Final

Source Water Assessment

for the

Northern Middle School Water System

Garrett County, Maryland

Prepared for:

Maryland Department of the Environment
Water Management Administration
Water Supply Program
1800 Washington Boulevard, Suite 625
Baltimore, Maryland 21230-1719

Prepared by:

EA Engineering, Science, Technology, Inc.
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

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Mike Hertz, P.G.
Task Manager

Kevin Sharpe, P.G.
Project Manager

February 2004

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AST	Aboveground Storage Tank
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CHS	Controlled Hazardous Substances
COMAR	Code of Maryland Regulations
DWEL	Drinking Water Equivalent Level
ft	Foot/Feet
gpd	Gallon(s) Per Day
gpm	Gallon(s) Per Minute
GPS	Global Positioning System
GWUDI	Ground Water Under the Direct Influence
in.	Inch(es)
IOC	Inorganic Compound
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
mg/L	Milligram(s) Per Liter
MGS	Maryland Geological Survey
NPL	National Priorities List
pCi/L	Picocurie(s) Per Liter
PWSID	Public Water System Identification
SDWA	Safe Drinking Water Act
SDWR	Secondary Drinking Water Regulations
SOC	Synthetic Organic Compound
SWAP	Source Water Assessment Plan
SWPA	Source Water Protection Area
SWPP	Source Water Protection Plan
µg/L	Microgram(s) Per Liter
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WHPA	Well Head Protection Area

EXECUTIVE SUMMARY

EA Engineering, Science, and Technology was tasked to perform a Source Water Assessment for the Northern Middle School water system in Garrett County, Maryland. The Maryland Department of the Environment (MDE) identifies this water system as Public Water System Identification (PWSID) 1110006. EA has performed this study under Purchase Order No. U00P9200205, as authorized by MDE.

The required components of this report, as described in Maryland's Source Water Assessment Plan (SWAP), are:

- Delineation of the area that contributes water to the source
- Identification of potential sources of contamination
- Determination of the susceptibility of the water supply to contamination
- Recommendations for protecting the drinking water supply

The source of the Northern Middle School water supply is the Hampshire Formation, which is an unconfined, sandy-shale aquifer. The Source Water Protection Area (SWPA) for the one ground-water supply well was delineated using the watershed delineation method for fractured bedrock wells. The SWPA is based on land topography, nearby streams, and a calculation of the total ground-water contributing area during a drought. The SWPA is approximately 43 acres and is irregular in shape.

Potential point and non-point sources of contamination within the assessment area were identified based on site visits, a review of MDE databases, and a review of sewer service area and land use maps. No point sources were identified in the SWPA. However, a leaking underground storage tank (LUST) site is located near the SWPA on the other side of a natural ground-water divide. Forests were observed within the SWPA. Forests account for 100 percent of the SWPA and are not considered a non-point source of contaminants. Well information and water quality data were also reviewed.

The susceptibility analysis for the Northern Middle School water supply is based on a review of the water quality data, potential sources of contamination, aquifer characteristics, and well integrity. It was determined that the Northern Middle School's water supply is highly susceptible to microbiological contamination. The system is moderately susceptible to volatile organic compounds, nitrate, and radionuclides, and has a low susceptibility to synthetic organic compounds, and other inorganic compounds.

Recommendations to protect the ground-water supply include creating a SWPA team, employee awareness, required ground-water sample analysis, and communication with County officials about future planning and land use.

1. INTRODUCTION

EA Engineering, Science, and Technology was tasked to perform a Source Water Assessment for the Northern Middle School water system in Garrett County, Maryland. EA has performed this study under Purchase Order No. U00P3200205, as authorized by the Maryland Department of the Environment (MDE).

The Northern Middle School water system serves the students, faculty, and staff of Northern Middle School in Garrett County. The water treatment plant and supply well for the system are located within the Northern Middle School premises. The Northern Middle School system serves a population of 475 with four connections. One well supplies water for this system (Figure 1).

1.1 GROUND-WATER SUPPLY SYSTEM INFORMATION

From a review of the well data and sanitary surveys of the system, the supply well was drilled 14 November 1975, in accordance with the current State well construction standards, which were implemented in 1973. The exposed casing of the wellhead was observed to be in good condition with a secure cap. Well 1 is assumed to have an average yield of 11,875 gallons per day (gpd) based on the population of the system using an average usage of 25 gpd per person. Table 1 contains a summary of the well construction data.

TABLE 1. WELL INFORMATION

Source ID	Source Name	Permit No.	Total Depth (ft)	Casing Depth (ft)	Aquifer
01	Well 1	GA731036	607	42	Hampshire Formation

According to MDE, the point of contact for this system is Michael Sines of the Garrett County Board of Education. The operator for the Northern Middle School water system is Dave Browning (T-II).

Presently, the system uses sodium hypochlorite for disinfection and soda ash for pH adjustment and corrosion control.

1.2 HYDROGEOLOGY

Garrett County lies entirely within the Appalachian Plateau physiographic province, and is the westernmost county in Maryland. Pleistocene terraces and recent flood plains found along the larger streams and consolidated sedimentary rocks of the mid-Paleozoic (Devonian, Mississippian, and Pennsylvanian age) dominate the surface and subsurface geology. The Mid-Paleozoic units are folded into broad anticlines and synclines that trend northeast-southwest. The anticlinal structures are underlain by Devonian rocks and contain three distinct gas fields. The synclinal structures form the coal basins of the region and are underlain by Pennsylvanian rocks.

The ground water used by Northern Middle School (Well 1) is from a production well drilled in the Paleozoic (Upper Devonian age) Hampshire Formation. The rocks of Devonian age consist of sandy shale, shale, siltstone, and thin-bedded sandstone. The Devonian rocks, in general, have a lower percentage of sandy units than the Mississippian and Pennyslvanian rock. The Hampshire formation is a "brown and green sandy shale with shale, thin-bedded sandstone and red beds." This is an important water-bearing unit in the Deer Park and Accident anticlines [Maryland Geological Survey (MGS) 1980].

The source of ground water in Garrett County is from infiltration of rainfall or snowmelt. The availability of ground water in the predominantly sedimentary bedrock depends on the lithology of the rock, the permeability of the substrate, and the presence or absence of secondary openings from fracturing and weathering. The well yields of the Hampshire Formation, from 165 wells, are 1 to 60 gallons per minute (gpm), with an average yield of 8 gpm (MGS 1980).

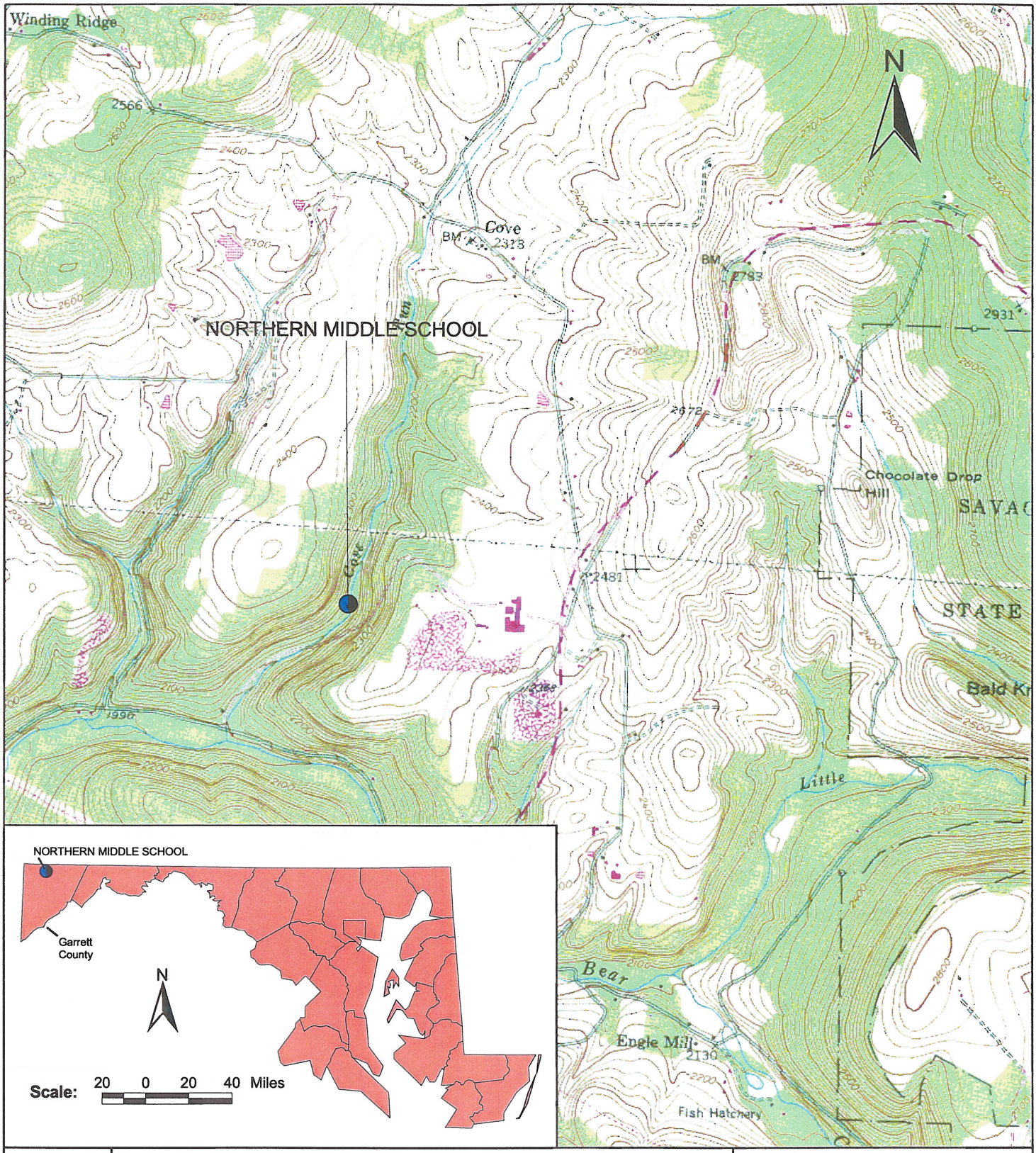

Figure 1. Northern Middle School Location Map of the Supply Well

Source Water Assessment Program
2003

Legend:

Supply Well

Source: United States Geologic Survey. 1947 (photorevised 1981). *7.5-minute Series Topographic Map for Accident, Maryland-Pennsylvania.*

Scale:

1000 0 1000 2000 Feet

2. DELINEATION OF THE AREA CONTRIBUTING WATER TO SOURCE

For ground-water systems, a wellhead protection area (WHPA) is considered to be the source water protection area (SWPA) for the system. Consistent with the recommended delineation in the Maryland Source Water Assessment Plan (SWAP) (MDE 1999), the watershed drainage area that contributes ground water to the supply wells methodology was used.

This original delineation shape was modified by accounting for surface water bodies, topography, significant land features, and by using a conservative calculation of total ground-water recharge during a drought. For conservative purposes, a drought condition recharge value of 400 gpd per acre (or approximately 5.4 in. per year) was used to estimate the total ground-water contribution area required to supply the well.

For Northern Middle School, an average withdrawal of 11,875 gpd was assumed. To determine the total ground-water contribution area during a drought, the following equation was used:

Recharge Area (acre) = Average Use (gpd)/Drought Condition Recharge (gpd/acre)

From the equation above, the total ground-water contributing area during a drought is approximately 30 acres. The delineated SWPA is approximately 43 acres (Figure 2), and is therefore adequate to meet the average daily ground-water usage during a drought.

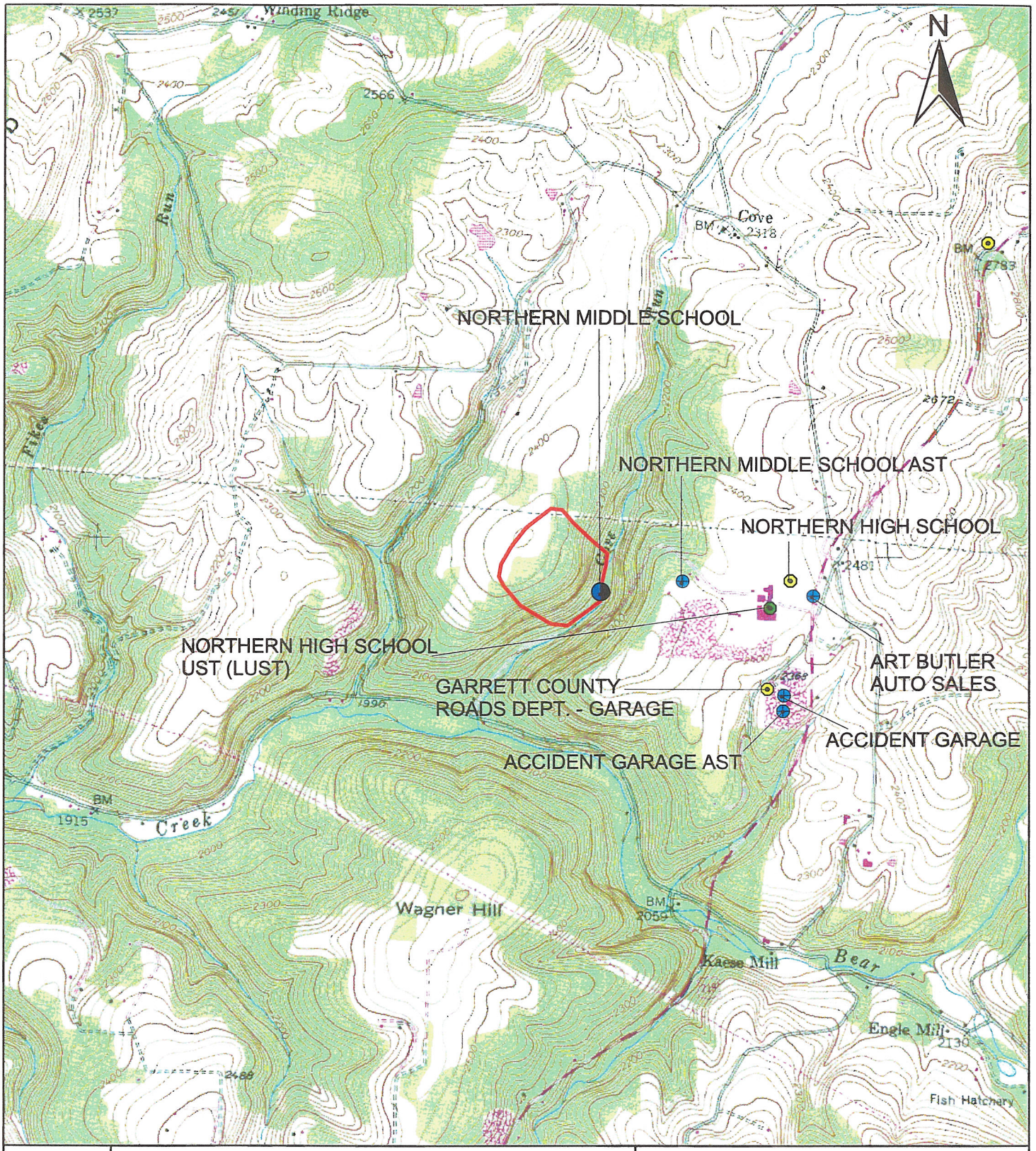

Figure 2. Northern Middle School Source Water Protection Area Map with Potential Sources of Contamination

Source Water Assessment Program
2003

Legend:
- Supply Well
- SWPA Boundary
- UST
- Miscellaneous
- LUST

Source: United States Geologic Survey. 1947 (photorevised 1981). *7.5-minute Series Topographic Map for Accident, Maryland-Pennsylvania.*

Scale:
1000 0 1000 2000 Feet

3. INVENTORY OF POTENTIAL CONTAMINANTS WITHIN THE DELINEATED AREA

A field survey was performed on 17 December 2002 to confirm potential sources of contamination identified in MDE databases around the ground-water well. These databases include the Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS), which includes National Priorities List (Superfund) sites, Maryland Registered Underground Storage Tank (UST) sites, Maryland Leaking Underground Storage Tank (LUST) sites, landfills, pesticide dealers, ground-water discharge permits, and Controlled Hazardous Substances (CHS) generator sites.

During the field survey, other sources of potential contamination not in the MDE databases were noted and the location was surveyed using a global positioning system (GPS) receiver for mapping purposes (Figure 2).

3.1 POINT SOURCES

There is a reported test well adjacent to the supply well. This test well is within the floodplain for the stream that runs adjacent to the supply well. During a flood, the test well can be a pathway for surface water to impact the ground water if not properly sealed.

3.2 NON-POINT SOURCES

Using the Maryland Office of Planning 2000 Land Use/Land Cover map for Garrett County, potential non-point sources within the SWPA were also evaluated by land use designation (Figure 3).

From an interpretation of the land use data, forest (43 acres) accounts for 100 percent of the SWPA . There are no significant sources of pollution associated with forested areas.

Using the 1993 Maryland Office of Planning Garrett County sewerage coverage, potential non-point sources from other septic system users in the SWPA were assessed (Figure 4). By overlaying the SWPA on the sewerage coverage layer in ArcView GIS, it was determined that 100 percent of the SWPA does not have public sewer service and is not planned for service for at least 10 years.

Figure 3. Northern Middle School Land Use Map of the Source Water Protection Area

Source Water Assessment Program
2003

Scale: 2000 0 2000 Feet

Legend:

- Supply Well
- SWPA Boundary
- Major Roads

Land Use

- Low Density Residential
- Commercial
- Open Urban Land
- Cropland
- Pasture
- Forest
- Wetlands

Source: Maryland Office of Planning, 2000.

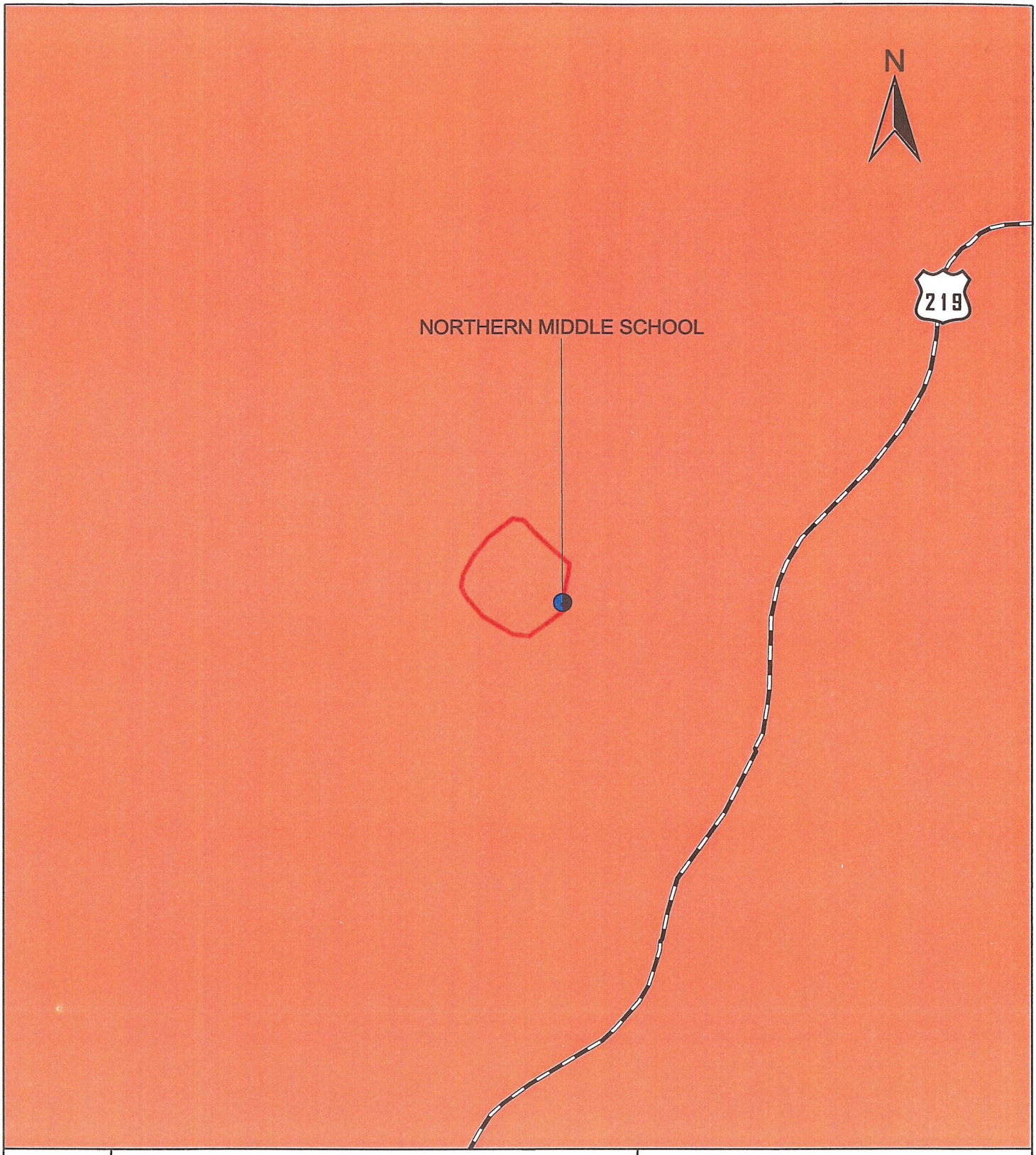

Figure 4. Northern Middle School Sewer Service Map of the Source Water Protection Area

Source Water Assessment Program
2003

Legend:

- Supply Well
- Major Roads
- SWPA Boundary
- Sewer
- No planned service area

Scale: 1000 0 1000 2000 Feet

Source: Maryland Office of Planning, 1993.

4. REVIEW OF WATER QUALITY DATA

Water quality data were obtained from the MDE Water Supply Program database of Safe Drinking Water Act (SDWA) contaminants. The results reported are for finished (treated) ground water (unless noted).

A review of the water quality data from 1990-2002 has been performed for Northern Middle School's finished water samples. Results of ground water sample analysis are shown in Appendix A.

Ground-water analytical results were compared to 50 percent of the USEPA Maximum Contaminant Levels (MCLs) or the USEPA Secondary Drinking Water Regulations (SDWR). If no MCL or SDWR was available, the Drinking Water Equivalent Level (DWEL) was substituted as recommended by the USEPA Office of Water.

4.1 GENERAL WATER QUALITY PARAMETERS

No general water quality parameters were reported in the ground-water samples greater than 50 percent of the comparison criteria.

One water sample was reported with a pH of 7.1, which is within the normal range.

4.2 VOLATILE ORGANIC COMPOUNDS

No volatile organic compounds (VOCs) were reported in the ground-water samples at concentrations greater than 50 percent of the comparison criteria.

The disinfection byproducts bromodichloromethane, chloroform, and dibromochloromethane (commonly known as trihalomethanes) were reported in the water samples at concentrations of 0.6 to 32 µg/L. The current MCL for all trihalomethanes is 100 µg/L; however, the MCL will be lowered to 80 µg/L in January 2004. Samples of chloroform (32 µg/L) and bromodichloromethane (4.6 µg/L) from 18 October 1999 are slightly less than the 50 percent total for trihalomethanes [January 2004 MCL (80 µg/L)]. No trends of increasing or decreasing trihalomethane concentrations were observed in the data reviewed.

Low levels of ethylbenzene were reported in samples collected between 27 March 1998 and 26 March 2001. The concentrations ranged from 1 to 13.7 µg/L, which is below the MCL of 700 µg/L.

Methylene chloride was detected in ground-water samples collected on 14 September 1998 and 22 October 1998. The reported concentrations were 0.9 and 0.7 µg/L, respectively, and are lower than the MCL of 5 µg/L.

Low-level concentrations of m-xylene were detected in samples collected on 27 March 1998 (10 µg/L) and 30 June 1998 (22.6 µg/L) below the MCL for all xylenes (m-, o-, p-, and total

xylene) of 10,000 µg/L. This compound was not detected in any subsequent ground-water samples.

Also, o-xylene was detected in samples collected between 27 March 1998 and 26 March 2001. Detected concentrations ranged from 0.8 to 11 µg/L below the MCL for all xylenes (m-, o-, p-, and total xylene) of 10,000 µg/L. No further samples were collected and analyzed for o-xylene.

Additionally, p-xylene was detected in low concentrations in ground-water samples collected on 18 October 1999 (5.2 µg/L) and 26 March 2001 (7 µg/L). The reported concentrations are lower than the MCL for all xylenes (m-, o-, p-, and total xylene) of 10,000 µg/L. This compound was not detected in any subsequent ground-water samples.

Low-level concentrations of total xylenes were detected in samples collected between 27 March 1998 and 26 March 2001. Concentrations of total xylenes ranged from 1.7 to 33.6 µg/L. These concentrations are lower than the MCL of 10,000 µg/L.

4.3 SYNTHETIC ORGANIC COMPOUNDS

The synthetic organic compound (SOC) di(2-ethylhexyl)phthalate (9.43 µg/L) was reported in a ground-water sample collected on 19 October1995 at a concentration greater than the USEPA MCL (6 µg/L). A summary of all di(2-ethylhexyl)phthalate concentrations in the ground-water samples is shown in Table 2.

TABLE 2. SUMMARY OF DI(2-ETHYLHEXYL)PHTHALATE ANALYSIS

Plant ID	Sample Date	Contaminant	Result	Unit
01	10/19/95	di(2-ethylhexyl)phthalate	**9.43**	µg/L
01	3/4/00	di(2-ethylhexyl)phthalate	--	µg/L
01	11/29/00	di(2-ethylhexyl)phthalate	**0.5**	µg/L

Note:
-- not detected
Shaded values are greater the MCL.

4.4 INORGANIC COMPOUNDS

No inorganic compounds (IOCs), except nitrate, were reported in the ground-water samples at concentrations greater than 50 percent of the comparison criteria.

Nitrate (5.4 mg/L) was reported at a concentration greater than 50 percent of the MCL (10 mg/L) in a sample collected 22 October 1998. A summary of all nitrate concentrations in the ground-water samples is presented in Table 3.

TABLE 3. SUMMARY OF NITRATE ANALYSIS

Plant ID	Sample Date	Contaminant	Result	Unit
01	2/8/93	Nitrate	**1.2**	mg/L
01	12/19/94	Nitrate	**1.8**	mg/L
01	5/17/95	Nitrate	**0.003**	mg/L
01	10/19/95	Nitrate	**0.8**	mg/L
01	10/30/95	Nitrate	**--**	mg/L
01	12/1/95	Nitrate	**2.3**	mg/L
01	1/23/96	Nitrate	**1.7**	mg/L
01	2/12/97	Nitrate	**1.1**	mg/L
01	10/22/98	Nitrate	**5.4**	mg/L
01	2/9/99	Nitrate	**1.7**	mg/L
01	1/5/00	Nitrate	**2.0**	mg/L
01	3/9/00	Nitrate	**1.6**	mg/L
01	2/27/01	Nitrate	**2.1**	mg/L
01	1/16/02	Nitrate	**2.1**	mg/L

Notes:
Shaded values are greater than 50 percent of the MCL.
-- = non detect.

A low-level concentration of nitrite (0.004 mg/L) was reported in a ground-water sample collected on 19 October 1995 that was less than the USEPA MCL of 1 mg/L.

Low-level concentrations of sodium were detected in ground-water samples collected on 22 October 1998 (12 mg/L) and 9 March 2000 (14.4 mg/L). USEPA has an advisory range for sodium between 30 and 60 mg/L; this is a non-enforceable criterion regarding odor and taste thresholds.

Sulfate was reported (14.2 mg/L) in the ground-water sample collected on 19 October 1995 below the SDWR of 250 mg/L.

Barium was reported in ground-water samples collected on 19 October 1995, 22 October 1998, and 9 March 2000. Sample concentrations were 0.2, 0.14, and 0.12 mg/L, respectively and are lower than the MCL of 2 mg/L.

Additionally, a low-level concentration of chloride (14 mg/L) was detected in a ground-water sample collected on 9 February 1999. The reported concentration is lower than the SDWR of 250 mg/L.

A low-level concentration of nickel (0.008 mg/L) was detected in a sample collected on 22 October 1998 below the DWEL of 0.7 mg/L. No nickel was detected in a sample collected on 9 March 2000.

4.5 MICROBIOLOGICAL CONTAMINANTS

No total or fecal coliform has been detected in samples of the water system's finished water from December 1996 to April 2002.

4.5.1 Ground Water Under the Direct Influence (GWUDI)

Surface water that directly recharges the aquifer through major fractures in rock does not pass through the soil overburden that both filters and contains beneficial microorganisms that break down contaminants. If significant variances in the ground-water results from dry and storm conditions are observed, it is possible that the ground water is under the direct influence of surface water.

To assess the potential of Ground Water Under the Direct Influence (GWUDI) of surface water, ground-water sampling records (during dry and storm conditions) in MDE databases were assessed and information from Public Water Reports was reviewed. One set of raw water wet weather results on May 13, 2003 indicated a total coliform count of 241.5 MPN (most probable number), and a fecal coliform result of 93.3 MPN.

4.6 RADIONUCLIDES

No ground-water samples have been submitted for radionuclide analysis to date.

5. SUSCEPTIBILITY ANALYSIS

To evaluate the integrity of the ground-water source, the following criteria were used to conduct the susceptibility analysis:

1. Available water quality data
2. Presence of potential contaminant sources in the SWPA
3. Aquifer characteristics
4. Well integrity
5. Likelihood of change to the natural conditions

The aquifer that supplies the Northern Middle School drinking water is unconfined. In general, unconfined aquifers are more susceptible to contamination from surface activities than confined aquifers, which are naturally protected by a layer of generally impermeable material such as clay. However, the unconfined aquifers utilized by these systems are overlain by relatively thick soil overburden, which serves as a natural microbiological and chemical filter for contaminants. According to the Soil Survey of Garrett County, Maryland [U.S. Department of Agriculture (USDA) 1974], the soils in Garrett County are generally stoney to silty loams, which both generally have a high organic carbon content. Depending on the physical properties of the contaminant, the depth of the overburden, and the size of the spill, contaminants could partition to the organic carbon in the soil before reaching the ground-water aquifer.

For the Susceptibility Analysis in this report, rankings of "high," "moderate," and "low" susceptibility to contamination were utilized after a review of current information. However, other SWAP reports for the State of Maryland also utilized rankings of "is," "may be," and "is not" susceptible to contamination. For consistency between the ranking systems, the following details their equivalence. The ranking of "highly susceptible" is equivalent to "is susceptible," "moderately susceptible" is equivalent to "may be susceptible," and "low susceptibility" is equivalent to "is not susceptible."

5.1 VOLATILE ORGANIC COMPOUNDS

No VOCs were reported at concentrations greater than 50 percent of the MCL.

The trihalomethanes reported in the water samples are likely byproducts of the chlorination process to kill waterborne bacteria. The reported concentrations were less than the MCL of 100 µg/L or the future MCL of 80 µg/L.

Ethylbenzene and total xylenes (o-, m-, and p-xylene) were detected in several ground-water samples from March 1998 to March 2001. Both compounds were less than their respective MCLs. Ethylbenzene and xylene are common constituents of gasoline. Both were detected in samples collected during the same timeframe and are likely from a related source. No point sources of gasoline were identified within the SWPA, however these contaminants could from a small, local spills or releases of gasoline.

Methylene chloride (also known as dichloromethane) was detected in samples from September and October 1998. Methylene chloride is a common laboratory cross-contaminant and is likely not present in ground water.

Based on water quality data reviewed and the presence of gasoline constituents the water supply at Northern Middle School is moderately susceptible to VOCs.

5.2 SYNTHETIC ORGANIC COMPOUNDS

Di(2-ethylhexyl)phthalate was detected in a sample collected in October 1995 at a concentration greater than the USEPA MCL. Another sample from November 2000 was reported to contain this compound at a concentration less than the MCL. The presence of this compound is due to laboratory cross-contamination.

No other SOC contaminants were detected in water samples collected. SOCs are not readily dissolved in water and have a high affinity to sorb to soil particles. From well construction data for Northern Middle School, there is approximately 40 ft of overburden that will buffer the aquifer from SOC contamination.

Based on the water quality data reviewed and the lack of point sources within and adjacent to the SWPA, the water supply for Northern Middle School has a low susceptibility to SOC contamination.

5.3 INORGANIC COMPOUNDS

No IOC concentrations were reported at concentrations greater than 50 percent of the comparison criteria.

All of the SWPA is forested land, with cropland upgradient and east of the delineated area. The SWPA is not served by public sanitary sewer systems. Northern Middle School uses a septic system, which can cause nitrate pollution in ground water and is located upgradient of the SWPA. The adjacent cropland can also introduce nitrate to ground water via fertilizers. One sample of nitrate (5.4 mg/L) had a concentration greater than 50 percent of the MCL of 10 mg/L. Since that sample was collected in October 1998, no concentration of nitrate has been reported greater than 2.1 mg/L.

Nickel was detected at a low concentration (0.008 mg/L) in a single water sample from October 1998, and is less than the DWEL (0.7 mg/L). This is likely from a natural source.

Sodium, sulfate, and chloride were detected in samples, and the concentrations were within the Garrett County general water quality parameters (MGS 1980) and less than the SDWR for each compound.

Based on the water quality data reviewed, and the presence of septic field and croplands upgradient of the SWPA, the water supply for Northern Middle School has a moderate susceptibility to nitrates and a low susceptibility to other IOCs.

5.4 RADIONUCLIDES

No water samples have been submitted for analysis of radionuclides to date.

Other samples collected from the Hampshire Formation in Garrett County have reported radon-222 concentrations that exceeded the proposed MCL [300 picocuries per liter (pCi/L)] and as high as 2,170 pCi/L. Also, gross beta and gross alpha have been detected in these samples at concentrations less than the MCL.

Based on the lack of data and the potential for the Hampshire Aquifer to contain radon-222 in excessive concentrations, the water supply at Northern Middle School is ranked as moderate susceptibility to radionuclides.

5.5 MICROBIOLOGICAL CONTAMINANTS

Raw water GWUDI testing conducted on May 13, 2003 showed levels of total coliform at 241.5 MPN, and fecal coliform at 93.3 MPN after four consecutive days of rainfall.

From documentation reviewed, the supply well was constructed after 1973, the year that current well construction techniques were required. The wellhead was observed to be in good repair.

Based on the recent GWUDI water quality data reviewed, the well's location within the floodplain of Cove Run stream bed, and an adjacent test well also located in the stream bed, which may be a pathway for surface water to impact the supply well, the water supply for Northern Middle School is highly susceptibility to microbiological contamination.

6. RECOMMENDATIONS FOR PROTECTING THE WATER SUPPLY

With the information contained in this report, Northern Middle School has a basis for better understanding of the risks to its drinking water supply. Being aware of the SWPA, knowing potential contaminant sources, evaluating current and future development, working with agricultural producers and soil conservation agencies, and effective outreach and education are examples of management practices that will help protect the water supply.

Recommendations for the protection of the ground-water supply are intended for the water supplier and its employees. Specific management recommendations for consideration are listed below.

6.1 PROTECTION TEAM

The team should represent all the interests in the community, such as water suppliers, community associations officers, the County Health Department, local planning agencies, local businesses, developers, property owners, and residents within and near the SWPAs. The team should work to reach a consensus on how to protect the water supply.

6.2 PUBLIC AWARENESS AND OUTREACH

The water supplier should consider discussing with property owners and businesses located within the SWPA the activities that could have impacts to the ground water and its quality.

The water supplier should also consider sending pamphlets, flyers, or bill stuffers to its employees to educate them about the SWPA. An example pamphlet, "Gardening in a Wellhead Protection Area," is available from MDE. The employees should also be encouraged to notify the water supplier of any significant spills from gasoline or any other potentially hazardous substances.

The school should take precautions to ensure proper function of the septic system over time. The drain field should be inspected periodically and kept void of vegetation, such as the roots of trees and deep-rooted bushes, which can disrupt function. The disposal of non-sanitary waste into septic systems should not be permitted and employees, students, and other users should be reminded of this by posting signs or circulating pamphlets. Septic systems are not designed to treat substances such as paint, drain cleaners, motor oils, solvents, nail polish, or nail polish remover and could impact the ground-water aquifer with contaminants.

6.3 PLANNING/NEW DEVELOPMENT

The water supplier should also inform the Garrett County Health and Planning Departments of any concerns about future development or zoning changes for properties that are within the SWPA.

The water supplier should be aware of the SWPA limits and evaluate the possible effects to the quality of the ground water prior to building or making any changes.

6.4 MONITORING

The water supplier should continue to monitor the ground water for all SWDA contaminants as required by MDE.

Annual raw water sampling at each well for microbiological contaminants is a good way to check the integrity of each well.

Group 4 (high risk source) GWUDI testing is required to be conducted as soon as possible after the adjacent test well is properly abandoned and sealed by a licensed well driller to determine if the ground-water quality of the supply well is affected by surface water runoff.

6.5 CONTINGENCY PLAN

The water supplier should develop a Spill Contingency Plan. Quick and effective spill response in the event of accidental spills or leaks is an important element in the water supplier's SWPP. This plan should identify the procedures and resources to be used to mitigate any discharge of oil or hazardous substances in the SWPA. It should also establish responsibilities, duties, procedures, and resource containment, mitigation, and cleanup of accidental discharges of oil and hazardous substances that may occur within the SWPA. In all cases when spills may present a significant risk of contamination to ground water within the SWPA the local fire department should be notified of the incident.

6.6 CHANGES IN USES

The water supplier is required to inform the Water Supply Program at MDE of any changes to pumping rates and when a change in the number of wells used is anticipated. Any changes to the pumping rate and/or the number of supply wells will affect the size and shape of the SWPA.

6.7 CONTAMINANT SOURCE INVENTORY UPDATES/INSPECTIONS

The water supplier should conduct its own survey of the SWPA to ensure that there are no additional potential sources of contamination.

A regular inspection and maintenance program of the supply well should be considered to prevent a failure in the well's integrity, which could provide a pathway for contaminants to the aquifer.

Any depressions around the wellhead should be filled and graded to prevent surface water ponding that could occur during rain events. This will help to prevent surface water infiltration into the well.

6.8 PURCHASE CONSERVATION EASEMENTS OR PROPERTY

Loans are available for the purchase of property or for the purchase of easements for protection of the water supply. Eligible property must lie within the designated SWPA. Loans are currently offered at zero percent interest and zero points. Please contact the Water Supply Program of MDE for more information.

7. REFERENCES

The following sources of information were consulted as a part of this investigation:

1. United States Department of Agriculture Soil Conservation Service. 1974. Soil Survey of Garrett County, Maryland. Washington, D.C.

2. Maryland Department of the Environment (MDE), Water Supply Program. 1999. *Maryland's Source Water Assessment Plan*. 36 pp.

3. United States Environmental Protection Agency (USEPA). 1999. *Proposed Radon in Drinking Water Rule*. EPA 815-F-99-006. USEPA Office of Water.

4. Maryland Geological Survey (MGS). 1980. *Garrett County Water-Well Records, Chemical-Quality Data, Ground-Water Use, Coal Test-Hole Data and Surface-Water Data*. 102 pp.

SOURCES OF DATA

Water Appropriation and Use Database
Public Water Supply Inspection Reports
Monitoring Reports
MDE Water Supply Program Oracle Database
MDE Waste Management Sites Database
Maryland Office of Planning 2000 Garrett County Land Use Map
Maryland Office of Planning 1993 Garrett County Sewer Service Map
USGS Topographic 7.5-minute Quadrangle Map – 1947 Accident, Maryland Quad

Appendix A

Results of Ground-Water Sample Analysis

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	1/17/1995	1,1,1,2-TETRACHLOROETHANE	--	
01	4/17/1996	1,1,1,2-TETRACHLOROETHANE	--	
01	2/11/1997	1,1,1,2-TETRACHLOROETHANE	--	
01	3/27/1998	1,1,1,2-TETRACHLOROETHANE	--	
01	6/30/1998	1,1,1,2-TETRACHLOROETHANE	--	
01	9/14/1998	1,1,1,2-TETRACHLOROETHANE	--	
01	10/22/1998	1,1,1,2-TETRACHLOROETHANE	--	
01	10/18/1999	1,1,1,2-TETRACHLOROETHANE	--	
01	10/16/2000	1,1,1,2-TETRACHLOROETHANE	--	
01	3/26/2001	1,1,1,2-TETRACHLOROETHANE	--	
01	12/14/1990	1,1,1-TRICHLOROETHANE	--	
01	1/17/1995	1,1,1-TRICHLOROETHANE	--	
01	4/17/1996	1,1,1-TRICHLOROETHANE	--	
01	2/11/1997	1,1,1-TRICHLOROETHANE	--	
01	3/27/1998	1,1,1-TRICHLOROETHANE	--	
01	6/30/1998	1,1,1-TRICHLOROETHANE	--	
01	9/14/1998	1,1,1-TRICHLOROETHANE	--	
01	10/22/1998	1,1,1-TRICHLOROETHANE	--	
01	10/18/1999	1,1,1-TRICHLOROETHANE	--	
01	10/16/2000	1,1,1-TRICHLOROETHANE	--	
01	3/26/2001	1,1,1-TRICHLOROETHANE	--	
01	12/14/1990	1,1,2,2-TETRACHLOROETHANE	--	
01	1/17/1995	1,1,2,2-TETRACHLOROETHANE	--	
01	4/17/1996	1,1,2,2-TETRACHLOROETHANE	--	
01	2/11/1997	1,1,2,2-TETRACHLOROETHANE	--	
01	3/27/1998	1,1,2,2-TETRACHLOROETHANE	--	
01	6/30/1998	1,1,2,2-TETRACHLOROETHANE	--	
01	9/14/1998	1,1,2,2-TETRACHLOROETHANE	--	
01	10/22/1998	1,1,2,2-TETRACHLOROETHANE	--	
01	10/18/1999	1,1,2,2-TETRACHLOROETHANE	--	
01	10/16/2000	1,1,2,2-TETRACHLOROETHANE	--	
01	3/26/2001	1,1,2,2-TETRACHLOROETHANE	--	
01	1/17/1995	1,1,2-TRICHLOROETHANE	--	
01	4/17/1996	1,1,2-TRICHLOROETHANE	--	
01	2/11/1997	1,1,2-TRICHLOROETHANE	--	
01	3/27/1998	1,1,2-TRICHLOROETHANE	--	
01	6/30/1998	1,1,2-TRICHLOROETHANE	--	
01	9/14/1998	1,1,2-TRICHLOROETHANE	--	
01	10/22/1998	1,1,2-TRICHLOROETHANE	--	
01	10/18/1999	1,1,2-TRICHLOROETHANE	--	
01	10/16/2000	1,1,2-TRICHLOROETHANE	--	
01	3/26/2001	1,1,2-TRICHLOROETHANE	--	
01	12/14/1990	1,1-DICHLOROETHANE	--	
01	1/17/1995	1,1-DICHLOROETHANE	--	
01	4/17/1996	1,1-DICHLOROETHANE	--	
01	2/11/1997	1,1-DICHLOROETHANE	--	
01	3/27/1998	1,1-DICHLOROETHANE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	6/30/1998	1,1-DICHLOROETHANE	--	
01	9/14/1998	1,1-DICHLOROETHANE	--	
01	10/22/1998	1,1-DICHLOROETHANE	--	
01	10/18/1999	1,1-DICHLOROETHANE	--	
01	10/16/2000	1,1-DICHLOROETHANE	--	
01	3/26/2001	1,1-DICHLOROETHANE	--	
01	12/14/1990	1,1-DICHLOROETHYLENE	--	
01	1/17/1995	1,1-DICHLOROETHYLENE	--	
01	4/17/1996	1,1-DICHLOROETHYLENE	--	
01	2/11/1997	1,1-DICHLOROETHYLENE	--	
01	3/27/1998	1,1-DICHLOROETHYLENE	--	
01	6/30/1998	1,1-DICHLOROETHYLENE	--	
01	9/14/1998	1,1-DICHLOROETHYLENE	--	
01	10/22/1998	1,1-DICHLOROETHYLENE	--	
01	10/18/1999	1,1-DICHLOROETHYLENE	--	
01	10/16/2000	1,1-DICHLOROETHYLENE	--	
01	3/26/2001	1,1-DICHLOROETHYLENE	--	
01	1/17/1995	1,1-DICHLOROPROPENE	--	
01	4/17/1996	1,1-DICHLOROPROPENE	--	
01	2/11/1997	1,1-DICHLOROPROPENE	--	
01	3/27/1998	1,1-DICHLOROPROPENE	--	
01	6/30/1998	1,1-DICHLOROPROPENE	--	
01	9/14/1998	1,1-DICHLOROPROPENE	--	
01	10/22/1998	1,1-DICHLOROPROPENE	--	
01	10/18/1999	1,1-DICHLOROPROPENE	--	
01	10/16/2000	1,1-DICHLOROPROPENE	--	
01	3/26/2001	1,1-DICHLOROPROPENE	--	
01	1/17/1995	1,2,3-TRICHLOROBENZENE	--	
01	4/17/1996	1,2,3-TRICHLOROBENZENE	--	
01	2/11/1997	1,2,3-TRICHLOROBENZENE	--	
01	3/27/1998	1,2,3-TRICHLOROBENZENE	--	
01	6/30/1998	1,2,3-TRICHLOROBENZENE	--	
01	9/14/1998	1,2,3-TRICHLOROBENZENE	--	
01	10/22/1998	1,2,3-TRICHLOROBENZENE	--	
01	10/18/1999	1,2,3-TRICHLOROBENZENE	--	
01	10/16/2000	1,2,3-TRICHLOROBENZENE	--	
01	3/26/2001	1,2,3-TRICHLOROBENZENE	--	
01	1/17/1995	1,2,3-TRICHLOROPROPANE	--	
01	4/17/1996	1,2,3-TRICHLOROPROPANE	--	
01	2/11/1997	1,2,3-TRICHLOROPROPANE	--	
01	3/27/1998	1,2,3-TRICHLOROPROPANE	--	
01	6/30/1998	1,2,3-TRICHLOROPROPANE	--	
01	9/14/1998	1,2,3-TRICHLOROPROPANE	--	
01	10/22/1998	1,2,3-TRICHLOROPROPANE	--	
01	10/18/1999	1,2,3-TRICHLOROPROPANE	--	
01	10/16/2000	1,2,3-TRICHLOROPROPANE	--	
01	3/26/2001	1,2,3-TRICHLOROPROPANE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	1/17/1995	1,2,4-TRICHLOROBENZENE	--	
01	4/17/1996	1,2,4-TRICHLOROBENZENE	--	
01	2/11/1997	1,2,4-TRICHLOROBENZENE	--	
01	3/27/1998	1,2,4-TRICHLOROBENZENE	--	
01	6/30/1998	1,2,4-TRICHLOROBENZENE	--	
01	9/14/1998	1,2,4-TRICHLOROBENZENE	--	
01	10/22/1998	1,2,4-TRICHLOROBENZENE	--	
01	10/18/1999	1,2,4-TRICHLOROBENZENE	--	
01	10/16/2000	1,2,4-TRICHLOROBENZENE	--	
01	3/26/2001	1,2,4-TRICHLOROBENZENE	--	
01	1/17/1995	1,2,4-TRIMETHYLBENZENE	--	
01	4/17/1996	1,2,4-TRIMETHYLBENZENE	--	
01	2/11/1997	1,2,4-TRIMETHYLBENZENE	--	
01	3/27/1998	1,2,4-TRIMETHYLBENZENE	--	
01	6/30/1998	1,2,4-TRIMETHYLBENZENE	--	
01	9/14/1998	1,2,4-TRIMETHYLBENZENE	--	
01	10/22/1998	1,2,4-TRIMETHYLBENZENE	--	
01	10/18/1999	1,2,4-TRIMETHYLBENZENE	--	
01	10/16/2000	1,2,4-TRIMETHYLBENZENE	--	
01	3/26/2001	1,2,4-TRIMETHYLBENZENE	--	
01	12/14/1990	1,2-DICHLOROETHANE	--	
01	1/17/1995	1,2-DICHLOROETHANE	--	
01	4/17/1996	1,2-DICHLOROETHANE	--	
01	2/11/1997	1,2-DICHLOROETHANE	--	
01	3/27/1998	1,2-DICHLOROETHANE	--	
01	6/30/1998	1,2-DICHLOROETHANE	--	
01	9/14/1998	1,2-DICHLOROETHANE	--	
01	10/22/1998	1,2-DICHLOROETHANE	--	
01	10/18/1999	1,2-DICHLOROETHANE	--	
01	10/16/2000	1,2-DICHLOROETHANE	--	
01	3/26/2001	1,2-DICHLOROETHANE	--	
01	12/14/1990	1,2-DICHLOROPROPANE	--	
01	1/17/1995	1,2-DICHLOROPROPANE	--	
01	4/17/1996	1,2-DICHLOROPROPANE	--	
01	2/11/1997	1,2-DICHLOROPROPANE	--	
01	3/27/1998	1,2-DICHLOROPROPANE	--	
01	6/30/1998	1,2-DICHLOROPROPANE	--	
01	9/14/1998	1,2-DICHLOROPROPANE	--	
01	10/22/1998	1,2-DICHLOROPROPANE	--	
01	10/18/1999	1,2-DICHLOROPROPANE	--	
01	10/16/2000	1,2-DICHLOROPROPANE	--	
01	3/26/2001	1,2-DICHLOROPROPANE	--	
01	1/17/1995	1,3,5-TRIMETHYLBENZENE	--	
01	4/17/1996	1,3,5-TRIMETHYLBENZENE	--	
01	2/11/1997	1,3,5-TRIMETHYLBENZENE	--	
01	3/27/1998	1,3,5-TRIMETHYLBENZENE	--	
01	6/30/1998	1,3,5-TRIMETHYLBENZENE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	9/14/1998	1,3,5-TRIMETHYLBENZENE	--	
01	10/22/1998	1,3,5-TRIMETHYLBENZENE	--	
01	10/18/1999	1,3,5-TRIMETHYLBENZENE	--	
01	10/16/2000	1,3,5-TRIMETHYLBENZENE	--	
01	3/26/2001	1,3,5-TRIMETHYLBENZENE	--	
01	1/17/1995	1,3-DICHLOROPROPANE	--	
01	4/17/1996	1,3-DICHLOROPROPANE	--	
01	2/11/1997	1,3-DICHLOROPROPANE	--	
01	3/27/1998	1,3-DICHLOROPROPANE	--	
01	6/30/1998	1,3-DICHLOROPROPANE	--	
01	9/14/1998	1,3-DICHLOROPROPANE	--	
01	10/22/1998	1,3-DICHLOROPROPANE	--	
01	10/18/1999	1,3-DICHLOROPROPANE	--	
01	10/16/2000	1,3-DICHLOROPROPANE	--	
01	3/26/2001	1,3-DICHLOROPROPANE	--	
01	12/14/1990	1,3-DICHLOROPROPENE	--	
01	1/17/1995	1,3-DICHLOROPROPENE	--	
01	4/17/1996	1,3-DICHLOROPROPENE	--	
01	2/11/1997	1,3-DICHLOROPROPENE	--	
01	3/27/1998	1,3-DICHLOROPROPENE	--	
01	6/30/1998	1,3-DICHLOROPROPENE	--	
01	9/14/1998	1,3-DICHLOROPROPENE	--	
01	10/22/1998	1,3-DICHLOROPROPENE	--	
01	10/18/1999	1,3-DICHLOROPROPENE	--	
01	10/16/2000	1,3-DICHLOROPROPENE	--	
01	3/26/2001	1,3-DICHLOROPROPENE	--	
01	1/17/1995	2,2-DICHLOROPROPANE	--	
01	4/17/1996	2,2-DICHLOROPROPANE	--	
01	2/11/1997	2,2-DICHLOROPROPANE	--	
01	3/27/1998	2,2-DICHLOROPROPANE	--	
01	6/30/1998	2,2-DICHLOROPROPANE	--	
01	9/14/1998	2,2-DICHLOROPROPANE	--	
01	10/22/1998	2,2-DICHLOROPROPANE	--	
01	10/18/1999	2,2-DICHLOROPROPANE	--	
01	10/16/2000	2,2-DICHLOROPROPANE	--	
01	3/26/2001	2,2-DICHLOROPROPANE	--	
01	12/14/1990	BENZENE	--	
01	1/17/1995	BENZENE	--	
01	4/17/1996	BENZENE	--	
01	2/11/1997	BENZENE	--	
01	3/27/1998	BENZENE	--	
01	6/30/1998	BENZENE	--	
01	9/14/1998	BENZENE	--	
01	10/22/1998	BENZENE	--	
01	10/18/1999	BENZENE	--	
01	10/16/2000	BENZENE	--	
01	3/26/2001	BENZENE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	1/17/1995	BROMOBENZENE	--	
01	4/17/1996	BROMOBENZENE	--	
01	2/11/1997	BROMOBENZENE	--	
01	3/27/1998	BROMOBENZENE	--	
01	6/30/1998	BROMOBENZENE	--	
01	9/14/1998	BROMOBENZENE	--	
01	10/22/1998	BROMOBENZENE	--	
01	10/18/1999	BROMOBENZENE	--	
01	10/16/2000	BROMOBENZENE	--	
01	3/26/2001	BROMOBENZENE	--	
01	1/17/1995	BROMOCHLOROMETHANE	--	
01	4/17/1996	BROMOCHLOROMETHANE	--	
01	2/11/1997	BROMOCHLOROMETHANE	--	
01	3/27/1998	BROMOCHLOROMETHANE	--	
01	6/30/1998	BROMOCHLOROMETHANE	--	
01	9/14/1998	BROMOCHLOROMETHANE	--	
01	10/22/1998	BROMOCHLOROMETHANE	--	
01	10/18/1999	BROMOCHLOROMETHANE	--	
01	10/16/2000	BROMOCHLOROMETHANE	--	
01	3/26/2001	BROMOCHLOROMETHANE	--	
01	12/14/1990	BROMODICHLOROMETHANE	2.3	100 #
01	4/17/1996	BROMODICHLOROMETHANE	3	100 #
01	2/11/1997	BROMODICHLOROMETHANE	2.3	100 #
01	3/27/1998	BROMODICHLOROMETHANE	3.4	100 #
01	6/30/1998	BROMODICHLOROMETHANE	2.3	100 #
01	9/14/1998	BROMODICHLOROMETHANE	3.1	100 #
01	10/22/1998	BROMODICHLOROMETHANE	4	100 #
01	10/18/1999	BROMODICHLOROMETHANE	4.6	100 #
01	10/16/2000	BROMODICHLOROMETHANE	5.4	100 #
01	3/26/2001	BROMODICHLOROMETHANE	3.1	100 #
01	12/14/1990	BROMOFORM	--	
01	4/17/1996	BROMOFORM	--	
01	2/11/1997	BROMOFORM	--	
01	3/27/1998	BROMOFORM	--	
01	6/30/1998	BROMOFORM	--	
01	9/14/1998	BROMOFORM	--	
01	10/22/1998	BROMOFORM	--	
01	10/18/1999	BROMOFORM	--	
01	10/16/2000	BROMOFORM	--	
01	3/26/2001	BROMOFORM	--	
01	12/14/1990	BROMOMETHANE	--	
01	1/17/1995	BROMOMETHANE	--	
01	4/17/1996	BROMOMETHANE	--	
01	2/11/1997	BROMOMETHANE	--	
01	3/27/1998	BROMOMETHANE	--	
01	6/30/1998	BROMOMETHANE	--	
01	9/14/1998	BROMOMETHANE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	10/22/1998	BROMOMETHANE	--	
01	10/18/1999	BROMOMETHANE	--	
01	10/16/2000	BROMOMETHANE	--	
01	3/26/2001	BROMOMETHANE	--	
01	12/14/1990	CARBON TETRACHLORIDE	--	
01	1/17/1995	CARBON TETRACHLORIDE	--	
01	4/17/1996	CARBON TETRACHLORIDE	--	
01	2/11/1997	CARBON TETRACHLORIDE	--	
01	3/27/1998	CARBON TETRACHLORIDE	--	
01	6/30/1998	CARBON TETRACHLORIDE	--	
01	9/14/1998	CARBON TETRACHLORIDE	--	
01	10/22/1998	CARBON TETRACHLORIDE	--	
01	10/18/1999	CARBON TETRACHLORIDE	--	
01	10/16/2000	CARBON TETRACHLORIDE	--	
01	3/26/2001	CARBON TETRACHLORIDE	--	
01	12/14/1990	CHLOROETHANE	--	
01	1/17/1995	CHLOROETHANE	--	
01	4/17/1996	CHLOROETHANE	--	
01	2/11/1997	CHLOROETHANE	--	
01	3/27/1998	CHLOROETHANE	--	
01	6/30/1998	CHLOROETHANE	--	
01	9/14/1998	CHLOROETHANE	--	
01	10/22/1998	CHLOROETHANE	--	
01	10/18/1999	CHLOROETHANE	--	
01	10/16/2000	CHLOROETHANE	--	
01	3/26/2001	CHLOROETHANE	--	
01	12/14/1990	CHLOROFORM	7.1	100 #
01	4/17/1996	CHLOROFORM	8	100 #
01	2/11/1997	CHLOROFORM	3.8	100 #
01	3/27/1998	CHLOROFORM	11.1	100 #
01	6/30/1998	CHLOROFORM	12.1	100 #
01	9/14/1998	CHLOROFORM	8.6	100 #
01	10/22/1998	CHLOROFORM	12	100 #
01	10/18/1999	CHLOROFORM	32	100 #
01	10/16/2000	CHLOROFORM	25	100 #
01	3/26/2001	CHLOROFORM	7.9	100 #
01	12/14/1990	CHLOROMETHANE	--	
01	1/17/1995	CHLOROMETHANE	--	
01	4/17/1996	CHLOROMETHANE	--	
01	2/11/1997	CHLOROMETHANE	--	
01	3/27/1998	CHLOROMETHANE	--	
01	6/30/1998	CHLOROMETHANE	--	
01	9/14/1998	CHLOROMETHANE	--	
01	10/22/1998	CHLOROMETHANE	--	
01	10/18/1999	CHLOROMETHANE	--	
01	10/16/2000	CHLOROMETHANE	--	
01	3/26/2001	CHLOROMETHANE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	12/14/1990	cis-1,2-DICHLOROETHYLENE	--	
01	1/17/1995	cis-1,2-DICHLOROETHYLENE	--	
01	4/17/1996	cis-1,2-DICHLOROETHYLENE	--	
01	2/11/1997	cis-1,2-DICHLOROETHYLENE	--	
01	3/27/1998	cis-1,2-DICHLOROETHYLENE	--	
01	6/30/1998	cis-1,2-DICHLOROETHYLENE	--	
01	9/14/1998	cis-1,2-DICHLOROETHYLENE	--	
01	10/22/1998	cis-1,2-DICHLOROETHYLENE	--	
01	10/18/1999	cis-1,2-DICHLOROETHYLENE	--	
01	10/16/2000	cis-1,2-DICHLOROETHYLENE	--	
01	3/26/2001	cis-1,2-DICHLOROETHYLENE	--	
01	12/14/1990	DIBROMOCHLOROMETHANE	--	
01	4/17/1996	DIBROMOCHLOROMETHANE	0.9	100 #
01	2/11/1997	DIBROMOCHLOROMETHANE	0.9	100 #
01	3/27/1998	DIBROMOCHLOROMETHANE	1.7	100 #
01	6/30/1998	DIBROMOCHLOROMETHANE	--	
01	9/14/1998	DIBROMOCHLOROMETHANE	0.7	100 #
01	10/22/1998	DIBROMOCHLOROMETHANE	0.7	100 #
01	10/18/1999	DIBROMOCHLOROMETHANE	--	
01	10/16/2000	DIBROMOCHLOROMETHANE	0.6	100 #
01	3/26/2001	DIBROMOCHLOROMETHANE	2.5	100 #
01	1/17/1995	DIBROMOMETHANE	--	
01	4/17/1996	DIBROMOMETHANE	--	
01	2/11/1997	DIBROMOMETHANE	--	
01	3/27/1998	DIBROMOMETHANE	--	
01	6/30/1998	DIBROMOMETHANE	--	
01	9/14/1998	DIBROMOMETHANE	--	
01	10/22/1998	DIBROMOMETHANE	--	
01	10/18/1999	DIBROMOMETHANE	--	
01	10/16/2000	DIBROMOMETHANE	--	
01	3/26/2001	DIBROMOMETHANE	--	
01	12/14/1990	DICHLORODIFLUOROMETHANE	--	
01	1/17/1995	DICHLORODIFLUOROMETHANE	--	
01	4/17/1996	DICHLORODIFLUOROMETHANE	--	
01	2/11/1997	DICHLORODIFLUOROMETHANE	--	
01	3/27/1998	DICHLORODIFLUOROMETHANE	--	
01	6/30/1998	DICHLORODIFLUOROMETHANE	--	
01	9/14/1998	DICHLORODIFLUOROMETHANE	--	
01	10/22/1998	DICHLORODIFLUOROMETHANE	--	
01	10/18/1999	DICHLORODIFLUOROMETHANE	--	
01	10/16/2000	DICHLORODIFLUOROMETHANE	--	
01	3/26/2001	DICHLORODIFLUOROMETHANE	--	
01	12/14/1990	ETHYLBENZENE	--	
01	1/17/1995	ETHYLBENZENE	--	
01	4/17/1996	ETHYLBENZENE	--	
01	2/11/1997	ETHYLBENZENE	--	
01	3/27/1998	ETHYLBENZENE	6.4	700

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	6/30/1998	NAPHTHALENE	--	
01	9/14/1998	NAPHTHALENE	--	
01	10/22/1998	NAPHTHALENE	--	
01	10/18/1999	NAPHTHALENE	--	
01	10/16/2000	NAPHTHALENE	--	
01	3/26/2001	NAPHTHALENE	--	
01	1/17/1995	N-BUTYLBENZENE	--	
01	4/17/1996	N-BUTYLBENZENE	--	
01	2/11/1997	N-BUTYLBENZENE	--	
01	3/27/1998	N-BUTYLBENZENE	--	
01	6/30/1998	N-BUTYLBENZENE	--	
01	9/14/1998	N-BUTYLBENZENE	--	
01	10/22/1998	N-BUTYLBENZENE	--	
01	10/18/1999	N-BUTYLBENZENE	--	
01	10/16/2000	N-BUTYLBENZENE	--	
01	3/26/2001	N-BUTYLBENZENE	--	
01	1/17/1995	n-PROPYLBENZENE	--	
01	4/17/1996	n-PROPYLBENZENE	--	
01	2/11/1997	n-PROPYLBENZENE	--	
01	3/27/1998	n-PROPYLBENZENE	--	
01	6/30/1998	n-PROPYLBENZENE	--	
01	9/14/1998	n-PROPYLBENZENE	--	
01	10/22/1998	n-PROPYLBENZENE	--	
01	10/18/1999	n-PROPYLBENZENE	--	
01	10/16/2000	n-PROPYLBENZENE	--	
01	3/26/2001	n-PROPYLBENZENE	--	
01	1/17/1995	o-CHLOROTOLUENE	--	
01	4/17/1996	o-CHLOROTOLUENE	--	
01	2/11/1997	o-CHLOROTOLUENE	--	
01	3/27/1998	o-CHLOROTOLUENE	--	
01	6/30/1998	o-CHLOROTOLUENE	--	
01	9/14/1998	o-CHLOROTOLUENE	--	
01	10/22/1998	o-CHLOROTOLUENE	--	
01	10/18/1999	o-CHLOROTOLUENE	--	
01	10/16/2000	o-CHLOROTOLUENE	--	
01	3/26/2001	o-CHLOROTOLUENE	--	
01	12/14/1990	o-DICHLOROBENZENE	--	
01	1/17/1995	o-DICHLOROBENZENE	--	
01	4/17/1996	o-DICHLOROBENZENE	--	
01	2/11/1997	o-DICHLOROBENZENE	--	
01	3/27/1998	o-DICHLOROBENZENE	--	
01	6/30/1998	o-DICHLOROBENZENE	--	
01	9/14/1998	o-DICHLOROBENZENE	--	
01	10/22/1998	o-DICHLOROBENZENE	--	
01	10/18/1999	o-DICHLOROBENZENE	--	
01	10/16/2000	o-DICHLOROBENZENE	--	
01	3/26/2001	o-DICHLOROBENZENE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	12/14/1990	o-XYLENE	--	
01	1/17/1995	o-XYLENE	--	
01	4/17/1996	o-XYLENE	--	
01	2/11/1997	o-XYLENE	--	
01	3/27/1998	o-XYLENE	2.7	10,000
01	6/30/1998	o-XYLENE	11	10,000
01	9/14/1998	o-XYLENE	3	10,000
01	10/22/1998	o-XYLENE	0.8	10,000
01	10/18/1999	o-XYLENE	1.2	10,000
01	10/16/2000	o-XYLENE	--	
01	3/26/2001	o-XYLENE	1.7	10,000
01	1/17/1995	p-CHLOROTOLUENE	--	
01	4/17/1996	p-CHLOROTOLUENE	--	
01	2/11/1997	p-CHLOROTOLUENE	--	
01	3/27/1998	p-CHLOROTOLUENE	--	
01	6/30/1998	p-CHLOROTOLUENE	--	
01	9/14/1998	p-CHLOROTOLUENE	--	
01	10/22/1998	p-CHLOROTOLUENE	--	
01	10/18/1999	p-CHLOROTOLUENE	--	
01	10/16/2000	p-CHLOROTOLUENE	--	
01	3/26/2001	p-CHLOROTOLUENE	--	
01	12/14/1990	p-DICHLOROBENZENE	--	
01	1/17/1995	p-DICHLOROBENZENE	--	
01	4/17/1996	p-DICHLOROBENZENE	--	
01	2/11/1997	p-DICHLOROBENZENE	--	
01	3/27/1998	p-DICHLOROBENZENE	--	
01	6/30/1998	p-DICHLOROBENZENE	--	
01	9/14/1998	p-DICHLOROBENZENE	--	
01	10/22/1998	p-DICHLOROBENZENE	--	
01	10/18/1999	p-DICHLOROBENZENE	--	
01	10/16/2000	p-DICHLOROBENZENE	--	
01	3/26/2001	p-DICHLOROBENZENE	--	
01	1/17/1995	P-ISOPROPYLTOLUENE	--	
01	4/17/1996	P-ISOPROPYLTOLUENE	--	
01	2/11/1997	P-ISOPROPYLTOLUENE	--	
01	3/27/1998	P-ISOPROPYLTOLUENE	--	
01	6/30/1998	P-ISOPROPYLTOLUENE	--	
01	9/14/1998	P-ISOPROPYLTOLUENE	--	
01	10/22/1998	P-ISOPROPYLTOLUENE	--	
01	10/18/1999	P-ISOPROPYLTOLUENE	--	
01	10/16/2000	P-ISOPROPYLTOLUENE	--	
01	3/26/2001	P-ISOPROPYLTOLUENE	--	
01	12/14/1990	p-XYLENE	--	
01	1/17/1995	p-XYLENE	--	
01	4/17/1996	p-XYLENE	--	
01	2/11/1997	p-XYLENE	--	
01	3/27/1998	p-XYLENE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	6/30/1998	p-XYLENE	--	
01	9/14/1998	p-XYLENE	--	
01	10/22/1998	p-XYLENE	--	
01	10/18/1999	p-XYLENE	5.2	10,000
01	10/16/2000	p-XYLENE	--	
01	3/26/2001	p-XYLENE	7	10,000
01	1/17/1995	SEC-BUTYLBENZENE	--	
01	4/17/1996	SEC-BUTYLBENZENE	--	
01	2/11/1997	SEC-BUTYLBENZENE	--	
01	3/27/1998	SEC-BUTYLBENZENE	--	
01	6/30/1998	SEC-BUTYLBENZENE	--	
01	9/14/1998	SEC-BUTYLBENZENE	--	
01	10/22/1998	SEC-BUTYLBENZENE	--	
01	10/18/1999	SEC-BUTYLBENZENE	--	
01	10/16/2000	SEC-BUTYLBENZENE	--	
01	3/26/2001	SEC-BUTYLBENZENE	--	
01	12/14/1990	STYRENE	--	
01	1/17/1995	STYRENE	--	
01	4/17/1996	STYRENE	--	
01	2/11/1997	STYRENE	--	
01	3/27/1998	STYRENE	--	
01	6/30/1998	STYRENE	--	
01	9/14/1998	STYRENE	--	
01	10/22/1998	STYRENE	--	
01	10/18/1999	STYRENE	--	
01	10/16/2000	STYRENE	--	
01	3/26/2001	STYRENE	--	
01	1/17/1995	TERT-BUTYLBENZENE	--	
01	4/17/1996	TERT-BUTYLBENZENE	--	
01	2/11/1997	TERT-BUTYLBENZENE	--	
01	3/27/1998	TERT-BUTYLBENZENE	--	
01	6/30/1998	TERT-BUTYLBENZENE	--	
01	9/14/1998	TERT-BUTYLBENZENE	--	
01	10/22/1998	TERT-BUTYLBENZENE	--	
01	10/18/1999	TERT-BUTYLBENZENE	--	
01	10/16/2000	TERT-BUTYLBENZENE	--	
01	3/26/2001	TERT-BUTYLBENZENE	--	
01	12/14/1990	TETRACHLOROETHYLENE	--	
01	1/17/1995	TETRACHLOROETHYLENE	--	
01	4/17/1996	TETRACHLOROETHYLENE	--	
01	2/11/1997	TETRACHLOROETHYLENE	--	
01	3/27/1998	TETRACHLOROETHYLENE	--	
01	6/30/1998	TETRACHLOROETHYLENE	--	
01	9/14/1998	TETRACHLOROETHYLENE	--	
01	10/22/1998	TETRACHLOROETHYLENE	--	
01	10/18/1999	TETRACHLOROETHYLENE	--	
01	10/16/2000	TETRACHLOROETHYLENE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	3/26/2001	TETRACHLOROETHYLENE	--	
01	12/14/1990	TOLUENE	--	
01	1/17/1995	TOLUENE	--	
01	4/17/1996	TOLUENE	--	
01	2/11/1997	TOLUENE	--	
01	3/27/1998	TOLUENE	--	
01	6/30/1998	TOLUENE	--	
01	9/14/1998	TOLUENE	--	
01	10/22/1998	TOLUENE	--	
01	10/18/1999	TOLUENE	--	
01	10/16/2000	TOLUENE	--	
01	3/26/2001	TOLUENE	--	
01	12/14/1990	trans-1,2-DICHLOROETHYLENE	--	
01	1/17/1995	trans-1,2-DICHLOROETHYLENE	--	
01	4/17/1996	trans-1,2-DICHLOROETHYLENE	--	
01	2/11/1997	trans-1,2-DICHLOROETHYLENE	--	
01	3/27/1998	trans-1,2-DICHLOROETHYLENE	--	
01	6/30/1998	trans-1,2-DICHLOROETHYLENE	--	
01	9/14/1998	trans-1,2-DICHLOROETHYLENE	--	
01	10/22/1998	trans-1,2-DICHLOROETHYLENE	--	
01	10/18/1999	trans-1,2-DICHLOROETHYLENE	--	
01	10/16/2000	trans-1,2-DICHLOROETHYLENE	--	
01	3/26/2001	trans-1,2-DICHLOROETHYLENE	--	
01	12/14/1990	TRICHLOROETHYLENE	--	
01	1/17/1995	TRICHLOROETHYLENE	--	
01	4/17/1996	TRICHLOROETHYLENE	--	
01	2/11/1997	TRICHLOROETHYLENE	--	
01	3/27/1998	TRICHLOROETHYLENE	--	
01	6/30/1998	TRICHLOROETHYLENE	--	
01	9/14/1998	TRICHLOROETHYLENE	--	
01	10/22/1998	TRICHLOROETHYLENE	--	
01	10/18/1999	TRICHLOROETHYLENE	--	
01	10/16/2000	TRICHLOROETHYLENE	--	
01	3/26/2001	TRICHLOROETHYLENE	--	
01	12/14/1990	TRICHLOROFLUOROMETHANE	--	
01	1/17/1995	TRICHLOROFLUOROMETHANE	--	
01	4/17/1996	TRICHLOROFLUOROMETHANE	--	
01	2/11/1997	TRICHLOROFLUOROMETHANE	--	
01	3/27/1998	TRICHLOROFLUOROMETHANE	--	
01	6/30/1998	TRICHLOROFLUOROMETHANE	--	
01	9/14/1998	TRICHLOROFLUOROMETHANE	--	
01	10/22/1998	TRICHLOROFLUOROMETHANE	--	
01	10/18/1999	TRICHLOROFLUOROMETHANE	--	
01	10/16/2000	TRICHLOROFLUOROMETHANE	--	
01	3/26/2001	TRICHLOROFLUOROMETHANE	--	
01	12/14/1990	VINYL CHLORIDE	--	
01	1/17/1995	VINYL CHLORIDE	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Volatile Organic Compounds			µg/L	µg/L
01	4/17/1996	VINYL CHLORIDE	--	
01	2/11/1997	VINYL CHLORIDE	--	
01	3/27/1998	VINYL CHLORIDE	--	
01	6/30/1998	VINYL CHLORIDE	--	
01	9/14/1998	VINYL CHLORIDE	--	
01	10/22/1998	VINYL CHLORIDE	--	
01	10/18/1999	VINYL CHLORIDE	--	
01	10/16/2000	VINYL CHLORIDE	--	
01	3/26/2001	VINYL CHLORIDE	--	
01	12/14/1990	XYLENES, TOTAL	--	
01	1/17/1995	XYLENES, TOTAL	--	
01	4/17/1996	XYLENES, TOTAL	--	
01	2/11/1997	XYLENES, TOTAL	--	
01	3/27/1998	XYLENES, TOTAL	12.7	10000
01	6/30/1998	XYLENES, TOTAL	33.6	10000
01	9/14/1998	XYLENES, TOTAL	17	10000
01	10/22/1998	XYLENES, TOTAL	1.7	10000
01	10/18/1999	XYLENES, TOTAL	6.7	10000
01	10/16/2000	XYLENES, TOTAL	--	
01	3/26/2001	XYLENES, TOTAL	8.7	10000
Synthetic Organic Compounds			µg/L	µg/L
01	1/17/1995	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	10/19/1995	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	4/17/1996	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	2/11/1997	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	3/27/1998	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	6/30/1998	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	9/14/1998	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	10/22/1998	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	10/18/1999	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	3/4/2000	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	10/16/2000	1,2-DIBROMO-3-CHLOROPROPANE	--	
01	10/19/1995	2,4,5-T	--	
01	3/4/2000	2,4,5-T	--	
01	10/19/1995	2,4,5-TP (SILVEX)	--	
01	3/4/2000	2,4,5-TP (SILVEX)	--	
01	10/19/1995	2,4-D	--	
01	3/4/2000	2,4-D	--	
01	3/4/2000	3-HYDROXYCARBOFURAN	--	
01	10/19/1995	ALACHLOR (LASSO)	--	
01	3/4/2000	ALACHLOR (LASSO)	--	
01	11/29/2000	ALACHLOR (LASSO)	--	
01	3/4/2000	ALDICARB	--	
01	3/4/2000	ALDICARB SULFONE	--	
01	3/4/2000	ALDICARB SULFOXIDE	--	
01	10/19/1995	ALDRIN	--	
01	3/4/2000	ALDRIN	--	

--=Not Detected
*=SDWR
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+=Drinking Water Advisory Level
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RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Synthetic Organic Compounds			µg/L	µg/L
01	11/29/2000	ALDRIN	--	
01	10/19/1995	ATRAZINE	--	
01	3/4/2000	ATRAZINE	--	
01	11/29/2000	ATRAZINE	--	
01	10/19/1995	BENZO(a)PYRENE	--	
01	3/4/2000	BENZO(a)PYRENE	--	
01	11/29/2000	BENZO(a)PYRENE	--	
01	10/19/1995	BHC-GAMMA(LINDANE)	--	
01	3/4/2000	BHC-GAMMA(LINDANE)	--	
01	11/29/2000	BHC-GAMMA(LINDANE)	--	
01	10/19/1995	BUTACHLOR (MACHETE)	--	
01	3/4/2000	BUTACHLOR (MACHETE)	--	
01	11/29/2000	BUTACHLOR (MACHETE)	--	
01	3/4/2000	CARBARYL	--	
01	3/4/2000	CARBOFURAN	--	
01	10/19/1995	CHLORDANE	--	
01	3/4/2000	CHLORDANE	--	
01	11/29/2000	CHLORDANE	--	
01	10/19/1995	DALAPON	--	
01	3/4/2000	DALAPON	--	
01	10/19/1995	DECACHLOROBIPHENYL	--	
01	10/19/1995	DI(2-ETHYLHEXYL) ADIPATE	--	
01	3/4/2000	DI(2-ETHYLHEXYL) ADIPATE	--	
01	11/29/2000	DI(2-ETHYLHEXYL) ADIPATE	--	
01	10/19/1995	DI(2-ETHYLHEXYL) PHTHALATE	9.43	6
01	3/4/2000	DI(2-ETHYLHEXYL) PHTHALATE	--	
01	11/29/2000	DI(2-ETHYLHEXYL) PHTHALATE	0.5	6
01	10/19/1995	DIAZINON (SPECTRACIDE)	--	
01	10/19/1995	DICAMBA	--	
01	3/4/2000	DICAMBA	--	
01	10/19/1995	DIELDRIN	--	
01	3/4/2000	DIELDRIN	--	
01	11/29/2000	DIELDRIN	--	
01	10/19/1995	DINOSEB	--	
01	3/4/2000	DINOSEB	--	
01	10/19/1995	DURSBAN	--	
01	10/19/1995	ENDRIN	--	
01	3/4/2000	ENDRIN	--	
01	11/29/2000	ENDRIN	--	
01	1/17/1995	ETHYLENE DIBROMIDE (EDB)	--	
01	10/19/1995	ETHYLENE DIBROMIDE (EDB)	--	
01	4/17/1996	ETHYLENE DIBROMIDE (EDB)	--	
01	2/11/1997	ETHYLENE DIBROMIDE (EDB)	--	
01	3/27/1998	ETHYLENE DIBROMIDE (EDB)	--	
01	6/30/1998	ETHYLENE DIBROMIDE (EDB)	--	
01	9/14/1998	ETHYLENE DIBROMIDE (EDB)	--	
01	10/22/1998	ETHYLENE DIBROMIDE (EDB)	--	

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Synthetic Organic Compounds			µg/L	µg/L
01	10/18/1999	ETHYLENE DIBROMIDE (EDB)	--	
01	3/4/2000	ETHYLENE DIBROMIDE (EDB)	--	
01	10/16/2000	ETHYLENE DIBROMIDE (EDB)	--	
01	10/19/1995	HEPTACHLOR	--	
01	3/4/2000	HEPTACHLOR	--	
01	11/29/2000	HEPTACHLOR	--	
01	10/19/1995	HEPTACHLOR EPOXIDE	--	
01	3/4/2000	HEPTACHLOR EPOXIDE	--	
01	11/29/2000	HEPTACHLOR EPOXIDE	--	
01	10/19/1995	HEXACHLOROBENZENE (HCB)	--	
01	3/4/2000	HEXACHLOROBENZENE (HCB)	--	
01	11/29/2000	HEXACHLOROBENZENE (HCB)	--	
01	10/19/1995	HEXACHLOROCYCLOPENTADIENE	--	
01	3/4/2000	HEXACHLOROCYCLOPENTADIENE	--	
01	11/29/2000	HEXACHLOROCYCLOPENTADIENE	--	
01	3/4/2000	METHOMYL	--	
01	10/19/1995	METHOXYCHLOR	--	
01	3/4/2000	METHOXYCHLOR	--	
01	11/29/2000	METHOXYCHLOR	--	
01	10/19/1995	METOLACHLOR	--	
01	3/4/2000	METOLACHLOR	--	
01	11/29/2000	METOLACHLOR	--	
01	10/19/1995	METRIBUZIN (SENCOR)	--	
01	3/4/2000	METRIBUZIN (SENCOR)	--	
01	11/29/2000	METRIBUZIN (SENCOR)	--	
01	3/4/2000	OXAMYL (VYDATE)	--	
01	10/19/1995	PENTACHLOROPHENOL	--	
01	3/4/2000	PENTACHLOROPHENOL	--	
01	10/19/1995	PICLORAM	--	
01	3/4/2000	PICLORAM	--	
01	10/19/1995	PROPACHLOR (RAMROD)	--	
01	3/4/2000	PROPACHLOR (RAMROD)	--	
01	11/29/2000	PROPACHLOR (RAMROD)	--	
01	10/19/1995	SIMAZINE	--	
01	3/4/2000	SIMAZINE	--	
01	11/29/2000	SIMAZINE	--	
01	10/19/1995	TOXAPHENE	--	
Inorganic Compounds			mg/L	mg/L
01	10/19/1995	ANTIMONY	--	
01	10/22/1998	ANTIMONY	--	
01	3/9/2000	ANTIMONY	--	
01	10/19/1995	ARSENIC	--	
01	10/22/1998	ARSENIC	--	
01	3/9/2000	ARSENIC	--	
01	2/9/1993	BARIUM	0	2
01	10/19/1995	BARIUM	0.2	2
01	10/22/1998	BARIUM	0.14	2

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

RESULTS OF GROUND-WATER SAMPLE ANALYSIS FOR NORTHERN MIDDLE SCHOOL

Plant ID	Sample Date	Contaminant Name	Result	MCL
Inorganic Compounds			mg/L	mg/L
01	3/9/2000	BARIUM	0.12	2
01	10/19/1995	BERYLLIUM	--	
01	10/22/1998	BERYLLIUM	--	
01	3/9/2000	BERYLLIUM	--	
01	2/9/1993	CADMIUM	--	
01	10/19/1995	CADMIUM	--	
01	10/22/1998	CADMIUM	--	
01	3/9/2000	CADMIUM	--	
01	2/9/1999	CHLORIDE	14	250 *
01	2/9/1993	CHROMIUM	--	
01	10/19/1995	CHROMIUM	--	
01	10/22/1998	CHROMIUM	--	
01	3/9/2000	CHROMIUM	--	
01	2/9/1993	MERCURY	--	
01	10/19/1995	MERCURY	--	
01	10/22/1998	MERCURY	--	
01	3/9/2000	MERCURY	--	
01	10/19/1995	NICKEL	--	
01	10/22/1998	NICKEL	0.008	0.7 ^
01	3/9/2000	NICKEL	--	
01	2/8/1993	NITRATE	1.2	10
01	12/19/1994	NITRATE	1.8	10
01	5/17/1995	NITRATE	0.003	10
01	10/19/1995	NITRATE	0.8	10
01	10/30/1995	NITRATE	--	
01	12/1/1995	NITRATE	2.3	10
01	1/23/1996	NITRATE	1.7	10
01	2/12/1997	NITRATE	1.1	10
01	10/22/1998	NITRATE	5.4	10
01	2/9/1999	NITRATE	1.7	10
01	1/5/2000	NITRATE	2	10
01	3/9/2000	NITRATE	1.6	10
01	2/27/2001	NITRATE	2.1	10
01	1/16/2002	NITRATE	2.1	10
01	2/8/1993	NITRITE	--	
01	10/19/1995	NITRITE	0.004	1
01	2/9/1993	SELENIUM	--	
01	10/19/1995	SELENIUM	--	
01	10/22/1998	SELENIUM	--	
01	3/9/2000	SELENIUM	--	
01	10/19/1995	SILVER	--	
01	10/22/1998	SODIUM	12	60 +
01	3/9/2000	SODIUM	14.4	60 +
01	10/19/1995	SULFATE	14.2	250 *
01	10/19/1995	THALLIUM	--	
01	10/22/1998	THALLIUM	--	
01	3/9/2000	THALLIUM	--	
General Water Quality Parameters				
01	10/19/1995	pH	7.1	6.5-8.5 *

--=Not Detected
*=SDWR
^=DWEL
+=Drinking Water Advisory Level
#=Total Trihalomethane

SUMMARY OF MICROBIOLOGICAL CONTAMINANT ANALYSIS FOR NORTHERN MIDDLE SCHOOL WATER SAMPLES

Sample Date	Samples Taken	Total Coliform	Total Fecal	Total Indeterminate	Sample Repeats	Repeat Coliforms	Repeat Fecal	Repeat Inderterminate
12/1/96	1	0	0	0	--	--	--	--
3/1/97	1	0	0	0	--	--	--	--
5/1/97	1	0	0	0	--	--	--	--
9/1/97	1	0	0	0	--	--	--	--
10/1/97	1	0	0	0	--	--	--	--
11/1/97	1	0	0	0	--	--	--	--
12/1/97	1	0	0	0	--	--	--	--
2/1/98	1	0	0	0	--	--	--	--
4/1/98	1	0	0	0	--	--	--	--
7/1/98	1	0	0	0	--	--	--	--
10/1/98	1	0	0	0	--	--	--	--
2/1/99	1	0	0	0	--	--	--	--
6/1/99	1	0	0	0	--	--	--	--
9/1/99	1	0	0	0	--	--	--	--
10/1/99	1	0	0	0	--	--	--	--
12/1/99	1	0	0	0	--	--	--	--
1/1/00	1	0	0	0	--	--	--	--
6/1/00	1	0	0	0	--	--	--	--
7/1/00	1	0	0	0	--	--	--	--
10/1/00	1	0	0	0	--	--	--	--
1/1/01	1	0	0	0	--	--	--	--
4/1/01	1	0	0	0	--	--	--	--
7/1/01	1	0	0	0	--	--	--	--
10/1/01	1	0	0	0	--	--	--	--
1/1/02	1	0	0	0	--	--	--	--
4/1/02	1	0	0	0	--	--	--	--

-- = not applicable