Source Water Assessment Program (SWAP) Report
For
Ranor, Incorporated

Prepared by the Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program

Date Prepared:
April 6, 2001

Table 1: Public Water System (PWS) Information

PWS NAME	Ranor, Incorporated
PWS Address	Bella Drive
City/Town	Westminster
PWS ID Number	2332003
Local Contact	Roger L. McDonald, Purchasing Manager
Phone Number	(978) 874-0591

Well Name	*Source ID#*	*Zone I (in feet)*	*IWPA (in feet)*	*Source Susceptibility*
Well #1	2332003-01G	127	433	High
Well #2	2332003-02G	100	402	High
Well #3	2332003-03G	100	400	High

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

? inventory land uses within the recharge areas of all public water supply sources;
? assess the susceptibility of drinking water sources to contamination from these land uses; and
? publicize the results to provide support for improved protection.

SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

INTRODUCTION

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:
This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential contaminant sources, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:
1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. DESCRIPTION OF THE WATER SYSTEM

The Wells
Ranor, Inc. obtains potable water from three bedrock wells. Specifically, building #1 obtains its water from the 560 feet deep Well #1, building #2 obtains its water from the 400 feet deep rock Well #2. Well #3 is currently inactive. Wells #1 and #2 are located in front of the respective buildings they serve. Well #1 has a Zone I of 127 feet and an Interim Wellhead Protection Area (IWPA) of 433 feet, Well #2 has a Zone I of 100 feet and an IWPA of 402 feet, and Well #3 has a Zone I of 100 feet and an IWPA of 400 feet. The building that Well #3 serves is currently used for storage only. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone Is and IWPAs.

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.

- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

The Water Quality
The wells serving the facility receive no treatment at this time. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1.

2. DISCUSSION OF LAND USES IN THE PROTECTION AREAS

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

Key issues include:
1. **Inappropriate activities in Zone Is;**
2. **Aboveground Storage Tank (AST);**
3. **Hazardous material storage;**
4. **Industrial processes -Metal fabricating;**
5. **Large Quantity Generator (LQG) of Hazardous waste ;**
6. **Septic system within the IWPA;**
7. **Transportation corridor;**
8. **Stormwater drains; and**
9. **Utility transformer within the IWPA**

The overall ranking of susceptibility to contamination for the well is High, based on the presence of at least one high threat land use or activity in the IWPA, as seen in Table 2.

1. Zone Is – Currently, the wells do not meet DEP's restrictions, which only allow water supply related activities in Zone Is. The facility's Zone Is contain the on-site buildings, driveway to the facility and parking areas. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

2. Aboveground Storage Tank – Propane bottles of various sizes are stored in a shed located in the Zone I of well #1. The propane is used to run forklifts and other machines.

3. Large Quantity Generator (LQG) of hazardous waste– Waste oil generated from the on-site manufacturing is hauled off site by a licensed contractor

Table 2: Table of Activities within the Water Supply Protection Areas

Facility Type	Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Industrial	Large Quantity Generator (LQG) of hazardous waste	All	All	High	Waste oil from manufacturing
	Storage and use of hazardous materials	All	All	High	Chemicals stored in shed
	Machine shop	No	All	High	Chemical use
	Metal fabricator	All	All	High	Chemical use
	Parking lot, driveways & roads	All	All	Moderate	Limit road salt usage and provide drainage away from wells
	Septic System	No	Well #2	Moderate	See septic systems brochure attached
	Fuel Storage Above Ground	Well #1	Well #1	Moderate	Bottles of propane
	Transportation corridor	No	All	Moderate	Route 2
	Stormwater drains	No	All	Low	

*** -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.**

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone II. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

3. Hazardous Materials Storage – Hazardous materials are stored within the Zone 1s of Well #1 and & #2. The storage area has a properly marked entrance, it is roofed, the floor is paved and the containers are properly labeled.

4. Machine shop/Metal fabricator - Some of the chemicals used at the site are acetylene, solvents and paints. In case of spills or lack of best management practices, these chemicals can end up in the water supply.

5.**Septic system –** The septic systemonlyfalls within the IWPA of Well #2. It is pumped twice a year.

6. **Transportation corridor -** Route 2 is located within the IWPA of the water supply, which increases the chances of contamination from accidents or spills and road salt.

Implementing the following recommendations will reduce the system's susceptibility to contamination.

3. PROTECTION RECOMMENDATIONS

Implementing protection measures and best management practices (BMPs) will reduce the well's susceptibility to contamination. Ranor, Inc. should review and adopt the following recommendations at the facility:

Zone I:

- ✓ Keep non-water supply activities out of the Zone I.
- ✓ Remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements. Please note that water systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying their system.
- ✓ Consider well relocation if Zone I threats cannot be mitigated. Please note that DEP permit approvals must be obtained prior to the installation of a new well.
- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.

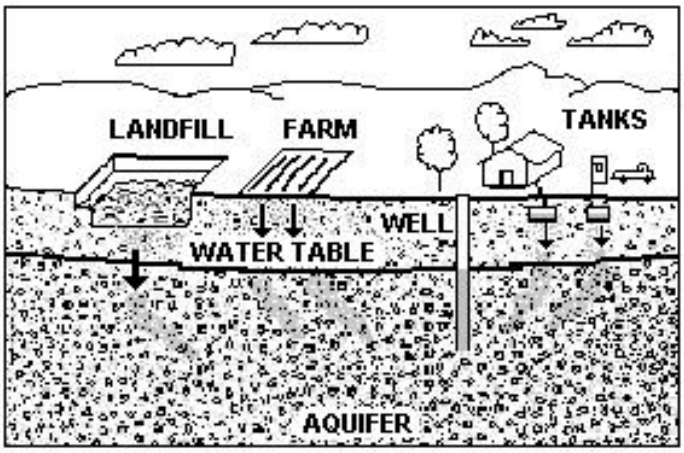

Figure 1: Example of how a well could become contaminated by different land uses and activities.

Training and Education:

- ✓ Instruct staff on proper hazardous material and waste transportation, use, disposal, emergency response, and best management practices; include custodial staff, grounds-keepers, and certified operator.
- ✓ Post drinking water protection area signs at key visibility locations.
- ✓ Work with your community to ensure that stormwater runoff is directed away from the well and is treated according to DEP Stomwater guidance.

Facilities Management:

- ✓ Implement standard operating procedures regarding proper storage, use and disposal of hazardous materials and waste. To learn more, see the hazardous materials guidance manual at http://www.dep.state.ma.us/dep/bwp/dhm/dhmpubs.htm
- ✓ Septic system components should be located, inspected, and maintained on a regular basis. Refer to the attachment for more information regarding septic

For More Information:

Contact Josephine Yemoh-Ndi in DEP's Worcester Office at (508) 792-7650 x 5030 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on DEP's web site at: www.state.ma.us/dep/brp/dws.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws, including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix
5. Source Protection Fact Sheets

Copies of this assessment have been provided to the Public Water Supplier, town boards, the town library and the local media.

systems.

- ✓ For utility transformers that may contain PCBs, contact the utility to determine if PCBs have been replaced. If PCBs are present, urge their immediate replacement. Keep the area near the transformer free of tree limbs that could endanger the transformer in a storm.

Planning:

- ✓ Work with local officials in Westminster to include the Ranor, Inc. IWPAs in Aquifer Protection District Bylaws and to assist you in improving protection.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

4. ATTACHMENTS

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Your Septic System Brochure