ORIGINAL

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SANGAMON VALLEY FARM SUPPLY Petitioner, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and VILLAGE OF SAYBROOK, ILLINOIS, Respondents.	)	PCB No. 0-043

NOTICE OF FILING

To: Charles J. Northrup, Esq.
Sorling, Northrup, Hanna,
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Suite 800 Illinois Building
607 East Adams
P.O. Box 5131
Springfield, Illinois 62705

Mr. Ronald E. Stauffer, Mayor
Village of Saybrook
234 West Lincoln Street
P.O. Box 357
Saybrook, Illinois 61770-0357

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the **Appearance of Joey Logan-Wilkey** on behalf of the Illinois Environmental Protection Agency in this matter, and the **Illinois EPA Response to Petition for Water Well Setback Exception**, copies of which are herewith served upon you.

Respectfully submitted,

Joey Logan-Wilkey
Assistant Counsel

October 6, 2005

Joey Logan-Wilkey
Assistant Counsel
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
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THIS FILING IS SUBMITTED ON RECYCLED PAPER

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SANGAMON VALLEY FARM SUPPLY,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB No. 06-043
	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and VILLAGE OF SAYBROOK,	)	
	)	
Respondents.	)	

APPEARANCE

I hereby file my appearance in this proceeding, on behalf of the Illinois Environmental Protection Agency.

Joey Logan-Wilkey
Assistant Counsel

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Assistant Counsel
Division of Legal Counsel
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SANGAMON VALLEY FARM SUPPLY, Petitioner	)	
v.	)	PCB No. 2006-043 (Petition for Water Well Setback Exception)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and, VILLAGE OF SAYBROOK , Respondents.	)	

ILLINOIS EPA RESPONSE TO PETITION FOR WATER WELL SETBACK EXCEPTION

NOW COMES the Respondent, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ("Illinois EPA"), by Joey Logan-Wilkey, one of its attorneys, and respectfully submits its RESPONSE TO THE PETITION FOR A WATER WELL SETBACK EXCEPTION, ("Response") according to 35 Ill. Adm. Code 106.306(a). This Response is in reply to the Petition filed with the Illinois Pollution Control Board ("Board") on September 19, 2005, by Petitioner SANGAMON VALLEY FARM SUPPLY, ("SVFS") requesting a Water Well Setback Exception pursuant to Section 14.2 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/14.2 (2002).

INTRODUCTION

1. The Illinois EPA received the Petition for the Water Well Setback Exception on September 16, 2005. It has been given Illinois EPA file number 374-05. A petition requesting an exception to the minimum setback zone of Saybrook well #3 has been filed with the Board

and the Illinois EPA. However, all three of Saybrook's community water supply wells (wells #1, #2, and #3) have 400 foot minimum setback zones. Therefore, the proposed Potential Routes fall within the minimum setback zones of all three wells. The petition should therefore request an exception from all three minimum setback zones.

NOTIFICATION OF WATER SUPPLY

2. A Proof of Service affidavit was included with the petition stating that the Respondent VILLAGE OF SAYBROOK ("Saybrook") water supply, the only affected community water supply, has been provided with a copy of the petition.

RELIEF SOUGHT BY THE PETITIONER

3. Petitioner requests a water well setback exception so that it may perform remedial actions to address the release of petroleum hydrocarbons to shallow groundwater at the former gasoline service station operated by SVFS at the corner of Main and Lincoln Streets in Saybrook, McLean County, Illinois ("Facility"). The gasoline service station is no longer in operation at the Facility. Underground storage tanks ("USTs") were utilized by SVFS at the Facility while it was in operation to store gasoline. Upon removal of the USTs, the Office of the State Fire Marshall ("OSFM") determined that one of the tanks had released gasoline. SVFS subsequently entered into the Leaking Underground Storage Tank ("LUST") program with the Illinois EPA. SVFS is currently conducting soil and groundwater remediation activities in pursuit of a no further remediation ("NFR") letter from the Illinois EPA.

4. During the process of attempting to obtain the NFR letter, SVFS learned that a portion of the current contamination in the shallow groundwater is within approximately 75 feet of the existing community water supply well for the Respondent Saybrook. In order to obtain an NFR letter, SVFS must adequately remediate the petroleum hydrocarbon contamination in the shallow groundwater at the site. SVFS proposes the use of direct push technology to inject oxygen releasing compound ("ORC") into the area of shallow groundwater contamination to remediate the petroleum hydrocarbon contamination.

5. The direct push remediation technique falls within the definition of a "new potential route" to groundwater, pursuant to Section 3.350 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/3.350 (2002). Pursuant to Section 14.2(a) of the Act, 415 ILCS 5/14.2(a) (2002), the installation of any "new potential route" to groundwater is prohibited within 200 feet of an existing community water supply well. Because a portion of the contamination lies within 75 feet of the existing community water supply for Saybrook, SVFS is requesting a water well setback exception from the Illinois Pollution Control Board ("Board") for the use of direct push technology to remediate the shallow groundwater at the Facility, pursuant to Section 14.2(c) of the Act, 415 ILCS 5/14.2(c)(2002).

LAW

6. The Act provides for a minimum setback zone, and exceptions from such setback zones, at 415 ILCS 5/14.2 (2002). These provisions, in pertinent part, are as follows:

> A minimum setback zone is established for the location of each new potential source or new potential route as follows:
>
> (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 and subsection (e) of Section 14.3 to the owner of a new potential route, a new potential primary source other than landfilling or land treating, or a new potential secondary source. The owner seeking an exception with respect to a community water supply well shall file a petition with the Board and the Agency. The owner seeking an exception with respect to a potable water supply well other than a community water supply well shall file a petition with the Board and the Agency, and set forth therein the circumstances under which a waiver has been sought but not obtained pursuant to subsection (b) of this Section. A petition shall be accompanied by proof that the owner of each potable water supply well for which setback requirements would be affected by the requested exception has been notified and been provided with a copy of the petition. A petition shall set forth such facts as may be required to support an exception, including a general description of the potential impacts of such potential source or potential route upon groundwaters and the affected water well, and an explanation of the applicable technology-based controls which will be utilized to minimize the potential for contamination of the potable water supply well.

The Board shall grant an exception, whenever it is found upon presentation of adequate proof, that 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.

Not later than January 1, 1988, the Board shall adopt procedural rules governing requests for exceptions under this subsection. The rulemaking provisions of Title VII of this Act and of section 5-35 of the Illinois Administrative Procedure Act shall not apply to such rules. A decision made by the Board pursuant to this subsection shall constitute a final determination.

(d) Except as provided in subsections (c) and (h) of this Section and Section 14.5, no new potential route or potential primary source or potential secondary source may be placed within 400 feet of any existing or permitted community water supply well deriving water from an unconfined shallow fractured or highly permeable bedrock formation or from an unconsolidated and unconfined sand and gravel formation. The Agency shall notify the owner and operator of each well which is afforded this setback protection and shall maintain a directory of all community water supply wells to which the 400 foot minimum setback zone applies.

415 ILCS 5/14.2(a), (c), and (d) (2002)

INVESTIGATION

7. The Facility is located at the intersection of Main and Lincoln Streets in the Village of Saybrook, Illinois. The Site was previously used as a gasoline service station. There were at least two USTs at the site.

8. SVFS is attempting to remediate petroleum hydrocarbons in the shallow groundwater at the Facility so it might receive an NFR letter from the Illinois EPA's LUST section and ultimately divest itself of the property.

GENERAL DESCRIPTION OF POTENTIAL IMPACTS

9. The petition does not provide a concise statement regarding the potential impacts of the potential routes on groundwater and the potable well(s). However, Section (I)(A) of the petition states: "In addition, the shallow groundwater that is the subject of the remediation efforts is the same aquifer from which the community water supply well draws its water." Therefore, it could be inferred that an impact to the aquifer, has the potential to impact the well(s). This inference is supported by the fact that treatment point samples collected by Saybrook for compliance with the Safe Drinking Water Act periodically contain detectable levels of benzene, ethylbenzene, toluene, xylene (BETX) and methyl tertiary butyl ether (MTBE).

10. The potential for the oxygen releasing compound (ORC) to impact groundwater and the potable well(s) is linked to the demonstration that the location within the setback zone does not pose a significant hazard. See the significant hazards section of this response for further discussion.

ARBITRARY AND UNREASONABLE HARDSHIP

11. The petition provides an economic analysis of the cost of ORC injection versus several other remediation methods. The economic analysis is flawed because the minimum setback zones of all of the Saybrook community wells are 400 feet, not 200 feet as stated in the petition. Since the setback zones are 400 feet, the entire Sangamon Valley FS site falls within the minimum setback zones of all of the wells. Therefore, the groundwater cleanup objective will be required to meet the Class I groundwater standards (35 IAC 620.410). Meeting the Class I standards may require significant additional remedial activities both on the Sangamon Valley FS property and off-site. For example, additional soil excavation that would aid in compliance with the groundwater standards may be required. If the excavation is cheaper than injecting ORC, the economic analysis may no longer be valid. Since the economic analysis provided in the petition may be invalid, then the conclusion based on that analysis might also be invalid. Therefore, denying the use of ORC within the minimum setback zone(s) may not impose an arbitrary and unreasonable burden if the remedial and economic circumstances are different than those analyzed. A new economic analysis should be provided that considers the requirements imposed upon a remediation that is entirely within a minimum setback zone.

BEST AVAILABLE TECHNOLOGY CONTROLS

12. This petition is for the purpose of allowing the installation of potential routes within the minimum setback zone of community water supply wells. Therefore, the best available technology (BAT) that must be addressed is the technology used to minimize the risks posed by

the injection wells. There are two means by which a potential route may introduce contaminants into an aquifer. As discussed in the petition, a potential route may provide a pathway along which surficial contaminants can migrate. The technology discussed in the petition to eliminate this concern is filling the well, after it is used, with bentonite. The bentonite will then be hydrated to make a seal. The other means by which these potential routes will introduce contaminants into the aquifer is the injection of the ORC through the push probe, directly into the aquifer. The BAT to address concerns about the ORC, is groundwater monitoring. The petition does not contain a monitoring program or schedule designed to demonstrate that the ORC injections are having the desired effects, and that they are not creating unintentional negative impacts to the aquifer or well(s). The petition should also include more recent monitoring results to demonstrate that the past ORC injections have been effective. The most recent data provided is more than a year old. Exhibit M is a fact sheet produced by Regenesis, the maker of ORC. The fact sheet recommends a monitoring program that includes contaminants of concern, oxidation-reduction potential, pH, dissolved oxygen, nitrate, total and dissolved iron, sulfate, methane, chemical oxygen demand at selected wells within and outside the treated area. Manganese should be included in the monitoring program because it is common in Illinois groundwater, and geochemically active in oxidation and reduction reactions. The Illinois EPA agrees with this recommendation and recommends including Saybrook well #3 among the wells that are regularly monitored.

MAXIMUM FEASIBLE ALTERNATIVE SETBACK

13. Typically in the setback zone exception process, the maximum feasible setback is considered to assure that the greatest possible distance between a potential source or potential route, and a potable well is maintained. Distance is proportional to the time it takes a

contaminant to move through groundwater from its source to a well. In the case of injection wells for remediation, the maximum feasible distance is necessarily as close as the location of the contaminants of concern. In the opinion of the Illinois EPA the distance between the remedial injection wells and the community water supply well is not as important as assuring that the petroleum hydrocarbons are fully remediated within the minimum setback zone.

ENVIRONMENTAL IMPACT/SIGNIFICANT HAZARD TO THE POTABLE WATER SUPPLY WELL

14. Section 14.2(c) of the Act states that the petitioner must make a demonstration to the Board that the potential route is not a significant hazard to the potable well. Closely related to this demonstration is the description required to be in the petition of the possible impacts that the potential route may have on the potable well. The petition states that the shallow groundwater that is the subject of the remediation efforts is the same aquifer from which the community water supply well draws its water. As discussed previously, the treated water samples collected by Saybrook have had recurring detections of BETX and MTBE. Therefore, it should be assumed that any contaminant introduced into the aquifer will also make its way to the Saybrook wells and the drinking water of the community. The Illinois EPA believes the petroleum hydrocarbons already in the aquifer pose a greater threat to public health and the environment than the remedial chemicals being applied. However, allowing the injection of potential contaminants within the minimum setback zone of a community water supply well should be coupled with safe guards that assure the risks posed by the injection, whether direct or collateral, are outweighed by the benefit of remediation.

15. Because of the close link between contaminants in the aquifer and Saybrook's drinking water, careful consideration must be given. In addition to chemically safe water, community water supplies are expected to provide aesthetically acceptable water. When the ORC is injected it provides oxygen and forms magnesium oxide, magnesium peroxide, magnesium hydroxide. Hydroxides are chemically basic (i.e. have a high pH). The Class I groundwater standard for pH is 6.5 to 9.0 units. Oxygen will react with a host of other chemicals. Significantly changing the pH of water or altering its chemical composition may significantly change its character before, during and after the water treatment process. Therefore, compliance with the Class I groundwater standard for pH must be addressed in the petition through the monitoring program. The Illinois EPA also recommends that the petitioner stay in close communication with the Saybrook water department regarding any water quality concerns or technical issues that may arise that could be related to changes in aquifer water quality.

CONCLUSION

16. Pursuant to Section 14.2(c) of the Act, 415 ILCS 5/14.2(c) (2002), the Illinois EPA would recommend that the Board grant a water well setback exception to SVFS in this matter, provided that the following data supports its use:

a) Revise the Petition to include all of Saybrook's Community wells, with all of the wells having 400 foot minimum setback zones;

b) Provide more recent monitoring results that demonstrate the effectiveness of previous ORC injections;

c) Provide a monitoring program and schedule to monitor contaminants of concern and other general water quality parameters;

d) Include quarterly raw water monitoring from Saybrook well #3 in the monitoring program;

e) Provide a revised economic analysis that demonstrates that ORC injection is the most economical means to achieve the required cleanup; and

f) Provide a plan for regular meetings with Saybrook water supply personnel (perhaps at the time of sampling events) to discuss any water quality complaints or treatment issues they may have encountered.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: Joey Logan-Wilkey
Joey Logan-Wilkey
Assistant Counsel
Division of Legal Counsel

Dated: October 6, 2005
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY
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Post Office Box 19276
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CERTIFICATE OF SERVICE

I, Joey Logan-Wilkey, certify that I have served the original and nine copies of the attached **Appearance** and **Illinois EPA Response to Petition for Water Well Setback Exception**, by first class mail, upon:

Ms. Dorothy Gunn, Clerk
Illinois Pollution Control Board
100 West Randolph Street, Suite 11-500
Chicago, IL 60601

And one copy each, to

Charles J. Northrup
Sorling, Northrup, Hanna,
Cullen & Cochran, Ltd.
Suite 800 Illinois Building
P.O. Box 5131
Springfield, IL 62705
(217)544-1144

Mr. Ronald E. Stauffer, Mayor
Village of Saybrook
234 West Lincoln Street
Post Office Box 357
Saybrook, Illinois 61770-0357

via first class United States mail from Springfield, Illinois, on the 6th day of October 2005, with postage fully prepaid.

Joey Logan-Wilkey
Assistant Counsel
Division of Legal Counsel

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