

ILLINOIS POLLUTION CONTROL BOARD
May 19, 2005

PAUL JOHNSON INC.,)
)
 Petitioner,)
)
 v.) PCB 05-109
) (Water Well Setback Exception)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY and CITY OF)
 WATERMAN, ILLINOIS,)
)
 Respondents.)

RICHARD M. SAINES, BAKER & MCKENZIE, APPEARED ON BEHALF OF PETITIONER;

CHARLES W. GUNNARSON, ENVIRONMENTAL PROTECTION AGENCY, APPEARED ON BEHALF OF RESPONDENT ENVIRONMENTAL PROTECTION AGENCY; and

KEVIN E. BUICK, CLIFF, FOSTER, CORNEILLE, & BUICK, APPEARED ON BEHALF OF RESPONDENT VILLAGE OF WATERMAN.

OPINION AND ORDER OF THE BOARD (by N.J. Melas):

On December 10, 2004, petitioner Paul Johnson Inc. (PJI) filed a petition for an exception from Section 14.2 of the Environmental Protection Act (Act) and the Board's water well setback regulations to enable it to lawfully use "direct push" technology for in-situ remediation of hydrocarbon contamination. *See* 415 ILCS 5/14.2 (2002); 35 Ill. Adm. Code 106.300 *et seq.* The petitioner seeks to remediate contamination of a shallow aquifer at the site of its former truck leasing and fueling operation in Waterman, DeKalb County. Pet. at 9. The petition identifies the owner of the only affected water well as the Village of Waterman (Village),¹ and states that the affected well is a community water supply well. Pet. at 1. Today the Board grants the petitioner's requested relief subject to the conditions contained in this order.

The Board accepted the matter for hearing on December 16, 2004, simultaneously granting the petitioner's motion for expedited review. *See* Pet. at 11. On January 31, 2005, the Illinois Environmental Protection Agency (Agency) recommended that the Board grant PJI's requested relief subject to certain conditions (Resp.). The Village deferred to the Agency's

¹ The caption on PJI's petition identified Waterman, Illinois as the "City of Waterman." However, Waterman identifies itself as the Village of Waterman throughout this proceeding. Although the caption remains unchanged, the Board refers to Waterman as the "Village of Waterman" in this opinion and order.

assessment of the petition, commenting that its primary concern is for the integrity and monitoring of its water supply wells.

Board hearing officer Bradley Halloran held hearing on March 8, 2005, in Sandwich, Illinois.² The petitioner presented one witness, Mr. Steven R. Swenson, of Clayton Group Services, Inc, PJI's environmental consultants. Mr. Lynn Dunaway, a geologist with the division of public water supplies groundwater unit, testified on behalf of the Agency regarding his technical review of the Paul Johnson petition for the Agency. Mr. Norman Beeh, an engineer for the village, testified on behalf of the Village. The hearing officer found all witnesses credible and admitted five exhibits into the record.

PJI and the Village filed post-hearing briefs on March 25, 2005 (PJI Br. and Village Br., respectively). The Agency filed a post-hearing brief on March 29, 2005 (Agency Br.).

BACKGROUND

PJI states that at one time it operated a truck maintenance and leasing operation in Waterman, Illinois. PJI owned and operated several USTs used for storing fuel for the trucks. Pet. at 3. Upon removal of the USTs, PJI states it discovered they had leaked. PJI asserts it subsequently entered into the Leaking Underground Storage Tank program with the Agency under which it is currently remediating soil and groundwater. 35 Ill. Adm. Code 742. PJI believes that former underground storage tanks used to store fuel for vehicles likely contaminated the shallow groundwater aquifer located at its property with hydrocarbons. Pet. at 1. During this process, PJI learned that part of the shallow groundwater contamination is within approximately 150 feet of the existing community water supply well for Waterman, Illinois (Well #2), which is within Section 14.2 of the Act's setback zone of 200 feet. PJI asserts that its environmental consultants, the Clayton Group Services, Inc., have installed additional borings to determine the extent of the shallow groundwater plume.

The Village has three active wells, and Well #2 is one of them. Tr. at 51. Mr. Beeh, the Village engineer, states the Village uses Well #2 "all of the time." Tr. at 52.

PJI seeks to remediate the shallow groundwater contamination through in-situ bioremediation by using direct push technology. The direct push method utilizes a Geoprobe to inject microbes, nutrients, and oxygen release compound (ORC) directly into the plume of impacted groundwater. Pet. at 1.

PJI states that before treating the hydrocarbon contamination, a series of injections must be completed around the perimeter of the hydrocarbon plume to form a hydraulic barrier that prevents lateral migration of the contaminant plume during remediation. Pet. at 4. Mr. Swenson, of Clayton Group Services and on behalf of PJI, testified that existing contamination is located in the shallow groundwater, within approximately 10 to 15 feet below the ground surface, whereas the municipal well draws water from a depth of approximately 400 feet. Tr. at 37. He stated the injections, will be between ten and 14 feet below ground surface. Tr. at 20. Upon reaching a

² The Board cites to the March 8, 2005 hearing transcript as "Tr. at _."

depth of 10 to 14 feet, explains PJI, the ORC, microbes and nutrients are injected in a horizontal pattern to treat the surrounding area and control the depth of the injection. Pet. at 4.

According to PJI, after each Geoprobe injection, the open hole is backfilled with granular bentonite and hydrated. According to PJI, this process eliminates the risk of the injection points becoming future pathways of contamination into the shallow groundwater zone. Pet. at 2.

APPLICABLE STATUTES AND REGULATIONS

Section 14.2 of the Act states in part:

- (a) Except as provided in subsections (b), (c) and (h) of this Section, no new potential route or potential primary source or potential secondary source may be placed within 200 feet of any existing or permitted community water supply well or other potable water supply well.

- (c) The Board may grant an exception from the setback requirements of this Section . . . to the owner of a new potential route. 415 ILCS 5/14/2(a), (c) (2002).

Section 3.350 of the Act defines “potential route” as:

[A]ll injection wells A new potential route is:

- (1) a potential route which is not in existence or for which construction has not commenced at its location as of January 1, 1988, or
- (2) a potential route which expands laterally beyond the currently permitted boundary or, if the potential route is not permitted, the boundary in existence as of January 1, 1988. 415 ILCS 5/3.350 (2002).

Pursuant to Section 14.2(c) of the Environmental Protection Act (Act), as a “new potential source or route” of contamination, PJI must file a petition with the Board that includes: (1) a description of the potential impacts of the potential source or route on groundwater and the affected water well; and (2) an explanation of the applicable technology-based controls the petitioner will employ to minimize the potential for contamination of the potable water supply well. 415 ILCS 5/14.2(c) (2002).

The Board’s rules for this proceeding are found at 35 Ill. Adm. Code 106.300 *et seq.*

STANDARD OF REVIEW

The Board will hold at least one hearing in an exception proceeding and the hearing officer will schedule the hearing. 35 Ill. Adm. Code 106.308. The Board will grant an exception where the petitioner has presented adequate proof:

[T]hat compliance with the setback requirements of this Section would pose an arbitrary and unreasonable hardship upon the petitioner, that the petitioner will utilize the best available technology controls economically achievable to minimize the likelihood of contamination of the potable water supply well, that the maximum feasible alternative setback will be utilized, and that the location of such potential source or potential route will not constitute a significant hazard to the potable water supply well. 415 ILCS 5/14.2(c) (2002).

PAUL JOHNSON INC.'S PETITION FOR EXCEPTION

PJI states that in attempting to obtain a No Further Remediation (NFR) letter from the Agency for its site, the location of PJI's former truck maintenance and leasing business, PJI discovered the extent of petroleum contamination at the site. PJI learned that current contamination of shallow groundwater on the site extends within 150 feet of the existing community water supply for the Village. PJI proposes the use of direct push bioremediation technology to remediate the petroleum hydrocarbon contamination. Pursuant to Section 3.350 of the Act, the direct push remediation technique falls within the definition of a "new potential route" to groundwater. 415 ILCS 5/3.350 (2002). PJI claims that because it must install the remediation technology within 150 feet of the Waterman community water supply to adequately remediate the contamination, PJI requests an exception from the 200-foot water well setback rule.

Arbitrary and Unreasonable Hardship

PJI argues that the Board should grant the requested relief allowing the bioremediation to avoid delaying cleanup and adding significant costs. With each of the other remediation alternatives, PJI asserts the negatives outweigh the respective benefits. Pet. at 4.

PJI argues that three primary factors would make adhering to the setback requirements arbitrary and unreasonable. Pet. at 5. First, the reason for seeking an exception from the setback requirements is to remediate the site and improve water quality. Second, within the setback zone, only the shallow groundwater zone must be remediated. The shallow groundwater zone is not hydraulically connected to the deeper aquifer from which the Waterman community supply well draws its water. *Id.* Therefore, asserts PJI, the injection wells will not affect the groundwater zone from which the community draws drinking water.

Third, PJI contends the longer it takes to complete remediation, the longer PJI's assets remain undistributed to the beneficiaries of Mr. Johnson's estate. Mr. Johnson, the sole shareholder of PJI, died in 2002. PJI states that it must obtain an NFR letter before the beneficiaries of the estate can receive assets. Pet. at 5.

For these reasons, PJI argues, preventing PJI from locating injection wells within the setback zone of the community water supply in order to remediate the nearby shallow aquifer would be arbitrary and unreasonable. Pet. at 6.

Best Available Technology Controls Economically Achievable

PJI contends that in-situ bioremediation is the best available technology economically achievable. PJI considered several factors in choosing the proper technology to remediate the site. First, PJI considered which remediation technology would be most effective in cleaning up the existing contamination without increasing the risk of worsening the contamination. PJI also considered the “economic achievability” of any potential technology. Pet. at 6.

In addition to in-situ remediation, Clayton evaluated the following three alternatives: (1) installing a traditional pump-and-treat system; (2) attempting to use Electric Resistive Heating (ERH); and (3) relocating the community supply well to an area free of existing contamination. As discussed below, PJI determined that each of the alternatives presented technical, practical, or financial obstacles that eliminate them as the preferred approach. Pet. at 6.

Pump and Treat

PJI claims that the pump-and-treat alternative is neither technically feasible nor economically reasonable. For example, the estimated cost to design and install the pump-and-treat system is \$100,000 to \$150,000 with long-term operation and maintenance costs of approximately \$400,000 to \$500,000 over 20 years. Pet. at 7.

Electric Resistive Heating

According to PJI, ERH is an emerging in-situ remediation technology that uses the heat generated by the resistance of the soil to the flow of electrical current to raise subsurface temperatures and force the contaminant into the vapor phase. A vapor recovery system then removes the vapor from the subsurface. Pet. at 7. PJI claims that to date, ERH has not been used to remediate residual hydrocarbon contamination in a shallow aquifer. PJI estimates that the cost to complete the site using this technology would be between \$600,000 and \$700,000 and take approximately one to two years. PJI states that because of the high cost and uncertainty of this type of application, ERH is not the preferred alternative. Pet. at 7-8.

Relocation

PJI estimates that relocating and replacing the municipal well would cost between \$750,000 and \$1,000,000. PJI states that in addition, there are several unknowns involved. For example, the list of unknowns include: the number of test borings and pump tests to determine the sustainable yield of the aquifer; the distance required to connect the new well to the existing water supply network; the need to purchase property on which to install the well; and whether easements or condemning property will be necessary to locate the pipeline. PJI states that replacing the municipal well is cost prohibitive and too uncertain. Pet. at 8.

In-Situ Bioremediation

PJI describes in-situ bioremediation as using direct push technology to deliver microbes, oxygen, and nutrients directly to the areas of contamination. Pet. at 8. In this process, soil

microorganisms convert the hydrocarbons to carbon dioxide, water and biomass. Pet. Exh. C. According to PJI, treatment will consist of multiple injection points via direct push equipment. Each injection point will first undergo a pre-injection pathway development, which is a 10 second blast of a 175 pounds per square inch (psi) air stream. Pet. at 8-9. Next, PJI states that approximately 100 gallons of bio-slurry and 10 gallons of liquid heterotrophs, hydrocarbon degrading bacteria, will be injected into the subsurface in a horizontal pattern outward from the injection point. Pet. at 9.

After the bio-slurry injection, PJI states the remediation consists of injections of ORC and a mixture of nutrients and dilute hydrogen peroxide to accelerate the degradation process, done in the same manner as the bio-slurry injections. Pet. at 9.

PJI asserts that each ORC injection will consist of approximately 15 pounds of ORC and 50 gallons of water. The bio-slurry injections will consist of approximately 9.6 gallons of bio-slurry and approximately 100 gallons of water. PJI states it will place ORC injection points around the edge of the excavation in order to provide hydraulic control of the contaminated shallow groundwater. Pet. at 9.

PJI estimates the remediation to cost \$210,000 and take approximately one year to complete. Pet. at 8.

Maximum Feasible Setback Will be Used

PJI states that the edge of the plume closest to the community supply well is approximately 60 feet southeast of the municipal well. Pet. at 9. PJI states it is making every effort to minimize the number of injections within the setback of the municipal well and will work with the Agency to finalize the locations of each ORC injection well. Pet. at 10. Locations of proposed injection points were presented at hearing. Hearing Exh. 3.

Location Will Cause No Significant Hazard

Again, PJI states that because the natural features of the site provide a barrier between the shallow and deep groundwater aquifers, the two zones do not appear to be hydrogeologically connected. Pet. at 10; PJI Br. at 3. Further, PJI asserts that there is no evidence of hydrocarbon contamination in the deep groundwater zone from the existing municipal well monitoring data. PJI Br. at 3; citing Tr. at 30-31. Therefore, states PJI, in-situ remediation of the shallow aquifer will not influence the deeper aquifer from which the community supply well draws water. Pet. at 10.

PJI states that soil borings completed by Clayton show that the site to be remediated is underlain by approximately 12 feet of silty clay. Underneath the silty clay is approximately two feet of medium to fine-grained sand, and below the sand lies eight to ten feet of silty clay. Below the silty clay, sand was found to the termination of the soil boring at 24-29 feet below ground surface. Groundwater was found at 10 feet below ground surface. Pet. at 10.

The well log for the community municipal well #2 shows two shale units between the unconsolidated overburden and bedrock. According to PJI, these shale units are evidence that the shallow groundwater in the unconsolidated overburden and the bedrock aquifer used by the Village are not hydraulically connected. Pet. at 11.

Proof of Notice to Affected Potable Well Supply Owners

PJI states that, in accordance with Section 106.302(b) of the Board's rules regarding water well setback exception procedures, it has notified Mr. Tom Difasio, Director of Public Works for the Village of Waterman about the petition. Pet. at 11.

AGENCY RESPONSE

The Agency states that a review of the petition and supporting documents shows that PJI has adequately demonstrated that the use of a remediation alternative to in-situ bioremediation would pose an arbitrary and unreasonable hardship. Resp. at 5.

In its response, the Agency noted that PJI's petition indicated that some areas have already been treated with ORC, but that PJI has not demonstrated that the injections to date are having the desired effects. Resp. at 5. Further, the Agency states PJI had not provided a monitoring plan or schedule. *Id.* The Agency asserts it would support PJI's choice of direct push bioremediation as the best available technology control provided PJI entered data demonstrating the effectiveness of the direct push technology and a monitoring plan or schedule. *Id.*

Regarding the maximum feasible alternative setback, the Agency agreed with PJI's proposal. The Agency stated: "In the case of injection wells used for remediation, the maximum feasible distance is, by necessity, the same proximity as the contaminants in the groundwater to be remediated." Resp. at 6.

In order to ensure that remediation will pose no significant hazard to the potable water supply well, the Agency concluded that PJI's sampling period should be longer. The Agency states that because of the geology at the site, groundwater moves relatively slowly through the area. Resp. at 8. The Agency asserts it supports PJI's proposal so long as PJI continues remediation efforts, including sampling, until petroleum hydrocarbon levels show no exceedences of Class I groundwater quality standards under Part 620, or an acceptable remedial objective under Part 742, for a minimum of two consecutive quarters.

In conclusion, the Agency recommended the Board grant the exception subject to three conditions:

1. PJI enter data demonstrating the effectiveness of the direct push bioremediation technology into the record;
2. PJI enter data demonstrating any environmental impact or potential hazard to the potable water supply well from the direct push bioremediation technology; and

3. The Board order PJI to continue groundwater remediation efforts for petroleum hydrocarbons for a minimum of two consecutive quarters with no exceedence of a Class I groundwater quality standard (35 Ill. Adm. Code 620.410) or an applicable remedial objective (35 Ill. Adm. Code 742) before bioremediation is considered complete. Resp. at 9.

ISSUES DISCUSSED AT HEARING AND IN POST-HEARING BRIEFS

PJI

As an additional measure, PJI stated it would add an additional monitoring well between the area with the currently impacted groundwater and the municipal well. PJI Br. at 3. PJI claims this additional well would allow PJI to identify whether any bioremediation constituents migrate outside of the treatment area towards the municipal well. *Id.* Prior to initiating remediation, PJI states it would sample and analyze groundwater from this monitoring well to establish background water quality. The monitoring well would be sampled for hydrocarbon degrading bacteria, DO, ammonia, nitrate-nitrite, and ortho phosphates. PJI states that subsequent to the first treatment and until three months following the final treatment, PJI would sample the groundwater on a monthly basis and submit the analytical results to the Agency and the Village. PJI Br. at 3.

At hearing, PJI submitted a groundwater monitoring plan that shows a schedule for injections, groundwater sampling, and compliance with Class I groundwater standards and 35 Ill. Adm. Code 742 remediation objectives. See Tr. at 23; citing Group Exh. 1; Att. C. PJI states that before treatment, Clayton, will collect groundwater elevation measurements and dissolved oxygen (DO) readings from the eleven monitoring wells and six sumps at the site. Clayton will also collect total and selective bacteria plate counts from monitoring wells MW-10, MW-16, and Sump 1. Pet. Group Exh. 1, Att. C. Following treatment, PJI states Clayton will again collect groundwater elevation measurements and DO readings from the eleven wells and six sumps monthly for three months. *Id.*

After the third month, PJI states Clayton will collect groundwater samples from the eleven monitoring wells and six sumps. Pet. Group Exh. 1, Att. C. The wells and sumps will be purged, then samples taken and sent for laboratory analysis for the presence of benzene, toluene, ethylbenzene, and xylene (BTEX) and polynuclear aromatic hydrocarbons (PNAs). Clayton will submit the groundwater samples to the Agency for review. According to the groundwater monitoring plan, if the groundwater samples are below the Class I groundwater remediation objectives for BTEX and PNAs, PJI will proceed with closure. If the results identify one or more BTEX or PNA compounds above Class I groundwater remediation objectives, PJI will repeat the ORC and bioslurry direct push injection process. *Id.*

According to the groundwater monitoring plan, once the site meets the applicable groundwater remediation objectives, Clayton will sample groundwater for BTEX and PNAs quarterly, rather than monthly. Pet. Group Exh. 1, Att. C. PJI will consider remediation activities complete following two consecutive quarterly groundwater sampling events

demonstrating that all groundwater samples are below the applicable Class I groundwater remediation objectives. *Id.*

PJI also entered additional data into the record demonstrating the effectiveness of the bioremediation at the site. Tr. at 25-26; citing Group Exh. 1; Att. A, Table 1 at 5. Mr. Swenson explains that following removal of the impacted soil and source material, ORC was placed in the bottom of the excavation before backfilling. The data shows that, after treatment with ORC, the level of contamination in the groundwater in the sumps of the excavation decreased over time. Tr. at 26. In order to clarify the extent of the shallow groundwater plume, Clayton used a Geoprobe to complete seven additional borings. Tr. at 27. Mr. Swenson stated that after using the Geoprobe, a one-inch monitoring well was placed in the open hole and groundwater samples were taken. *Id.* Mr. Swenson stated that from the new borings and new round of sampling and monitoring, Clayton Services was able to define the lateral extent of the contamination. Tr. at 28-29.

The Agency

In its post-hearing brief, the Agency noted that the information it requested was entered into the record during the March 8, 2005 hearing. Agency Br. at 2; citing Tr. at 61. Further, the Agency noted that PJI agreed to continue its proposed remediation of petroleum hydrocarbons for a minimum of two consecutive quarters with no exceedences of a Class I groundwater quality standard or applicable remedial objective before remediation is considered complete. Agency Br. at 2; citing Tr. at 63.

Village of Waterman

At hearing, the Village engineer provided some additional information regarding the regional geology. He noted that the Village had installed a new well in 2002 located 1500 feet north/northwest of the current well and did not encounter shale until below 400 feet below the ground surface. Tr. at 51.

In its post-hearing brief, the Village generally defers to the Agency regarding the technical points of the petition. Village Br. at 1. Nonetheless, the Village concurs with the Agency's request that PJI continues groundwater remediation efforts for a minimum of two consecutive quarters with no exceedence of Class I groundwater quality standards before considering bioremediation complete. *Id.*

The Village states its primary concern is monitoring the Village's community water supply well #2. Village Br. at 2. The Village urges the Board to require additional monitoring to ensure that no migration of the ORC into the Village water supply is occurring. *Id.* The Village also requests that PJI, not the Village, pay the cost of any additional monitoring.

BOARD DISCUSSION

As noted above, Section 14.2 of the Act prohibits any new potential route from being placed within the minimum setback zone, 200 feet, of any community water supply well. 415

ILCS 5/14.2(a) (2002). Section 14.2, however, also gives the Board authority to grant exceptions from the setback requirements to owners of a new potential route. 415 ILCS 5/14.2(c) (2002). The owner of a new potential route seeking an exception must file with the Board and the Agency, show proof that each owner of an affected well was notified with a copy of the petition, generally describe the potential impacts of the potential route on groundwater and the affected well, and explain the technology that will be utilized to minimize the potential for contamination. *Id.* The Board finds that PJI fulfilled these general requirements in the petition.

The Board further agrees with the Agency that PJI has met its burden of proving, under Section 14.2(c) of the Act, that: (1) compliance with the setback requirements of this Section would pose an arbitrary and unreasonable hardship upon the petitioner; (2) the petitioner will utilize the best available technology controls economically achievable to minimize the likelihood of contamination of the potable water supply well; (3) the maximum feasible alternative setback will be utilized; and (4) the location of such potential source or potential route will not constitute a significant hazard to the potable water supply well.

Based on the record, the Board finds that PJI would suffer arbitrary and unreasonable hardship if it was not granted an exception from the water well setback requirements. PJI discovered that petroleum hydrocarbon contamination exists in a shallow aquifer underlying PJI's property and lies within 150 feet of the Village of Waterman's community water supply. Further, PJI cannot obtain an NFR letter from the Agency without remediating the contamination. For these reasons, the Board finds that not only would PJI suffer hardship if it were not granted an exception, but the Village of Waterman would benefit from the remediation, as well.

The Board finds that, out of the possible remediation technologies presented, in-situ bioremediation is the best available technology economically achievable to both achieve PJI's remediation goals and minimize the potential for contamination of the community water supply. Out of the other possibilities that PJI explored, the pump and treat option is not technically feasible, ERH has never before been utilized to remediate hydrocarbon contamination in a shallow aquifer, and moving the municipal well would cost at least three to four times the cost of in-situ bioremediation. In addition, the installation of an additional monitoring well between the area with currently impacted groundwater and the municipal well will provide the opportunity for early contaminant detection to minimize the likelihood of contamination of the potable water supply.

The Board finds, as the Agency notes, that "the maximum feasible distance is, by necessity, the same proximity as the contaminants in the groundwater to be remediated." The record indicates that the edge of the plume closest to the municipal well is approximately 60 feet away. From the known geology of the site, and the shallow aquifer to be remediated does not appear to be hydrogeologically connected to the deep aquifer that supplies the community drinking water. Given these factors, the Board finds PJI has shown it will utilize the maximum feasible alternative setback to remediate the contamination.

Finally, the Board finds that the "new potential route" required to remediate the site would not be a significant hazard to the community water supply. As discussed above, the

shallow aquifer to be remediated does not appear to be hydrogeologically connected to the aquifer from which the community water supply well draws its water. The Board also incorporates as a condition to the exception, the requirement that PJI install an additional monitoring well between the area currently contaminated and Well #2. As explained in its post-hearing brief, PJI will bear the costs of installing the additional well and of associated groundwater monitoring and sampling.

Accordingly, the Board finds that PJI has met its burden to of proof under Section 14.2 of the Act and the Board grants the requested water well setback exception subject to the conditions stated in the order. PJI will be required to execute a certificate of acceptance of the conditions.

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

ORDER

The Board grants Paul Johnson, Inc. (PJI) a water well setback exception from Section 14.2 of the Environmental Protection Act to utilize in-situ bioremediation via the direct push Geoprobe method for the property located at 340 West Adams, Waterman, DeKalb County, subject to the following conditions:

1. PJI must continue bioremediation activities until groundwater sampling results show no exceedence of any Class I potable resource groundwater quality standard (35 Ill. Adm. Code 620.410) or applicable remedial objective pursuant to 35 Ill. Adm. Code Part 742, for a minimum of two consecutive quarters as provided in PJI's groundwater monitoring plan (Pet. Exh. 1, Att. C).
2. PJI must install an additional monitoring well between the area with the currently impacted groundwater and the Village of Waterman's municipal well #2. PJI must perform monitoring before beginning bioremediation to establish background groundwater quality, and on a monthly basis for a period of three months following the first and final treatments. PJI must monitor the groundwater quality at the additional monitoring well for the presence of hydrocarbon degrading bacteria, dissolved oxygen, ammonia, nitrate-nitrite, and ortho-phosphate. PJI must submit the analytical results of groundwater sampling to the Environmental Protection Agency and the Village of Waterman on a monthly basis. *See* Pet. Br. at 3..
3. PJI must maintain the maximum setback practicable between its bioremediation activities and the Village of Waterman's well #2.

IT IS SO ORDERED.

If Paul Johnson, Inc. (PJI) chooses to accept this exception subject to the above conditions, PJI must, within 45 days after the date of this opinion and order, file with the Board and serve on the Agency a certificate of acceptance and agreement to be bound by all the terms and conditions of the granted exception. PJI must forward the certificate to:

Charles W. Gunnarson
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

The certificate must be signed by an officer of PJI authorized to bind PJI to all of the terms and conditions of the final Board order in this matter. The form of the certificate follows:

CERTIFICATE OF ACCEPTANCE

I (We), _____, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 05-109, dated May 19, 2005, understand and accept the opinion and order, realizing that this acceptance renders all terms and conditions of the water well setback exception set forth in that order binding and enforceable.

Petitioner: PAUL JOHNSON, INC.

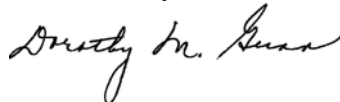
By: _____
Authorized Agent

Title: _____

Date: _____

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 May 19, 2005, by a vote of 5-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board