Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for
Clark's Corvair

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.

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

Date Prepared:
October 29, 2003

Table 1: Public Water System (PWS) Information

PWS Name	**Clark's Corvair**
PWS Address	**Mohawk Trail**
City/Town	**Shelburne, Massachusetts**
PWS ID Number	**1268003**
Local Contact	**Mr. William Barton**
Phone Number	**800-340-6041**

Well Name	*Source ID#*	*Zone I (in feet)*	*IWPA*	*Source Susceptibility*
Well #1	1268003-01G	100	412	Moderate

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, road deicing, 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 sources of contamination, 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

Clark's Corvair Parts, Inc. is located in Shelburne, a small, rural community in northwestern, Massachusetts. The facility purchases, sells, refurbishes and fabricates parts and manuals for Corvair automobiles. The total staff is approximately 40 people per day and is served by a single potable supply well (01G) located at the facility. Although the center of Shelburne does have public water and municipal wastewater sewers available, this area of town is served by an on-site water supply and septic disposal.

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 Zone I is the protected area immediately surrounding the well while the Interim Wellhead Protection Area (IWPA) provides an interim protection area for a water supply well when the actual (Zone II) recharge area has not been delineated. The actual recharge area to the well may be significantly larger or smaller than the IWPA. The Zone I and Interim Wellhead Protection Area (IWPA) radii for this facility's well are 100 feet and 412 feet, respectively, based on estimated water use of less than 1,000 gallons per day.

The overburden in the area is mapped as a thin covering of glacial till over bedrock. There is no evidence of a protective barrier of either thick till or of a confining, protective clay layer in the vicinity of the well. Wells located in these geological conditions are considered to have a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration from the surface. Please refer to the attached map of the Zone I and IWPA.

For current information on water quality monitoring results, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Refer to Table 2 for additional information regarding the location of the well and activities within the protection areas.

2. Discussion of Land Uses in the Protection Areas

The protection areas for Well #1 includes the entire facility, Route 2 as well as a residence and abutting business.

Key issues include:

1. **Non-conforming activities within Zone I,**
2. **Residential/commercial land uses with on-site septic disposal**
3. **Transportation corridors, and**
4. **Hazardous materials storage and use.**

Clark's Corvair is commended for their diligent management of hazardous materials on-site. The overall ranking of susceptibility to contamination for Clark's Corvair water system is high, based on the presence of several moderate and one high threat ranked land use or activity in the Zone I and IWPA. Please refer to Table 2 for more details.

1. Non-conforming activities within Zone I – Currently, the water supplier does own the entire Zone I area however, the activities conducted within the Zone I are non-

Table 2: Table of Activities within the Water Supply Protection Areas for Both Sources

Potential Contaminant Sources	Zone I	IWPA/ Zone II	Threat	Comments
Non-conforming Zone I	--	--	--	Non-conforming uses in Zone I
Hazardous materials storage and use	Yes	Yes	High	Continue the use of BMPs and coordinate with emergency responders.
VSQG	Yes	Yes	Moderate	Hazardous materials/VSQG
Septic system	No	Yes	Moderate	Microbial threat and potential improper disposal of hazardous materials

*** -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/.**

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

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Transportation corridor and parking	No	Yes	Moderate	Limit road deicing materials and monitor drainage upgradient of the well
Transformer (ground mounted)	Yes	Yes	Low	Although most transformers today do not contain PCBs, the oils may pose a threat due to the proximity to the well.

*** -For more information on Contaminants of Concern associated withindividual 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.

conforming and pose a threat to the water supply. Systems not meeting DEP Zone I requirements for ownership or control, must get DEP approval and address Zone I activities prior to increasing water use or modifying systems. The well is located between two of the facility's Quonset huts. Clark's is a registered Very Small Quantity Hazardous Waste Generator and heats with fuel oil utilizing two aboveground storage tanks (ASTs) that are located within buildings. The Quonset huts have cement floors with berms except at the entrance; there are no functional floor drains on site. In addition there are some parking spaces in Zone I. The parking area is paved and drainage flows away from the well.

Recommendations:

- Consider relocation of the well if potential threats cannot be mitigated and water quality is impacted by activities.
- To the extent feasible, remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements. Prohibit new non-water supply activities in the Zone I.
- Where it is feasible, remove all hazardous materials from the Zone I. Continue current good housekeeping practices and the use of BMPs for the storage, use, and disposal of hazardous materials.
- Carefully monitor the delivery, handling and storage of chemicals and products.
- Inspect the well casing and cap regularly to ensure it is sanitary and watertight.

2. Residential Land Uses – The Zone I and IWPA for Well #3 has high-density residential land use. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground and streams. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents. Visit the Nonpoint Source pollution web site for additional information at http://www.state.ma.us/dep/brp/wm/nonpoint.htm.

Residential Land Use Recommendations:

- Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" available in

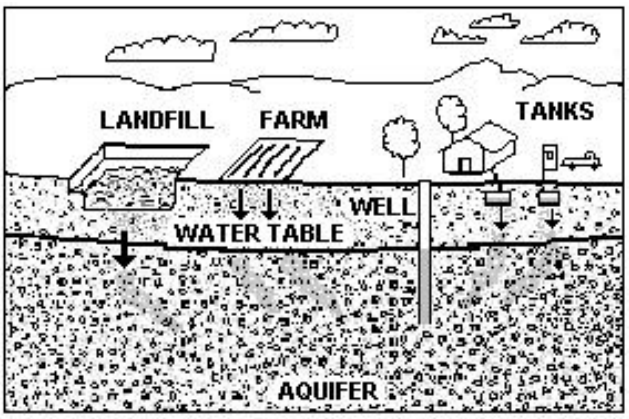

Figure 1: Example of how a well could become contaminated by different land uses and activities.

Appendix A and online at the MA DEP website - www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.

3. Transportation corridor – Route 2 is located within the IWPA and the access and parking areas for the facility are within Zone I as well. Accidents and normal use and maintenance of roads pose a potential threat to water quality. Catch basins transport stormwater from roadways and adjacent properties to the ground, streams, rivers or reservoir. As flowing stormwater travels, it picks up de-icing materials, petroleum chemicals and other debris on roads and contaminants from streets and lawns. Common potential contaminants in stormwater originate from automotive leaks, automobile maintenance and car washing, accidental spills as well as waste from wildlife and pets. Route 2 is topographically downgradient of the well, however the bedrock recharge area has not been determined for this well.

Recommendations:

- Prepare an Emergency Response Plan that includes coordination between the emergency responders to be sure they area aware of the location of your well.

4. Hazardous Materials Storage and Use – Clark's Corvair utilizes hazardous materials and generates hazardous waste. There were no floor drains observed during the assessment and the hazardous materials appeared to be handled appropriately. Spill kits and signs designating areas of storage were noted during the visit. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. Hazardous materials should never be allowed to enter a catch basin, septic system or floor drain leading directly to the ground. It should be noted that vehicle washing is a restricted activity under the UIC regulations. Review the attached fact sheet for additional information about vehicle washing activities.

Hazardous Materials Storage and Use Recommendations:

- Continue current management of hazardous materials on site and consider relocation of the well to minimize any potential threat from an accidental release at the site.

3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will further enhance the protection of the well and minimize its susceptibility to contamination. Review and consider adopting the key recommendations above and the following:

Priority Recommendations:

- Consider relocation of the well if potential threats cannot be mitigated.
- Inventory activities in the IWPA and catalog any new potential threats identified.

Zone I:

- Prohibit any new non-water supply activities from the Zone I.
- Prohibit public access to the well and pump house with locking facilities, gating roads, and posting signs as appropriate.
- Conduct regular inspections of the Zone I. Look for illegal dumping, evidence of access or vandalism.
- Redirect road drainage in the Zone I away from well area.
- Do not use or store pesticides, fertilizers or road salt within the Zone I.

Training and Education:

- Train staff on proper hazardous material use, disposal, emergency response, and best management practices. Post labels as appropriate on raw materials and hazardous waste.

For More Information:

Contact Catherine V. Skiba in DEP's Springfield Office at (413) 755-2119 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program 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

Copies of this assessment have been made available to the public water supplier, town boards, and the local media.

- Post drinking water protection area signs at key visibility locations away from the immediate wellhead area.
- Inform neighbors and consumers regarding BMPs with respect to household hazardous materials handling and disposal and septic system maintenance.

Planning:

- Work with local officials in Shelburne to review Aquifer Protection District Bylaws for compliance with 310 CMR 22.000 and to include Clark's IWPA in that district.
- 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 in the event of an emergency.
- Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a land use 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 encourage discussion of local drinking water protection measures.

4. Attachments

- Map of the Public Water Supply (PWS) Protection Areas
- Recommended Source Protection Measures Fact Sheets

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