acknowledged that Hayden is not the source of the groundwater exceeding applicable standards and further acknowledged that it would be difficult for Hayden to determine compliance costs until the source is addressed. Am. Rec. at 6.

The Agency generally agreed with Hayden’s assessment that construction of a hydraulic barrier would be technically impractical, citing the “quantity of sand and gravel in the area and . . . the volume of groundwater and the hydraulic conductivity of the sediment aquifer.” Am. Rec. at 8. Also, the Agency stressed that such a barrier “would have no impact on the upgradient sources or contaminants.” *Id.* Although a barrier may reduce or even eliminate the facility’s own groundwater impacts, “the overall quality of groundwater in the area would not be significantly improved.” *Id.* Nonetheless, the Agency could not evaluate Hayden’s claim that the barrier would be prohibitively expensive because Hayden “did not provide any type of rough cost estimate for construction . . . .” *Id.*

With regard to Hayden’s “pump-and-treat” option, the Agency notes that, “[b]ecause there are contaminant sources located upgradient of the facility, remediation of impacted groundwater on site would not address the off-site sources.” Am. Rec. at 8. Although the Agency stresses that it cannot evaluate Hayden’s claim that such a system would cost more than \$3.5 million over 15 years without knowing at least an estimate of the number of extraction wells required, “[t]he Illinois EPA agrees that a pump and treat system for groundwater in the site area will not result in significant improvement of groundwater quality.” *Id.* Because potable water supplies are situated at least 2500 feet downgradient from the site, and because institutional controls have been or will be implemented, the site will result in “no impact to future water supplies.” Am. Rec. at 7-8.

### **Response to Amended Recommendation**

In its response to the Agency’s amended recommendation, Hayden notes that the Agency requested some description of the effort and the costs required to comply with the generally-applicable rule. Resp. Am. Rec. at 4; Am. Rec. at 8. Hayden again states that, as long as the off-site source is not addressed, it will remain technically impracticable and economically unreasonable for it to meet applicable groundwater standards. Am. Rec. at 8. Hayden nonetheless elaborated on two compliance alternatives: a hydraulic barrier, and a “pump and treat” system.

Hayden notes that several factors make the construction of a hydraulic barrier “extremely difficult.” Resp. Am. Rec. at 5. Because the barriers’ trench must descend to a depth of 80-100 feet to reach bedrock and must extend the 3300-foot length of the site, Hayden estimates that construction of a trench alone would cost in excess of \$5 million (Resp. Am. Rec., Exh. D at 4-5) with “no impact on the upgradient sources or contaminants.” Resp. Am. Rec. at 5. The Agency also requested the number of monitoring wells used by Hayden to estimate the cost of a “pump and treat” system. In response, Hayden indicated that it based that estimate on 10-12 extraction wells. Resp. Am. Rec. at 6; Exh. D at 5.

## **IMPACT ON THE ENVIRONMENT**

### **Petition**

In its petition, Hayden states that it “has taken steps to minimize the environmental impacts of its proposed adjusted standard.” Pet. at 9. Specifically, Hayden states that it has

cooperated in the enactment by the City of Madison of an ordinance forbidding potable use of the site's groundwater. *Id.* It also is establishing an ELUC forbidding potable use of the site's groundwater. *Id.* Also, Hayden stated that there are no potable water wells within 2500 feet downgradient of the site and that the Missouri Bottoms Water Company supplies potable water in the vicinity of its site. Pet. at 10.

### **Recommendation**

In its recommendation, the Agency "does not take issue with the representations made by Hayden . . . concerning the qualitative and quantitative impact on the environments if Hayden were to comply with the regulation of general applicability as compared with the proposed Adjusted Standard." Rec. at 5. The Agency further states that "Hayden has failed to discuss the impact of its activity on the environment should it comply with the regulations of general applicability versus the environmental impact should it comply with the proposed adjusted standard." *Id.*

### **Response to Recommendation**

In its response to the Agency's recommendation, Hayden states that "[t]he environmental impact of complying with the Adjusted Standard is the same as, if not less than, the impact of complying with the current groundwater standards." Resp. at 4. The response notes that the site has been graded and covered with limestone since 1999 and is now used as a parking lot. *Id.* Hayden restates that, in order to prohibit the potable use of the groundwater beneath its site, it will establish an ELUC, and the City of Madison has enacted a municipal ordinance. *Id.* The response further states that, while "no detrimental effect of noncompliance with applicable groundwater standards has been shown," these measures help "ensure that complying with the Adjusted Standard will not affect the environment." *Id.*

### **Amended Petition**

In its June 3, 2004 order, the Board requested additional information regarding the off-site environmental impact of the migration of groundwater with levels of certain contaminants above Class I groundwater standards. Order at 2. Hayden responded in its amended petition that Environmental Operation, Inc. (EOI), its consultant, had modeled these impacts based on groundwater flow toward the southwest. Am. Pet. at 2. Specifically, EOI calculated simulated downgradient concentrations using TACO (Tiered Approach to Corrective Action Objectives) Plus! Software and Equation R-26. Am Pet., Exh. 1 at 1; *see* 35 Ill. Adm. Code 742.810 ("Calculations to Predict Impacts from Remaining Groundwater Contamination"). Hayden states that these simulations "are considered conservative because the model does not include retardation, degradation or attenuation factors." Am. Pet., Exh. 1 at 1.

Hayden states that arsenic was detected in 2001 at levels exceeding the groundwater standard only at the upgradient well designated MW-2. Am. Pet. Exh. 1 at 3. Based on the results of modeling described above, the arsenic concentration met the 0.05 mg/L standard at a distance 23.28 meters along the downgradient flow line to the southwest from MW-2, a point

within the Hayden site boundary. *Id.* In other words, these modeling results show no off-site environmental impact of the flow of arsenic from the Hayden site.

Hayden also states that iron was detected in 2001 at levels exceeding the groundwater standard at the four upgradient monitoring wells MW-1, MW-2, MW-3, and MW-4. Am. Pet., Exh. 1 at 3. Based on the modeling results, the iron concentrations met the 5.0 mg/L standard at distances 82.42 meters, 145.57 meters, 21.43 meters, and 19.13 meters, respectively, along the downgradient flow line to the southwest from those four wells. *Id.* All four of those distances fall within the Hayden site's boundary. *Id.* Hayden further states that iron was detected in 2001 at levels exceeding the groundwater standard at the downgradient monitoring wells MW-6 and MW-8. Am. Pet., Exh. 1 at 3-4. Based on the results of modeling described above, the iron concentration met the 5.0 mg/l standard within 39.77 meters along the downgradient flow line to the southwest from MW-6. This point lies beneath an interchange for the adjacent Interstate Highway 55/70. Am. Pet., Exh. 1 at 3. For MW-8, the iron concentration met the standard within 28.25 meters, which is beneath the right-of-way for the adjacent Illinois State Route 203. Am. Pet, Exh. 1 at 4

Hayden states that lead was detected at levels exceeding the groundwater standard at upgradient monitoring wells MW-1 and MW-2. Am. Pet., Exh 1 at 4. Based on the modeling results, the lead concentrations met the 0.0075 mg/L standard at distances 27.33 meters and 17.11 meters, respectively, along the downgradient flow line to the southwest from those two wells. Both of those distances fall within the Hayden site's boundary. *Id.* Hayden also states that lead was detected at levels exceeding the groundwater standard at the downgradient monitoring wells MW-6 and MW-8. *Id.* Based on the results of modeling described above, the lead concentration met the 0.0075 mg/l standard within 29.65 meters along the downgradient flow line to the southwest from MW-6. This point lies beneath an interchange for the adjacent Interstate Highway 55/70. *Id.* For MW-8, the iron concentration met the standard within 26.40 meters at a point beneath the right-of-way for the adjacent Illinois State Route 203. *Id.*

Hayden states that manganese was detected at levels exceeding the groundwater standard at all four upgradient wells MW-1, MW-2, MW-3, and MW-4 and at all four downgradient wells MW-5, MW-6, MW-7, and MW-8. Am. Pet., Exh. 1 at 4. Based on the modeling results, only the downgradient flow from MW-3 meets the manganese standard of 0.15 mg/L within the Hayden site boundary. *Id.* Flows meet that standard within distances of 198.63 meters, 229.57 meters, and 234.33 meters, respectively, from MW-1, MW-2, and MW-4. *Id.* Flows from downgradient wells MW-5, MW-6, MW-7, and MW-8 meet the standard within 64.29 meters, 127.15 meters, 165.37 meters, and 187.75 meters, respectively. *Id.* Although this potentially extends groundwater contamination as far as a point 616 feet southwest of the Hayden site, that range falls entirely beneath the rights-of-way for the adjacent Interstate Highway 55/70 and Illinois State Route 203. Am. Pet., Exh. 1, Figure 3. Hayden concludes that “[n]o other offsite properties are potentially impacted, based on the results of the modeling.” Am. Pet., Exh. 1 at 4.

In its June 3, 2004 order, the Board also requested additional information about off-site properties downgradient from the Hayden site and any existing or anticipated uses of the groundwater from those properties. Order at 2. Hayden indicates that there are two properties within 1000 feet to the south or west of the Hayden Site: the state-owned rights-of-way for

Interstate Highway 55/70 and Illinois State Route 203, and the Gateway Midstate Truck Plaza. Am. Pet. at 4, Exh.1, Figure 1. Hayden further notes that the Gateway International Raceway property, situated west of Route 203, is more than 1000 feet downgradient from the site. Am. Pet at 4, Exh. 1 at 4. While the truck plaza operates various facilities on the northern portion of its property, the southern two-thirds of its site, which is closest to the Hayden site, is used only for parking. *Id.*; *see also* Am. Pet., Figure 1. To the south, Hayden reports that its site borders the right-of-way for Interstate Highway 55/70 and that properties adjacent to the right-of-way to the south are more than 1000 feet downgradient from the site. Am. Pet. at 4, Exh. 1 at 4. Consequently, Hayden concludes that, because modeling shows that flows from the Hayden site meet applicable standards within 616 feet of the site boundary, “no properties west of Rt. 203 or south of Interstate 55-70 are impacted.” *Id.*

In response to the Board’s June 3, 2004 order, Hayden also reports that it conducted a search of wells within 2500 feet of the Hayden site with Environmental Data Resources, Inc. (EDR) and the Illinois State Geological Survey (ISGS). Am. Pet. at 4-5. That search concluded that “[t]here are no potable or public water supply wells located within 2500 ft of the site.” Am. Pet. at 4. Because the nearest downgradient wells are approximately 4500 feet from the Hayden site, “there is no existing water use on adjacent properties downgradient of the site.” Am. Pet., Exh. 1 at 4

In addition, Hayden notes that, “due to presence of the highways” adjacent to the Hayden site, “future property uses are expected to remain the same” without any anticipated use of the groundwater. Am. Pet., Exh. 1 at 4. Hayden again notes that a municipal ordinance enacted by the City of Madison and an ELUC will preclude the development of that groundwater as a potable resource. *Id.*

In its June 3, 2004 order, the Board requested clarification regarding the location of wells that might be located within 2500 feet of the Hayden site. Order at 2. Based on the well search conducted by EDR and ISGS, Hayden restates that “[t]here are no potable or public water supply wells located within 2500 ft of the site.” Am. Pet. at 4; *see also* Pet., Exh. C, Attachment 2. Hayden further states that “[t]he only wells within 2500 ft of the site were monitoring wells, and those wells were upgradient of the site. Am. Pet., Exh. 1 at 5, Figure 4.

Also in its June 3, 2004 order, the Board noted that the original petition did not include a map of the Hayden site that clearly identified various specified features such as wells and downgradient properties. Order at 2. In response, Hayden submitted a map that was “scanned from an enhanced aerial photo provided by St. Clair County and shows the Milam landfill, the Gateway International Raceway, and all relevant downgradient properties.” Am. Pet., Exh. 1 at 5; *id.*, Figure 1. Hayden also submitted a map that “shows all water wells and groundwater monitoring wells within 2500 feet of the site.” Am. Pet., Exh. 1 at 5; *id.*, Figure 4.

Again in its June 3, 2004 order, the Board noted that Hayden’s petition did not clarify whether Hayden monitored groundwater at its site before 1991 or after 2001. Order at 2. In response, Hayden states that it “did not monitor groundwater at the site before 1991 or after 2001. All available groundwater monitoring results for the site were presented in the petition.” Am. Pet., Exh. 1 at 5.

### **Amended Recommendation**

In its amended recommendation, the Agency first reviewed identification of off-site properties that may be affected by groundwater flowing from Hayden's property and the anticipated use of groundwater from those properties. The Agency noted that the adjacent downgradient properties, Gateway Midstate Truck Plaza and highway rights-of-way, present no existing or anticipated uses of groundwater. Am. Rec. at 3, citing Am. Pet. at 3. Also, the Gateway International Raceway is located more than 1000 feet from the Hayden site and obtains water from the Missouri Bottoms Water Company. Am. Rec. at 3. The Agency noted the distances separating the Hayden site from various wells and cited Hayden's conclusion that modeling shows compliance with applicable standards within 616 feet of Hayden's south and southwest boundaries. *Id.*, citing Am. Pet. at 3. Noting the adoption of a groundwater use restriction (Am. Rec. at 4, citing Pet., Exh. H), a highway authority agreement, and an ELUC (Am. Rec. at 4, citing Pet., Exh. I), the Agency concludes that "there should be no future exploitation of the groundwater resource in the general vicinity of the site." Am. Rec. at 4.

The Agency also noted that the Board sought clarification of whether there are potable or public water supply wells within 2500 feet of the Hayden site. Although it refers to the well search concluding that only upgradient monitoring wells are within 2500 feet of the Hayden site, the Agency states that the location of any *private* wells supplying potable water may not appear in the data of the ISGS or the Illinois State Water Survey (ISWS). Am. Rec. at 4-5 (emphasis added). Consequently, the Agency proposed that "it may be prudent to request a physical survey of the site area to determine if any private water supply wells are present." Am. Rec. at 5.

The Agency further noted that the Board had requested a map of the Hayden site identifying specific features. Am. Rec. at 5; *see* Order at 2. The Agency observed that the Amended Petition and its exhibits showed the location of the Hayden site in relation to surrounding properties, the physical surface and groundwater elevations, a simulated manganese plume, and well locations. Am. Rec. at 5; *see* Am. Pet.; Exh. 1 (Figures 1-4). Although the Agency characterized these as "adequate" (Am. Rec. at 5), it noted that the approximate scale of Figure 3 may not be correct and that the simulated manganese plume may extend further than indicated beyond the right-of-way for Illinois State Highway 203. Am. Rec. at 5-6.

The Agency also noted that the Board had requested whether Hayden had monitored groundwater at its site either before 1991 or after 2001. Am. Rec. at 6; *see* Order at 2. After restating Hayden's response that it had not performed monitoring during those times and that its original petition reflected all monitoring results available to it, the Agency observed that Hayden's groundwater data (Pet., Exh. C) correspond with the Agency's own data. Am. Rec. at 6.

In its amended recommendation, the Agency evaluates information supplied by Hayden regarding the off-site environmental impacts of the four constituents with levels exceeding applicable standards. After reviewing Hayden's modeling procedures and parameters, including Equation R-26 (Am. Rec. at 9-10), the Agency states that Hayden's model is designed for cases in which the source of contamination has been removed and "is not typically used for landfill

contaminant transport modeling.” Am. Rec. at 10. Nonetheless, the Agency notes that use of that model “may be justified” because there are contaminants in off-site sources and because “a specific timeframe will show the estimated migration rate of the concentration at the specific time.” Am. Rec. at 11.

The Agency also believes that Hayden erred in stating that the R-26 Equation does not weigh attenuation and degradation. Am. Rec. at 11. Although the equation may consider these factors, the Agency states that Hayden did not supply data that would enable it to duplicate Hayden’s calculations. Without those, the Agency states it cannot determine whether the model accounts for attenuation or degradation. Am. Rec. at 11.

Also, the Agency stresses that “the model did not use the highest, most conservative concentrations as the source concentrations for the model input.” Am. Rec. at 12. Specifically, the Agency notes that the modeling in Hayden’s amended petition used only the most recent 2001 data when some higher concentrations were recorded in either the 1999 or 2000 monitoring. *Id.* This leads the Agency to express the concern that “the modeled distances [to points reaching applicable standards] from the site boundary may not necessarily be the furthest extent that contaminants will migrate off-site.” *Id.* The Agency thus argues that the highest concentrations found in any of the sample results should form the basis for Hayden’s model.

The Agency also draws some attention to a change in the adjusted standard requested by Hayden. In its original petition, the highest concentration of each constituent at any of eight monitoring wells formed the basis of Hayden’s proposal. In preparing its amended petition, Hayden noted that three of those monitoring wells, MW 5-7, are actually off-site by a short distance. Am. Rec. at 13; Am. Pet. at 7. Accordingly, Hayden revised its request with regard to two constituents to reflect the highest concentrations observed at the monitoring wells actually located within the boundaries of its site. *Id.* The Agency notes, however, that the amended petition did not contain information verifying the adjusted location of the site boundary. Am. Rec. at 14.

### **Response to Amended Recommendation**

In its response to the amended recommendation, Hayden notes that the Board requested information on downgradient properties, groundwater use there, the existence of wells within 2500 feet of the site, and a site map. Resp. Am. Rec. at 2; Order at 2. Stating that “[t]he IEPA agrees with Hayden’s analysis of off-site downgradient properties and anticipated uses” (Resp. Am. Rec. at 2, citing Am. Rec. at 3-4), Hayden provides no further information on that topic. Resp. Am. Rec. at 2.

Hayden further states in its response to the amended recommendation that “IEPA agrees that Hayden has identified the locations of potable and public water supply wells located within 2500 feet of the site.” Resp. Am. Rec. at 3, citing Am. Rec. at 4. The Agency had suggested that Hayden could not rule out the possibility that there is a private water supply well within that 2500-foot radius and proposed a physical survey in order to confirm that such a well did not exist. In response to this suggestion, Hayden first obtained from the St. Clair County Mapping and Platting Office a document listing all parcels within 2500 feet of its site. Resp. Am. Rec. at

3, Exh. A. (listing 36 parcels including Hayden's). That information served as the basis of a chart listing each parcel, its owner, and whether a telephone contact or physical survey was performed to confirm that there is no private or potable water supply well on that parcel. Resp. Am. Rec. at 3, Exh. B. For each of those parcels, Hayden obtained the response that there exists no such well on that property. *Id.*

Hayden further notes that, in response to the Board's request for a detailed site map, it had provided a map identifying wells and other sites in its amended petition. Resp. Am. Rec. at 3, citing Am. Pet., Exh. 1 (Figures 1-4). Figure 3 showed a simulated manganese plume, although the Agency in its amended recommendation noted that the scale used in that map may not be correct. Resp. Am. Rec. at 4; Am. Rec. at 5-6. In response, Hayden submitted a Revised Figure 3 with a corrected scale. Resp. Am. Rec., Exh. D. As a result of this correction, "the migration of manganese (as modeled for MW-6) now extends 687.53 meters (2,255 feet) beyond Hayden's property boundary." Resp. Am. Rec. at 4. Because this extends only to property used as a parking lot, and because Hayden has demonstrated that there are no water supply wells within a radius of 2500 feet from its site, Hayden apparently suggests that this correction should not affect the Board's analysis of its petition. *Id.*

In its response to the amended recommendation, Hayden notes that the Agency raised several points regarding the modeling of the migration of groundwater with levels of specified inorganic chemicals exceeding applicable standards. Resp. Am. Rec. at 6. Hayden first addressed the Agency's concern that Hayden's model "did not use the highest, most conservative concentration for the input parameters." Resp. Am. Rec. at 7, citing Am. Rec. at 12-13. Specifically, the agency noted that Hayden had applied data from its most recent sampling in 2001, although higher concentrations had been observed in earlier sampling. Am. Rec. at 12. Because Hayden believes that natural attenuation will cause concentration levels to decrease over time, it respectfully disagreed with the Agency's analysis of the modeling inputs. Resp. Am. Rec. at 7. To provide the most conservative results, however, Hayden re-modeled the flow of groundwater from its site using the highest concentrations, most of which were observed in 1999. *Id.*

Hayden states that arsenic was detected at levels exceeding the groundwater standard only at upgradient wells designated MW-1 and MW-2 in 2001. Resp. Am. Rec., Exh. D at 2. Based on the results of re-modeling described above, the arsenic concentration met the 0.05 mg/L standard at a distance 19.52 meters and 23.28 meters, respectively, from MW-1 and MW-2. Both points fall within the Hayden site boundary along the downgradient flow. *Id.* In other words, these re-modeling results show no off-site environmental impact of the flow of groundwater from the Hayden site. *Id.*

Hayden states that iron was detected at levels exceeding the groundwater standard at all eight monitoring wells in 1999 and 2000 and at all four upgradient wells and at two downgradient wells in 2001. Resp. Am. Rec., Exh. D at 3. Based on the re-modeling results described above, the iron concentrations met the 5.0 mg/L standard at distances ranging from 230.27 meters to 625.64 meters from downgradient wells. *Id.* Simulated plumes from these downgradient wells show that the applicable standard for iron is exceeded in groundwater beneath downgradient properties including Interstate Highway 55/70, Illinois State Route 203,

and the Gateway International Raceway. Resp. Am. Rec., Exh. D, Figure 3 (modeling flow of iron from MW-5, MW-7, and MW-8).

Hayden states that lead was detected at levels exceeding the groundwater standard at all eight monitoring wells in 1999 and 2000, at upgradient monitoring wells MW-1 and MW-2 in 2001 and in downgradient wells MW-6 and MW-8 in 2001. Resp. Am. Rec., Exh D at 3. Based on the re-modeling results described above, the lead concentrations met the 0.0075 mg/L standard at distances ranging from 38.75 meters to 177.74 meters along the downgradient flow line to the southwest from the four downgradient wells. The applicable standard for lead “is potentially exceeded beneath the downgradient properties south and southwest of the site, including the Interstate 55/70 interchange and Illinois State Route 203.” *Id.*; *see also* Resp. Am. Rec., Exh. D, Figure 3. (showing re-modeled simulated plumes extending farther for other contaminants).

Hayden states that manganese was detected at levels exceeding the groundwater standard at all eight monitoring wells at the time of each sample. Resp. Am. Rec., Exh. D at 3. Based on the re-modeling results described above, the manganese concentrations met the standard of 0.15 mg/L at distances ranging from 198.73 meters to 687.53 meters along the downgradient flow line to the southwest from the four downgradient wells. Resp. Am. Rec. Exh. D at 2-3. This potentially extends groundwater contamination 2255 feet beyond the Hayden site, including groundwater beneath Interstate Highway 55/70, Illinois State Route 203, and Gateway International Raceway. Resp. Am. Rec., Exh. D at 3 (including Figure 3 re-modeling flow of manganese from MW-6). Hayden notes that the “off-site impacts extend only to the southern portion of the Gateway property, which is used for a parking lot.” Resp. Am. Rec. at 7; Resp. Am. Rec., Exh. D, Revised Figure 3. Having noted that there are no water supply wells within 2500 feet of its site and that impacts re-modeled using the most conservative inputs are less than 2500 feet from its boundary, Hayden argues that these results “do not show any off-site environmental impacts which should affect the Board’s approval of this Adjusted Standard.” Resp. Am. Rec. at 7.

Hayden further notes that the Agency questioned whether TACO Plus! Software and Equation R-26 form the appropriate package for modeling contaminants originating from landfills. Resp. Am. Rec. at 7; Am. Rec. at 10-11; *see* 35 Ill. Adm. Code 742.810 (Equation R-26). Specifically, the Agency believes that the software and equations are designed for cases in which the source of contamination has been removed. Resp. Am. Rec. at 8; Am. Rec. at 10-11. However, the Agency states that the use of those modeling tools may be justified because the use of a specific time period will demonstrate a migration rate for contaminants at that time. Resp. Am. Rec. at 8; citing Am. Rec. at 10-11. Hayden responds that, contrary to the Agency’s concern, “TACO Plus! is based on the assumption of infinite source and concentration, which does not diminish over time, [and] which are conservative assumptions.” Resp. Am. Rec. at 8, citing Resp. Am. Rec., Exh. D at 1. Accordingly, Hayden believe that natural attenuation occurring at its site justifies the use of TACO Plus! as a conservative model. Resp. Am. Rec. at 8.

Hayden further notes that the data in its amended petition did not take into account retardation, degradation, or attenuation factors. Resp. Am. Rec. at 8, citing Am. Pet at 2. The

Agency indicated that, because the amended petition did not include data that would allow it to repeat Hayden's calculations, it could not determine whether the modeling reflected attenuation or degradation. Am. Rec. at 11. In response, Hayden stresses that its data sheets and input files were supplied both in the amended petition (Am. Pet., Exh. 1, Attachment 1) and in the response to the amended recommendation (Resp. Am. Rec., Exh. D, Attachment 1). Specifically, Hayden notes that "[t]he only attenuation parameters applicable to this situation relate to dispersion because inorganics (metals) are being modeled. There is no attenuation through biodegradation or adsorption." Resp. Am. Rec. at 8. Hayden included with its response to the amended recommendation a data sheet showing "that no values were input for the first order degradation constant, and therefore, no degradation was assumed." Resp. Am. Rec. at 8; Resp. Am. Rec., Exh. D, Attachment 1 (Datasheet RBCA-VII).

Hayden further notes that, in its amended petition, proposed adjusted standards for iron and manganese differ from standards it originally proposed. Resp. Am. Rec. at 9; Am. Pet. at 7-8. Hayden accounts for this adjustment by stating that MW-5, MW-6, and MW-7 are actually situated on the adjacent right-of-way for Interstate Highway 55/70 and not on Hayden's property. Resp. Am. Rec. at 9; Am. Pet. at 7, Exh. 2 (showing Hayden property does not extend to fence line parallel to and south of property boundary). Hayden notes that the Agency had questioned whether MW-5, MW-6, and MW-7 are actually off-site wells. Resp. Am. Rec. at 9; Am. Rec. at 14. The Agency argues that a highway right-of-way does not generally include fee simple title, so there was no way to distinguish on-site and off-site wells from one another or to determine adjusted limits. *Id.*

In response to this query, Hayden submitted "documentation provided by the Illinois Department of Transportation (IDOT) showing that IDOT acquired the right-of-way lying south of parcel 02.05.0-300-018" corresponding to Hayden's site. Resp. Am. Rec. at 9. These two documents, filed in 1957 with the St. Clair County Recorder, show that land was "grant[ed], convey[ed], and dedicate[d]" to the state's Department of Public Works and Buildings for the purpose of a public highway for a total of \$117,868,80. Resp. Am. Rec., Exh. E. Accordingly, Hayden concludes that these three monitoring wells are situated off-site from its property and that the adjusted limits proposed in its amended petition remain valid. Resp. Am. Pet. at 9; Am. Pet. at 7-8.

### **CONSISTENCY WITH FEDERAL LAW**

Hayden states that the Class I groundwater quality standards generally applicable to its site are "equal to the USEPA's Maximum Concentration Levels applicable to 'at-the-tap' pursuant to the Safe Drinking Water Act." (Pet. at 11, citing Groundwater Quality Standards (35 Ill. Adm. Code 620), PCB R89-14(B), slip op. at 18 (Nov. 7, 1991)), apparently suggesting that these standards exist chiefly if not solely to protect drinking water sources. Accordingly, Hayden stresses that the City of Madison has adopted an ordinance prohibiting the use of any existing wells and installation of new potable waster supply wells at the site. Pet. at 11, Exh. H. Hayden further stresses that an ELUC has been recorded with the St. Clair County Recorder and submitted to the Agency. *Id.*, Exh. I. Consequently, Hayden states that it "has ensured that groundwater at the landfill sites will *never* be used as a potable groundwater supply, and the proposed standard is consistent with federal law." Pet. at 12 (emphasis added). Hayden appears

to argue that, since it has effectively prevented withdrawal of groundwater, the Safe Drinking Water Act and its implementing regulations do not apply and cannot be violated in the vicinity of its site. In its recommendation, the Agency “does not take issue with the substantive representations made by Hayden” (Rec. at 5) with regard to its statement of justification.

## **DISCUSSION**

### **Substantially Different Factors**

Based on its review of the record in this matter, the Board finds that the “factors relating to the petitioner are substantially and significantly different than the factors relied upon by the Board in adopting the general regulation applicable to the petitioner.” 5 ILCS 415/28.1(c)(1) (2002). The Board notes that, in adopting the Class I groundwater quality standards in 1991, it stressed the availability of groundwater for the supply of drinking water. Groundwater Quality Standards (35 Ill. Adm. Code 620), R89-14(B), slip op. at 18 (Nov. 7, 1991).

Hayden claims, and the Agency agrees, that contaminants are migrating from off-site to Hayden’s property, where they result in concentrations of arsenic, iron, lead, and manganese exceeding Class I groundwater standards. Since Hayden cannot control the use of adjoining land or the groundwater quality violations that originate there, it has opted to forbid the potable use of the site’s groundwater. The City of Madison has adopted an ordinance that bars the use or attempted use of groundwater beneath Hayden’s site as a potable water supply. In addition, Hayden has recorded an ELUC providing that the groundwater beneath the property cannot be used as a source of potable water. In addition, Hayden has found that only upgradient monitoring wells are located within 2500 feet of its site and that there are now no private wells within that radius. Accordingly, the Board finds that Hayden has demonstrated that the potable use of the groundwater at its site does not now occur and is effectively forbidden, making its factors and circumstances substantially and significantly different than those relied upon by the Board in adopting Class I groundwater standards. In so finding, the Board cautions that this holding is specific to the facts presented here, where the contaminants precluding groundwater use are not due to activities of the petitioner for an adjusted standard.

### **Efforts to Achieve Compliance and Alternatives**

Hayden notes that it effectively has four options with which it might comply with the regulations of general applicability. It could either proceed with a judicial or administrative action intended to force the source to remediate the migration of contaminants to its site or persuade a state or federal agency to proceed with an enforcement action. Hayden characterizes the cost and timing of both of these first two options as unknowable, and the Board agrees that it is virtually impossible to estimate the cost to Hayden if it initiated either of those two options, or how long it might take to resolve all issues. Moreover, the Board trusts that the Agency and the Attorney General are considering any appropriate enforcement activities.

As a third option for compliance, Hayden discounts a hydraulic barrier as technically impractical. The Agency generally concurred, noting also that the barrier would have no impact on the upgradient source of contaminants and thus would not improve the area’s overall

groundwater quality. Hayden also stressed that an effective barrier would need to extend to a depth of 80-100 feet and extend 3300 feet across the site, resulting in costs of more than \$5 million.

As a fourth option, Hayden also discounts the possibility of pumping and treating the groundwater beneath its site. The Agency generally agrees that such a system would not significantly improve the quality of area groundwater. Also, Hayden states that a system encompassing 10-12 extraction wells would cost more than \$3.5 million over 15 years. Consequently, the Board finds that Hayden has demonstrated that there is no economically reasonable and technically feasible means now available for Hayden to comply with the regulation of general applicability.

### **Impact on the Environment**

On the basis of a search of public records, Hayden identified no public water supply wells or potable water wells within 2500 feet of its site and determined that there was no current use of groundwater on adjacent downgradient properties. In response to an Agency inquiry, Hayden conducted a search to determine whether there exists a private well within that 2500-foot radius. After obtaining property records and conducting a telephone and physical survey of all of the properties within that proximity, Hayden concludes that there is no private drinking water well within 2500 feet of its site.

The Board also notes that, in response to the Agency's amended recommendation, Hayden has re-modeled the flow of groundwater from its site using the highest, and not only the most recent, concentrations obtained. Hayden also stressed that its re-modeling did not take into account retardation, degradation, or attenuation factors. After applying more conservative values in the re-modeling, Hayden found that the concentrations of the four contaminants at issue in this proceeding all met Class I groundwater standards at points no more than 2255 feet from its property. This range includes groundwater beneath Interstate Highway 55/70, Illinois State Route 203, Gateway Midstate Truck Plaza, and the southern portion of the Gateway International Raceway, which is used as a parking lot. The Agency has indicated that properties such as these present no current or anticipated uses of groundwater, and institutional controls should effectively prevent that use. The Board notes that, by its own terms, the ELUC recorded by Hayden "shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control; until the IEPA, upon written request, issues a new no further remediation determination approving modification or removal of the limitations or requirements contained herein; and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property." Even if the City of Madison rescinds its ordinance forbidding the use of the groundwater beneath the Hayden site as a source of potable drinking water, an institutional control will remain in effect until the Agency modifies or removes it.

Consequently, the Board finds that Hayden has demonstrated, under the unique circumstances here, that the requested adjusted standard will not result in environmental or health effects substantially or significantly more adverse than effects considered by the Board in adopting Class I groundwater standards. The Board emphasizes in this regard that the Agency has twice recommended that the Board grant the requested relief.

### **Consistency with Federal Law**

Hayden has taken numerous reasonable measures within its control to protect public health. Nonetheless, the Board in no way finds that the Safe Drinking Water Act, its implementing regulations, and other federal requirements cannot apply simply because measures prevent the use of a site's groundwater as a potable water supply. Nothing in the record indicates that granting this adjusted standard would be inconsistent with federal law.

### **CONCLUSION**

For the reasons described above, the Board finds that Hayden has provided sufficient justification for an adjusted standard. As provided in the order below, the Board grants Hayden the requested relief from Class I groundwater standards for arsenic, iron, lead, and manganese at its former landfill sites in Madison, St. Clair County. In granting this request, the Board does not allow Hayden to aggravate existing contamination but rather allows Hayden to avoid remedying contamination originating from another property that Hayden neither owns nor controls.

This opinion constitutes the Board's findings of fact and conclusions of law.

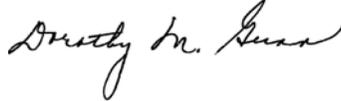
### **ORDER**

1. Pursuant to Section 28.1 of the Act (415 ILCS 5/28.1 (2002)), the Board grants Hayden Wrecking Corporation an adjusted standard from the provisions of 35 Ill. Adm. Code 620.410 solely as they apply to arsenic, iron, lead and manganese at Hayden's former landfill sites located near the intersection of Illinois State Route 203 and Interstate Highway 55/70 in Madison, St. Clair County as follows.
  - A. Except due to natural causes or as provided in 35 Ill. Adm. Code 620.450, concentrations of arsenic must not exceed 0.082 mg/L.
  - B. Except due to natural causes or as provided in 35 Ill. Adm. Code 620.450, concentrations of iron must not exceed 373 mg/L.
  - C. Except due to natural causes or as provided in 35 Ill. Adm. Code 620.450, concentrations of lead must not exceed 0.220 mg/L.
  - D. Except due to natural causes or as provided in 35 Ill. Adm. Code 620.450, concentrations of manganese must not exceed 9.12 mg/L.
2. Hayden remains subject to all other requirements under 35 Ill. Adm. Code 620.410 and to all other applicable statutes and implementing regulations.

IT IS SO ORDERED.

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2002); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on January 6, 2005, by a vote of 5-0.

A handwritten signature in cursive script, appearing to read "Dorothy M. Gunn".

Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board