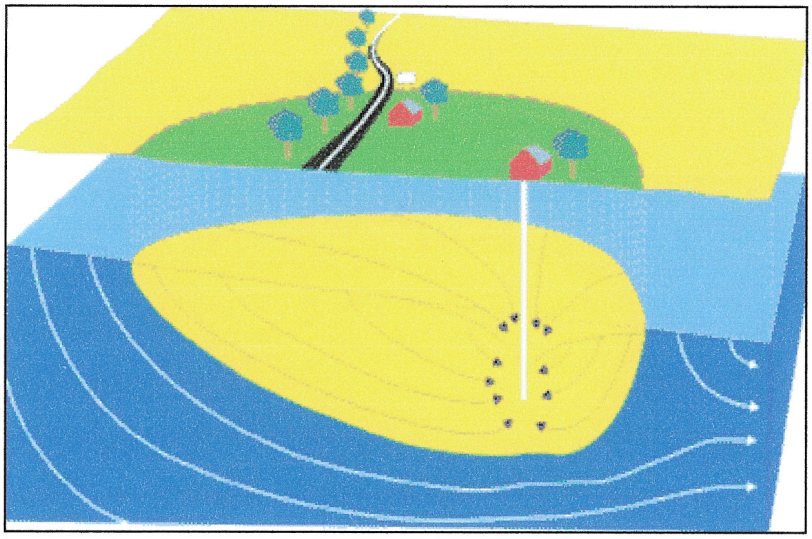
SOURCE WATER ASSESSMENT
for
2002 BETHEL ROAD
CARROLL COUNTY, MD



Prepared By
Water Management Administration
Water Supply Program
March 2006

MDE

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TABLE OF CONTENTS

TABLE OF CONTENTS (contd.)

SUMMARY

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted a Source Water Assessment for 2002 Bethel Road (formerly Telemechanique). The required components of this report as described in Maryland's Source Water Assessment Plan (SWAP) are: 1) delineation of an area that contributes water to the source, 2) identification of potential sources of contamination, and 3) determination of the susceptibility of the water supply to contamination. Recommendations for protecting the drinking water supply conclude this report.

The source of 2002 Bethel Road's water supply is an unconfined fractured rock aquifer, known as the Upper Pelitic Schist. The system currently uses four wells to obtain its drinking water. The Source Water Assessment Area was delineated by the Water Supply Program using U.S. EPA approved methods specifically designed for each source.

Potential sources of contamination within the assessment area were identified based on site visits, database reviews and land use maps. Well information and water quality data were also reviewed. Figures showing land uses and potential contaminant sources within the Source Water Assessment Area and an aerial photograph of the well locations are enclosed at the end of the report.

The susceptibility analysis for the 2002 Bethel Road 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 2002 Bethel Road's f water supply is susceptible to contamination by nitrates and volatile organic compounds, and maybe to synthetic organic compounds and microbiological contaminants. The water supply is not susceptible or other inorganic compounds

INTRODUCTION

The Water Supply Program (WSP) has conducted a source water assessment for the 2002 Bethel Road water supply in Carroll County (figure 1). The 2002 Bethel Road water supply is considered a nontransient noncommunity (NTNC) water system, which is defined as a public water system that regularly serves at least 25 of the same individuals over six months per year. Between 1985 and 1993, Telemechanique, Inc., an electrical components manufacturer was located at this site. In 1994 Development Company of America became the new owner of the property. The facility was not considered a NTNC system from 1994 to 1999 since the population on site was less than 25. The current population of this facility is 50.

WELL INFORMATION

The 2002 Bethel Road facility is currently served water by four wells (Nos. 1, 4, 5, and 6). Well No. 3 was abandoned and Well No. 2 which had been contaminated with trichloroethylene is not in use for public supply but as a monitoring well. Well information was obtained from the Water Supply Program's database, site visits, well completion reports, sanitary survey inspection reports and published reports. A review of well data and sanitary surveys of the 2002 Bethel Road water system indicates that all the four supply wells were drilled prior to 1973, when the State's well construction regulations went into effect, and may not be in compliance with current construction standards. Well No. 1 is located in a pit and the well cap for No. 6 needs to be tightened. Well information is shown in Table 1 below.

SOURCE ID	WELL NAME	PERMIT NO	TOTAL DEPTH (ft)	CASING DEPTH (ft)	YEAR DRILLED
01	Well No. 1	CL026579	103	70	1957
04	Well No. 4	CL730016	505	88	1972
05	Well No. 5	CL730017	310	91	1972
06	Well No. 6	CL038267	132	66	1960

Table 1. 2002 Bethel Road Well Information.

2002 Bethel Road has a Water Appropriation Permit that allows it to use an average of 10,000 gallons per day (gpd) and 15,000 gpd in the month of maximum use. Based on reported pumpage for the past three years, the 2002 Bethel Road facility pumped a daily average of 1197 gallons and 2030 gallons in the month of maximum use.

HYDROGEOLOGY

The 2002 Bethel Road facility is located in the Piedmont physiographic province and is underlain by the Lower Pelitic Schist of the Wissahickon Formation (remapped as the Prettyboy Schist by Edwards in 1993). This formation is an unconfined, fractured rock aquifer composed of greenish gray-tan to medium gray, fine-grained quartz-muscovite-chlorite-schist. In this type of setting, the underlying crystalline rocks have negligible primary porosity and permeability and ground water is stored in and moves through fractures in the rocks. Ground water flow rates depend upon the openness of the fractures and their degree of interconnection. Unconsolidated overburden (saprolite) above the crystalline rock frequently has much greater primary porosity and permeability than the rock has, allowing additional ground water to be stored (Duigon, 1994). Ground water systems in crystalline rock tend to be localized and flow is within topographic divides towards the nearest perennial streams. (Bolton, 1998).

SOURCE WATER ASSESSMENT AREA DELINEATION

For ground water systems, a Wellhead Protection Area (WHPA) is considered to be the source water assessment area for the system. The source water assessment area for public water systems with an average appropriation amount of greater than 10,000 gpd and drawing from fractured-rock aquifers is the watershed area that contributes to the well. This area is modified by geological boundaries, ground water divides and by annual average recharge needed to supply the well (MD SWAP, 1999). The delineated WHPA represents the area which contributes ground water to the wells. The total area of the WHPA is about 66 acres, which is sufficient to support the reported daily average of 10,000 gallons under average year recharge conditions (figure 2).

POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination are classified as either point or non-point sources. Examples of point sources of contamination are leaking underground storage tanks, landfills, ground water discharge permits, large-scale feeding operations, and CERCLA (Superfund) sites. These sites are generally associated with commercial or industrial facilities that use chemical substances that may, if inappropriately handled, contaminate ground water via discrete point location. Non-point sources of contamination are associated with certain types of land use practices such as the use of pesticides, application of fertilizers or animal wastes, or septic systems that may lead to ground water contamination over a larger area.

Point Sources

The 2002 Bethel Road site is listed as a ground water contamination (GWC) site due to detection of high levels of trichloroethylene (TCE) in the water supply in 1991. At that time the site was owned by Telemecanique, Inc., an electrical components manufacturer. Subsequent sampling of individual supply wells

indicated that Well No. 2 was the only production well that had TCE. Well No. 2 was shut down and the system installed carbon filters for VOC removal. According to an employee of Development America, there was a floor drain adjacent to Well No.2. This may have provided the pathway for the TCE to get into the ground water. In July 1993, Telemechanique, Inc. closed its manufacturing operations and as part of its closure Square D (owner of Telemechanique, Inc.) contracted Warzyn, Inc. to conduct an environmental assessment of the site. The executive summary of the environmental assessment report is included in Appendix 1 at the end of this report. MDE Waste Management also issued Telemechanique a consent order requiring the facility to install a ground water treatment system to remove the TCE from the ground water. In January 1994 a pump and treat method was initiated for removal of the TCE. A ground water discharge permit (94-DP-3054) was issued for discharge of treated ground water. The pump and treat operation was terminated in 1998 when TCE concentrations in onsite monitoring wells were consistently below MCL and or/below detection limits.

In addition to the ground water contamination, the site is also listed as a Controlled Hazardous Substance (CHS) Generator. An Underground Storage Tank (UST) containing heating oil is located near Well Nos. 5 and 6. Other point sources of contamination in the WHPA are an Auto Service (AUTO) facility and another CHS Generator (figure 2). Table 2 lists the facilities identified and their potential types of contaminants. Potential contaminants are grouped as Volatile Organic Compounds (VOC), Synthetic Organic Compounds (SOC), Heavy Metals (HM), and Metals (M), Nitrate (N), and Microbiological Pathogens (MP).

ID	Type	Site Name	Address	Potential Contaminant	Comments
A	CHS	Telemechanique, Inc (former tenant).	2002 Bethel Rd.	VOC	)
B	GWC	Telemechanique, Inc (former tenant).	2002 Bethel Rd	VOC. HM. M	Cleanup competed (1998
C	UST	2002 Bethel Road	2002 Bethel Rd.	VOC	1,000 gallon tank
D	AUTO	Nelson's Service Center	1930 Bethel Rd.	VOC, HM, M	
E	CHS	C & S Graphics Inc.	1939 Bethel Rd.	VOC	
F, G, H	SEPT	2002 Bethel Road	2002 Bethel Rd.	MP, N	Onsite septic fields

Table 2. Potential Contaminant Point Sources within the 2002 Bethel Road WHPA (see figure 2 for locations).

Non-Point Sources

The Maryland Department of Planning's 2002 digital land use map for Carroll County was used to determine the predominant types of land use in the WHPA (figure 3). Table 3 shows the land use categories in the 2002 Bethel Road WHPA. Commercial land and cropland make up the major portion of the WHPA.

LAND USE CATEGORIES	TOTAL AREA (acres)	PERCENTAGE OF WHPA
Low Density Residential	4.20	3.65
Commercial	29.36	44.4
Cropland	26.12	39.6
Forest	6.35	9.6
Total	66.03	100.00

Table 3. Land Use Summary for the 2002 Bethel Road WHPA.

Agricultural land (cropland and pasture) is commonly associated with nitrate loading of ground water. Cropland represents a potential source of SOCs depending on use of pesticides and herbicides. Commercial properties may be a source of nitrates and SOCs if fertilizers and pesticides are not used carefully for landscaping activities. Residential areas also may be sources of nitrates and SOCs if fertilizers and pesticides are not used carefully for lawns and gardens

A review of the Maryland Department of Planning's 2002 Carroll County Sewer Map indicates that there is no planned sewer service for the entire WHPA. The 2002 Bethel Road facility currently has three onsite septic systems. The locations of these septic systems are shown in figure 2. Other businesses and residential homes in the WHPA also have onsite septic systems for waste disposal. Onsite septic systems are potential sources of nitrate in ground water.

WATER QUALITY DATA

Water Quality data was reviewed from the Water Supply Program's database and system files for Safe Drinking Water Act contaminants. The State's SWAP defines a threshold for reporting water quality data as 50% of the Maximum Contaminant Level (MCL). If a monitoring result is at or greater than 50% of a MCL, this assessment will describe the sources of such a contaminant and, if possible, locate the specific sources which may be the cause of the elevated contaminant level. All data reported is from the finished (treated) water unless otherwise noted. The ground water supply used by 2002 Bethel Road undergoes several treatment processes prior to distribution. Treatment processes used are: activated carbon for removal of organic compounds, ion exchange for nitrate removal, ph adjustment for corrosion control, ion exchange for water softening and ultra violet radiation for disinfection.

A review of the monitoring data since 1999 for the 2002 Bethel Road water supply indicates that it meets the current drinking water standards. The water quality sampling results are summarized in Table 4.

	Nitrate		SOCs		VOCs		IOCs (except nitrate)	
3-PLANT NO	No. of Samples Collected	No. of samples > 50% MCL	No. of Samples Collected	No. of samples > 50% MCL	No. of Samples Collected	No. of samples > 50% MCL	No. of Samples Collected	No. of samples > 50% MCL
01	14	7	2	0	7	0	3	0

Table 4. Summary of Water Quality Samples for the 2002 Bethel Road Water Supply.

Inorganic Compounds (IOCs)

The only IOC detected above 50% of the MCL was nitrate. The MCL for nitrate is 10 ppm. The nitrate detections above 50% of the MCL in the 2002 Bethel Road water supply are shown in Table 5. Based on a sanitary survey conducted on January 27, 2005, the raw nitrate levels per the operator's records were: Well No.1 = 9.5 mg/l, Well No.5 = 8.1 mg/l and Well No. 4 = 9.1 mg/l. The system has been operating nitrate removal treatment since 1993.

In March 1993, raw water samples were collected from the four supply wells and sampled for metals. Lead, iron and manganese were detected at levels above their standards of 0.015 mg/l and 0.3 mg/l and 0.05 mg/l. The samples were unfiltered and hence the results may have been higher than normal. The only IOC detected in the treated water since 1999 has been nitrate.

CONTAMINANTNAME	MCL (mg/l)	SAMPLE DATE	RESULT (mg/l)
NITRATE	10	9-Dec-99	11
NITRATE	10	12-Jul-00	7.9
NITRATE	10	20-Nov-01	6.7
NITRATE	10	30-Dec-02	6.6
NITRATE	10	2-Jun-03	7.9
NITRATE	10	9-Dec-05	7.6

Table 5. IOC detections above 50% of the MCL for the 200 Bethel Road Water Supply.

Volatile Organic Compounds (VOCs)

No VOCs have been detected in the 2002 Bethel Road treated water supply since 1999. Trichloroethylene (TCE) was detected in the water supply (distribution sample) in March 1991 at 14 ppb. TCE has an MCL of 5 ppb. As a result samples from individual wells were collected in April 1991. Well No 2 had 9 ppb of TCE. No other wells had measurable levels. During the 1990s raw water samples were collected from each well and several monitoring well on site. The sampling results are included in Appendix 1 at the back of this report.

Synthetic Organic Compounds (SOCs)

The only SOC detected above 50% of the MCL was di(2-ethylhexyl)phthtalate. Di(2-ethylhexyl)phthalate, which has an MCL of 6 ppb was detected in a sample collected on June 2, 2003 at 21 ppb. It was also detected in a sample collected on November 8, 2000 at 1 ppb. In both samples pthalate was also found in the

laboratory blank and is not believed to represent the water supply. Dinoseb, which has an MCL of 7 ppb, was also detected in the June 2, 2003 sample at 0.13 ppb. In addition the same sample also had a detection of 3-hydroxycarbofuran at 5 ppb. Currently, 3hydroxycarbofuran has no MCL. 3-hydroxycarbofuran is a metabolite (breakdown product) of the pesticide carbofuran. The MCL for carbofuran is 40 ppb.

Microbiological Contaminants

All nontransient noncommunity systems are required to conduct quarterly routine bacteriological sampling for their water supply as required by the Safe Drinking Water Act. These samples are generally collected from finished (treated) water, which may not be indicative of the source water conditions. None of the twenty-four routine bacteriological samples collected for the 2002 Bethel Road water supply have shown any coliform bacteria detection. On April 25, 1991 total coliform bacteria was detected in the water supply at 9.2 MPN/100ml. Additional testing on April 3, 1991 showed total coliform levels of 2.2 and 16.0 MPN/100ml at two locations. Followup testing on May 8, 1991 at the same two locations and all the supply wells showed no detection. The total coliform form detection was attributed to the water filtration system not being in use. No raw water bacteriological sampling has been submitted to MDE to determine whether the 2002 Bethel Road supply wells are under the influence of surface water.

SUSCEPTIBILITY ANALYSIS

The 2002 Bethel Road wells obtain water from an unconfined fractured-rock aquifer. Wells in unconfined aquifers are generally vulnerable to any activity on the land surface that occurs within the WHPA. Therefore, managing this area to minimize the risk to the supply and continued routine monitoring of contaminants is essential in assuring a safe drinking water supply. The susceptibility of the wells to contamination is determined for each group of contaminants based on the following criteria: (1) available water quality data, (2) presence of potential contaminant sources in the WHPA, (3) aquifer characteristics, (4) well integrity, and (5) the likelihood of change to the natural conditions.

The susceptibility of the water supply to the various types of contaminants is summarized in Table 6.

Inorganic Compounds (IOCs)

Nitrate has been detected the 2002 Bethel Road water supply above 50% of the MCL (table 5). The system has installed a nitrate removal system for to deal with high nitrates in the raw water. Sources of nitrate can generally be traced to land use. A significant portion of the WHPA is cropland and commercial land. Fertilizer applied to agricultural fields, and commercial and residential properties for landscaping, are source of nitrate loading in ground water. The entire WHPA is not on public sewer, but has facilities and residential homes with on site septic

systems. The 2002 Bethel Road site itself has three onsite septic systems (figure 2). Commercial and residential onsite septic systems in the WHPA are also sources of nitrate in ground water. The principal sources of nitrate for this water supply are most likely to be agricultural sources and onsite wastewater disposal.

Based on the presence of nitrate in the water supply, the vulnerability of the aquifer to land activity, and the presence of nitrate sources in the WHPA, the 2002 Bethel Road . water supply **is** susceptible to nitrate contamination, but is **not** susceptible to other inorganic compounds.

Volatile Organic Compounds (VOCs)

Very high levels of TCE were detected in the 2002 Bethel Road (formerly Telemecanique) water supply in 1991. The site was used for manufacturing electrical components for 30 years and industrial solvents were used in the process. The facility was required to remediate the ground water through a consent order from MDE. The facility operated a pump and treat system from 1994 to 1998 to remove VOCs from groundwater at the site. The system also installed activated carbon filters to remove VOCs from the water being supplied to the facility.

Based on the above discussion, the 2002 Bethel Road water supply **is** susceptible to VOC contamination.

Synthetic Organic Compounds (SOCs)

Discounting the reported high levels of di(2-ethylhexyl)phthalate, no other SOCs were detected greater than 50% of an MCL. A low level of dinoseb was detected one time in the water supply. Dinoseb is an herbicide used on soybeans and vegetables. 3-hydrooxycarbofuran was also detected one time in the water supply. 3-hyrooxycarbofuran does not have an MCL and is a breakdown product of carbofuran, a broad-spectrum insecticide, nematicide and miticide. Application of pesticides in commercial, residential properties and cropland can be sources of SOCs to ground water. The system uses an activated carbon filters for removal of VOCs which also will adsorb some SOCs. Given that the sampling results are post-treatment there is insufficient water quality data to characterize these sources susceptibility to SOCs.

Based on the above analysis, the 2002 Bethel Road water supply is **may be** susceptible to SOC contamination.

Microbiological Contaminants

No raw water bacteriological data is available for the 2002 Bethel Road water supply. No bacteria has been detected in the finished water from routine bacteriological samples collected since 1999. As treatment includes disinfection by ultraviolet radiation this sampling is not reflective of raw water quality. Total coliform bacteria had been detected in 1991 and was attributed to the filtration system not working.

Based on the above discussion, the 2002 Bethel Road water supply **may be** susceptible to microbiological contaminants.

CONTAMINANT TYPE	Are Contaminant Sources present in the WHPA?	Are Contaminants detected in WQ samples at 50% of the MCL	Is Well Integrity a Factor?	Is the Aquifer Vulnerable?	Is the System Susceptible to the Contaminant
Nitrate	YES	YES	NO	YES	YES
Inorganic Compounds (except nitrate)	NO	NO	NO	YES	NO
Volatile Organic Compounds	YES	YES	NO	YES	YES
Synthetic Organic Compounds	NO	NO	NO	YES	MAY BE
Microbiological Contaminants	YES	YES	NO	YES	MAY BE

Table 6. Susceptibility Summary for the 2002 Bethel Road water supply.

MANAGEMENT OF THE WHPA

Public Awareness and Outreach

- Notify businesses and facilities that are located in the WHPA about best management practices for handling, storing and disposing hazardous substances on site septics and new underground tank regulations.

Cooperative Efforts with Other Agencies

- Work with Carroll County Health Department to abandon Well No. 2 an identify any other unused wells in the WHPA and to ensure that they are abandoned and sealed in compliance with the State's well construction standards.

Monitoring

- Continue to monitor for all Safe Drinking Water Act contaminants as required by MDE.
- Closely monitor raw and finished water nitrate levels and ensure that nitrate removal treatment is functioning correctly.
- Collect raw water VOC samples to determine no new sources of VOCs are impacting the water supply.
- Submit raw water bacteriological samples for each supply well to MDE to determine whether any of these sources are under the influence of surface water.

Contaminant Source Inventory/Well Inspection

- The system owners should review the potential sources of contaminants within the WHPA and update them if necessary, including a consideration of historical uses.
- Periodic inspections and a regular maintenance program for the supply wells will ensure their integrity and protect the aquifer from contamination.

Changes in Use

- Any increase in pumpage or addition of new wells to the system may require revision of the WHPA. The system is required to contact the Water Supply Program when an increase pumpage is applied for or when new wells are being considered.

REFERENCES

Bolton, David W., 1996, Network Description and Initial Water-Quality Data from a Statewide Ground-Water Quality Network in Maryland: Maryland Geological Survey Report of Investigations No. 60, 167 p.

Maryland Department of the Environment, Water Supply Program, 1999, Maryland's Source Water Assessment Plan, 36 p.

Meyer, G., and Beall, R. M., 1958, The Water Resources of Carroll and Frederick Counties: Department of Geology, Mines and Water Resources Bulletin 22, 355p.

Nutter, L. J., and Otton, E. G., 1969, Ground-Water Occurrence in the Maryland Piedmont: Maryland Geological Survey Report of Investigations No. 10, 56p.

Warzyn Inc., 1994, Environmental Assessment Report, Telemecanique Inc., Westminster, Maryland.

U.S. Environmental Protection Agency, 1991, Delineation of Wellhead Protection Areas in Fractured Rocks: Office of Water and Drinking Water, EPA/570/9-91-009, 144 p.

OTHER SOURCES OF DATA

Water Appropriation and Use Permit: CL1957G005
Public Water Supply Inspection Reports
MDE Water Supply Program Oracle Database
MDE Waste Management Sites Database
Department of Natural Resources Digital Orthophoto Quarter Quadrangles: Westminster
USGS Topographic 7.5-Minute Littlestown Quadrangle
Maryland Department of Planning 2002 Carroll County Land Use Map
Maryland Department of Planning 2003 Carroll County Sewer Map

FIGURES

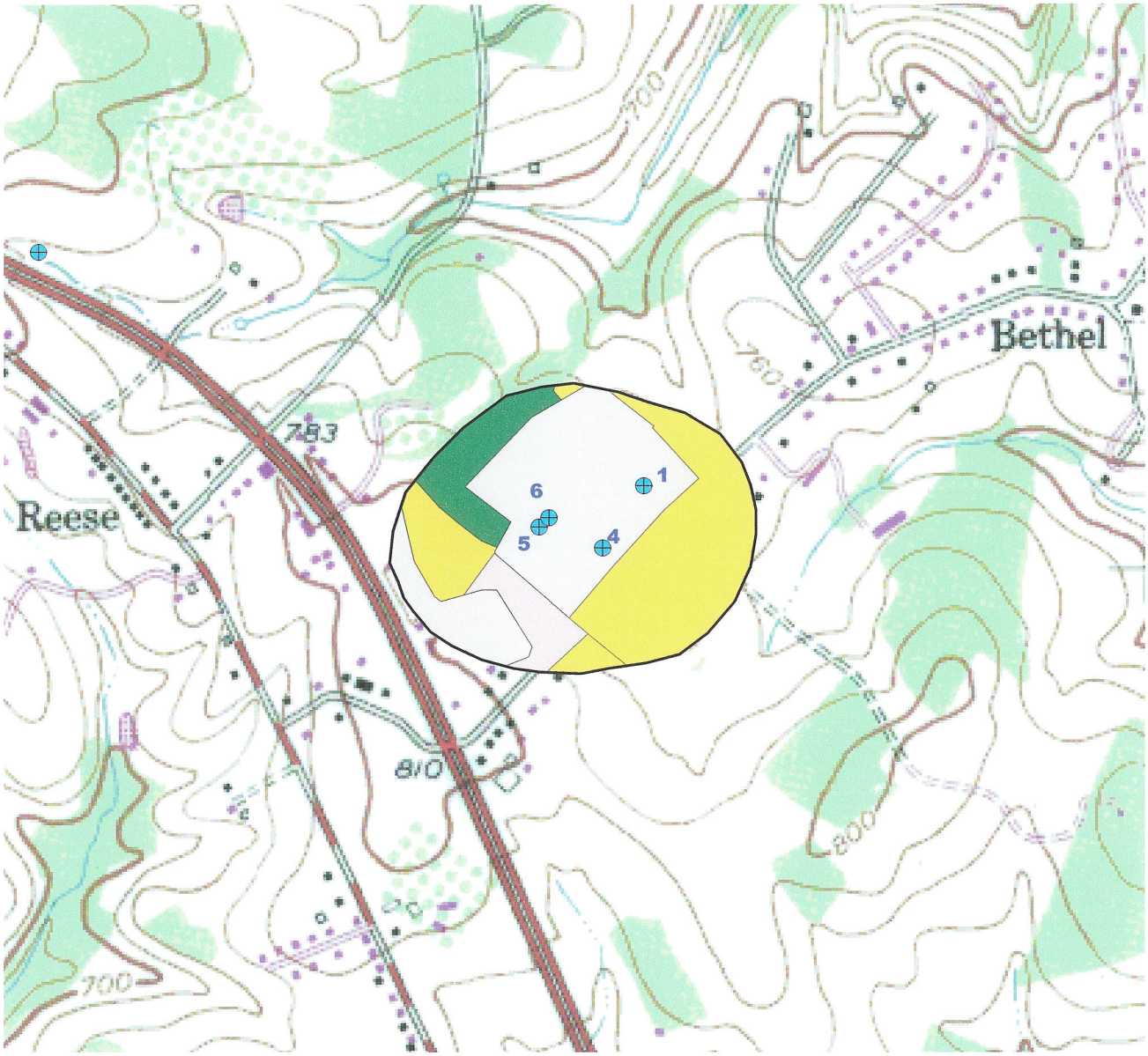

Figure 3. Land Use within the 2002 Bethel Road Wellhead Protection Area

LEGEND

Land Use Categories

- Low Density Residential
- Commercial
- Cropland
- Forest
- Wellhed Protection Area
- Supply Well

N

Base Map: USGS 7.5 Minute Topographic Quad- Littlestown
Source: MD Dept. of Planning 2002 Land Use Map

1000 0 1000 Feet

APPENDIX

Copy of Consent Order

WARZYN

PROJECT
30002710

ENVIRONMENTAL ASSESSMENT REPORT

TELEMECANIQUE INC.
WESTMINSTER, MARYLAND

FEBRUARY 1994

PREPARED FOR:
SQUARE D COMPANY
PALATINE, ILLINOIS

• • •

PREPARED BY:
WARZYN INC.
PHILADELPHIA, PENNSYLVANIA

PROJECT
30002710

ENVIRONMENTAL ASSESSMENT REPORT

TELEMECANIQUE INC.
WESTMINSTER, MARYLAND

FEBRUARY 1994

John M. Woodruff
Geologist

Susan M. Rensing
Senior Manager

EXECUTIVE SUMMARY

The Square D Company (Square D) closed the former Telemecanique Inc. (Telemecanique) facility, located at 2002 Bethel Rd., Westminster, MD in July 1993. As part of the closure, Square D contracted Warzyn Inc. to evaluate the impacts to soil and groundwater resulting from 30 years of multiple owners manufacturing electrical components. This Environmental Assessment Report documents Warzyn's investigation.

Over the one year course of the project, six areas of concentration were identified in order to determine if there were impacts to soil, groundwater, and drinking water as follows:

- Roof Treatment Wastewater Discharges
- Electrical Transformers
- Sanitary Septic System
- Underground Storage Tanks (USTs)
- Lagoon
- Private Wells

A scope of work evolved to include the following:

- A search for historical aerial photographs
- A search for Sanborn Fire Insurance maps
- A review of available facility information pertaining to environmental issues associated with site operations including:
  - Facility construction drawings reviewed at the Square D facility in Palatine, IL
  - Maryland Department of the Environment (MDE) Fieldlog which describes their UST removal oversight
  - Lagoon closure report performed by Associated Environmental Services of Hagerstown, MD

- A review of the U.S. Geological Survey topographic map of the Westminster, MD 7.5 minute Quadrangle, dated 1953 and photorevised in 1979

- Contact with the following local and state agencies:

  - MDE UST Division
  - Carroll County Bureau of Water Resource Management

- A review of current state and federal lists which identify properties of known or potential environmental concern

- Collection and analysis of a sample from a wastewater UST

- Collection and analysis of dielectric fluid samples from three electrical transformers

- Collection and analysis of three surface soil samples

- Drilling of six soil borings to a depth of 15 ft

- Collection and analysis of six subsurface soil samples, one from each boring

- Collection of groundwater elevation measurements from the five private wells and two groundwater monitoring wells on-site

- Collection and analysis of water samples from the five private wells on-site

- Collection and analysis of three groundwater samples from the monitoring wells around the lagoon

- Collection and analysis of five potable water samples from the plant distribution system before the potable water treatment system was upgraded

- Collection and analysis of a drinking water sample from after the potable water treatment system upgrade

- Abandonment of monitoring well MW2

- Installation of replacement monitoring well MW2R
- Removal of the wastewater UST
- Integrity test fuel oil UST
- Disposal of investigation derived material
- Installation and operation of a groundwater pump and treatment system at private well PW2
- Upgrade of the potable water treatment system

The six areas of concern are summarized below:

Roof Treatment Wastewater Discharges
A previous employee indicated that before Square D bought Telemecanique, wastewater from a metal painting precleaning operation was allegedly pumped to the roof of the facility for evaporation. The runoff from the roof theoretically flowed across the pavement surrounding the building and on to the soil along the northeast side of the property. In order to determine the impact of the runoff from the wastewater discharge to the roof, a surface soil sample was collected. Based on the analytical results, no remedial activities are recommended for surface soil in this area.

Electrical Transformers
There are three transformers at this facility. Two transformers (T1 and T2) are located within a chain link fence on the northeast side of the main building. In 1969 three electrical transformers were installed in this area. One of the transformers was reported to have caught fire approximately one year after installation. That transformer shell has been removed. Another transformer (T3) is located in a separate chain link fence enclosure along the northeast property line. Transformer T3 is reportedly owned by Baltimore Gas and Electric. In order to determine if polychlorinated biphenyls (PCBs) were present in the three transformers on-site, dielectric fluid samples were collected. Based on the analytical results, transformers T1 and T2 are classified as non-PCB equipment, having less than 50 milligrams per kilograms (mg/kg) PCBs. Transformer T3, owned by Baltimore Gas & Electric, is classified as PCB-contaminated, having 50 to 500 mg/kg PCBs.

In order to determine if the former transformer may have contained PCBs that impacted soil quality, a surface soil sample was collected. Based on the analytical

results from the surface soil sampling, no remedial activities are recommended for this area.

Sanitary Septic Systems

A series of four sanitary septic systems are located to the northeast, southwest, and northwest (2) of the main building. The systems were constructed at various times during the construction and expansion of the main building. The septic system located to the northeast of the main building was closed. The other three systems are available for operation. All septic tanks associated with the systems were cleaned by a subcontractor to Square D in the second quarter of 1993.

In order to determine if discharges to the septic systems impacted subsurface soil quality, four subsurface soil samples were collected southwest and northeast of the building. Based on analytical results, no remediation is recommended for the septic fields to the southwest and northeast of the building. Soils near the two septic fields located northwest of the building were not tested due to restricted field conditions. Howéver, the northwest systems are of an intermediate age compared to the other two systems. It is possible that environmental soil conditions in these septic fields are similar.

USTs

As a result of the background investigation, three USTs were identified: a wastewater holding UST, a No. 2 fuel oil UST, and a former No. 2 fuel oil UST. Because the former fuel oil UST was closed under the guidance of MDE, no further investigation was recommended.

- **Wastewater UST** - Analytical results showed that the contents of the wastewater holding UST were non-hazardous. Therefore, the contents were pumped out and disposed properly, and the UST was removed.

- **Fuel Oil UST** - In order to determine if the fuel oil UST operation impacted surrounding soils, two subsurface soil samples were collected. The low level of No. 2 fuel oil found in one subsurface sample near the UST is well below MDE cleanup guidelines.

  Additionally, MDE requires that this fuel oil UST, because of its age, be integrity tested every five years. The UST was successfully integrity tested after fixing a hole in a bushing at the top of the tank.

Lagoon

An industrial wastewater lagoon was formerly located on the western portion of the property. Plant drawings indicate that the northern corner of the lagoon had a spillway which lead to an adjacent intermittent stream. The lagoon contents were

excavated and the lagoon was closed in 1992. Because plant drawings indicated that there was a spillway between the lagoon to an adjacent stream, a surface soil sample was collected from the spillway. Based on the analytical results, no further remedial activities are recommended for the spillway.

Three groundwater monitoring wells were installed in 1982 around the former wastewater lagoon. In order to determine groundwater quality near the former lagoon, three groundwater samples were collected. Based on the analytical results, no remedial activities are recommended for the shallow groundwater in the vicinity of the lagoon. Due to an obstruction in MW2, this well was properly abandoned and replaced with a similar well (MW2R) in order to continue the monitoring program. Based on three years of sampling results, Square D intends in April 1994 to request from MDE, that sampling be discontinued.

Private Wells

The facility has six private wells (PW1 through PW6), of which one (PW3) has been abandoned due to sediment infiltration. In order to determine groundwater quality in the private wells, five groundwater samples were collected. Volatile organic compounds (VOCs) were only found in PW2. PW2 was taken off-line, and a groundwater pump and treatment system was installed. Elevated levels of trichloroethene (TCE) in water from private well PW2 will be remediated to below the maximum contaminant level (MCL) by the system approved under a consent order by the MDE which began operating in January 1994. The voluntary consent order allows for operation of the system until MDE can issue a groundwater discharge permit. Elevated levels of metals found in each well may be the result of performing the analysis as total metal (unfiltered) analysis. According to Mr. Terry Kearney of Culligan of York, Pennsylvania, elevated levels of metals and nitrates are common in the area.

Groundwater Elevations - In order to determine groundwater flow, groundwater elevations were measured in the five private wells and two of the monitoring wells. The groundwater is generally 42 to 56 ft below the ground surface. The direction of the groundwater flow appears to be away from private wells PW5 and PW6 and towards the north and east. The groundwater gradient appears fairly steep.

Potable Water - The current tenant uses bottled water for drinking. All other potable water is pumped from private wells PW1, PW4, PW5, and PW6, stored in a 15,000-gal domestic water aboveground storage tank, and piped to the plant building. The potable water treatment system was upgraded in December 1993. It removes VOCs, metals, and nitrates; adjusts pH; and disinfects the water before introduction to the facility water distribution system. Analytical results indicated the system is functioning properly.

Because the facility is considered a non-transient, non-community water system under the Lead and Copper Rule, samples from the water distribution system are required to be analyzed for lead and copper. Based on analytical results obtained before the potable water treatment system was upgraded, the concentrations of lead exceeded the Lead and Copper Rule Action Limit (LCRAL), and concentrations of copper generally exceeded the LCRAL. Analysis shows that the upgrade to the new potable water treatment system removes lead and copper to below the LCRALs.

SMR/mls/WRZ/GT
[phi-601-93]
30002710-214

Barry -
① Waste may want to investigate why trichlor got in g.w.
Done 9/R 8/6/91

July 9, 1991

Mr. John Grace
Water Supply Program
Maryland Department of the Environment
2500 Broening Highway
Baltimore, Maryland 21224

SUBJECT: TELEMECANIQUE INC. WATER SUPPLY 1060045

Dear Mr. Grace,

I felt I should follow up our telephone conversation of 7/8/91 with a letter giving you a written record of what Telemecanique Inc. has done to follow up recent problems with elevated levels of VOC's and coliform bacteria.

1: VOC Testing on 3/15/91 indicated a reading of 14 for Trichloroethylene with an MCL of 5 being the maximum allowable. We had all five of our wells tested individually on 4/17/91, see enclosure #1,and well #2 had a reading of 9 for Trichloroethylene. Well #2 was shut down until corrective action could be taken.

note .4 ppb of Trichlor in enclosure #2.

In his letter of 5/13/91, Mr. Barry O'Brien asked us to forward copies of any organic monitoring performed during the last five years. I am enclosing copies of two analysis reports, the first dated 3/21/88, marked enclosure 2, and the second dated 10/23/90, marked enclosure 3. The second report was part of an environmental audit that was commissioned by Telemecanique Inc. in 1990 to point out any problems that might need to be addressed. Both tests were from our distribution system, not individual wells, and neither showed any VOC problems. There are a few letters in our files referencing other testing but no other analysis results are on file.

2: Coliform bacteria testing on 4/25/91 showed a reading of 9.2 MPN/100 ml (previous testing had shown coliform reading as "below the detection limit".) Additional testing on 4/30/91 showed a level of 2.2 and 16.0 at two locations. Follow up testing on 5/8/91 at the same two locations and all five wells shows levels of less than 2.2. A copy of this last test analysis is enclosed, marked enclosure #4. It should be noted that to the best of my knowledge, during the time from 4/25/91 to 5/8/91, no changes had been made in our water system except to shut down well #2.

3: The Culligan Company was contracted to completely recondition a water filtration system that was already in place in the plant but had not been in use. The system, now complete, consists of eight 12" activated carbon filters and three Ultra Violet Purifiers. The system went on line May 17th, 1991 and we have since received test reports on coliform bacteria and VOC's indicating no problems. These are enclosed, marked enclosure #5 and #6.

857-7404

Telemecanique

TELEMECANIQUE INC. WATER SUPPLY 1060045

It is our intention to contract Culligan to sample the system every quarter and submit the sample for testing to determine if the system is in need of servicing. We are awaiting a quotation on the price of backup filter tanks that we could keep on hand to reduce down time during such servicing. It should be noted that the samples would be taken from a point halfway through the system and when test readings would begin to go up at that point, there is still four 12" filter tanks in the system to guarantee good water to the distribution system.

4: We will keep our existing contract with Penniman and Browne, Inc. for our quarterly water testing and they will continue to send the Water Supply Program Office test reports as they have been doing. At a later date we may use the lab reports from Culligan to submit to you, but I will first have to check on the possibility of getting one of the labs used by Culligan put on the state-approved list. I will contact the appropriate person on this in the near future.

This brings us up to date on the VOC and the coliform bacteria testing. We also talked briefly about the nitrate testing and I found reference to this in our file. Since 1989 was the first required year, I assume 1992 will be the next required test. Please note that it is shown on enclosure #6 and that our level is good.

Please let me know if you have any further requirements that we should meet and please pass along the information that Mr. O'Brien requested from us.

Yours truly,

Glenn Zepp

Glenn Zepp
Maintenance Supervisor

GZ:sz

cc: D. Hudson
J. McGee
J. Meyers
M. Pascaud

attachments

ENCLOSURE No. 1

PENNIMAN & BROWNE, INC.

CHEMISTS / ENGINEERS / INSPECTORS

6252 FALLS ROAD / P.O. BOX 65309 / BALTIMORE, MARYLAND 21209-0002 / TELEPHONE 301-825-4131 / FAX 301-321-7384

well 3 is closed down

CHEMICAL DIVISION

REPORT OF ANALYSIS

No.	910933 collection date May 1, 1991
Sample of	Water rec'd 4/17/91
Client	Telemecanique
Source of Sample	Sampled by Penniman & Browne, Inc.
Marks or Other Data	Sampler: C. Thurman #88-0242 Five Wells - 4/17 (0930-1300)

WELL NO's, 4 5 6

	#1	#2	~~#3~~	~~#4~~	~~#5~~	MDL	Method	MCL
Benzene	ND	ND	ND	ND	ND	1	503.1	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	1	502.1	5
(1,4 - DICHLOROBENZENE) p-Dichlorobenzene	ND	*	ND	ND	ND	1	502.1	75
(1,1 - DICHLOROETHYLENE) 1,1-Dichloroethene	ND	ND	ND	ND	ND	1	502.1	7
1,2-Dichloroethane	ND	ND	ND	ND	ND	1	502.1	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1	502.1	200
Trichloroethylene	ND	9	ND	ND	ND	1	502.1	5
Vinyl Chloride	ND	ND	ND	ND	ND	1	502.1	2

Results expressed in micrograms/liter.
ND = None Detected
MDL = Method Detection Limit
MCL = Maximum Contaminant Level
Analyzed: Gascoyne - 4/18/91 DCM/THP
* = Detected below quantitation levels
Field and trip blanks were analyzed and found to be ND

Harry Holthaus, Jr.

I. Stephen Gaworiwsky, Ph.D.

FOUNDED 1896

TELEMECANIQUE INC.
2002 BETHEL ROAD

WESTMINSTER, MD 21157-

DATE IS CUT OFF
3-21-88 (COLLECTED) SAMPLE CODE 83567
3-23-88 (RECD.)

6151 Wilson Mills Road
Cleveland, OH 44143
(216) 449-2525

DEALER ADDRESS

CULLIGAN OF YORK, PA
1215 ROOSEVELT AVE

YORK, PA 17404-

DRINKING WATER ANALYSIS RESULTS

ENCLOSURE NO. 2

NOTE: "*" indicates that maximum levels have been exceeded, or in the case of pH are either too high OR too low.
"nd" indicates that none of this contamination has been detected at or above our detection level.

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Microbiological:			
Total coliform (organism/100ml)	0	0.0	nd**
Inorganic chemicals - metals:			
Arsenic	0.05	0.002	nd
Barium	1.0	0.30	nd
Cadmium	0.01	0.002	nd
Chromium	0.05	0.004	nd
Copper	1.0	0.004	0.120
Iron	0.3	0.030	0.055
Lead	0.02	0.010	nd
Manganese	0.05	0.004	nd
Mercury	0.002	0.0002	nd
Nickel	0.15	0.02	nd
Selenium	0.01	0.002	nd
Silver	0.05	0.002	nd
Sodium	---	1.0	2.0
Zinc	5.0	0.004	1.300
Inorganic chemicals - other, and physical factors:			
Alkalinity (Total as CaCo3)	---	2.0	20
Chloride	250	10.0	30
Fluoride	2.0	0.1	nd
Nitrate as N	10	1.0	1*
Sulfate	250	20.0	nd
Hardness (as CaCO3)	---	20.0	60
pH (Standard Units)	6.5-8.5	---	6.90
Total Dissolved Solids	500	20.0	100
Turbidity (Turbidity units)	1.0	0.1	0.2
Organic chemicals - trihalomethanes:			
Bromoform	---	0.004	nd
Bromodichloromethane	---	0.002	nd
Chloroform	---	0.002	nd
Dibromochloromethane	---	0.004	nd
Total THMs (sum of four above)	0.1	0.002	nd
Organic chemicals - volatiles			
Benzene	0.005	0.0005	nd
Vinyl Chloride	0.002	0.0005	nd
Carbon Tetrachloride	0.005	0.0005	nd
1,2-Dichloroethane	0.005	0.0005	nd
Trichloroethylene	0.005	0.0005	0.0004

** May be invalid due to kit arrival at lab more than 30 hours after collection.

	(mg/l)	Level	Detected
1,3-Dichlorobenzene	0.075	0.0005	nd
1,1-Dichloroethylene	0.007	0.0005	nd
1,1,1-Trichloroethane	0.20	0.0005	nd
Bromobenzene	0.010	0.0005	nd
Bromomethane	0.005	0.0005	nd
Chlorobenzene	0.6	0.0005	nd
Chloroethane	0.003	0.0005	nd
Chloromethane	0.01	0.0005	nd
1,1-Chlorotoluene	0.005	0.0005	nd
1,3-Chlorotoluene	0.005	0.0005	nd
Dibromochloropropane (DBCP)	0.025	0.0005	nd
Dibromomethane	0.005	0.0005	nd
1,2-Dichlorobenzene	0.62	0.0005	nd
1,3-Dichlorobenzene	0.62	0.0005	nd
Trans-1,2-Dichloroethylene	0.07	0.0005	nd
Cis-1,2-Dichloroethylene	0.07	0.0005	nd
Dichloromethane	0.350	0.0005	nd
1,1-Dichloroethane	0.005	0.0005	nd
1,1-Dichloropropene	0.006	0.0005	nd
1,2-Dichloropropane	0.005	0.0005	nd
Trans 1,3-Dichloropropane	0.005	0.0005	nd
Cis 1,3-Dichloropropane	0.005	0.0005	nd
2,2-Dichloropropane	0.005	0.0005	nd
Ethylenedibromide (EDB)	0.11	0.0005	nd
Ethylbenzene	0.68	0.0005	nd
Styrene	0.14	0.0005	nd
1,1,2-Trichloroethane	0.2	0.0005	nd
1,1,1,2-Tetrachloroethane	0.005	0.0005	nd
1,1,2,2-Tetrachloroethane	0.005	0.0005	nd
Tetrachloroethylene	0.005	0.0005	nd
1,2,3-Trichloropropane	0.005	0.0005	nd
Toluene	2.0	0.0005	nd
Xylene	0.44	0.0005	nd
Organic chemicals - pesticides - herbicides & PCBs			
Hexachlorobenzene	0.02	0.005	nd
Endrin	0.0002	0.0001	nd
Methoxychlor	0.1	0.05	nd
Lindane	0.004	0.004	nd
Toxaphene	0.005	0.005	nd
Chlordane	0.02	0.02	nd
Heptachlor	0.01	0.002	nd
PCBs	0.008	0.004	nd
2,4-D	0.1	0.001	nd
Silvex 2,4,5-TP	0.01	0.0005	nd
Organic chemicals - phenols			
2-Chlorophenol	0.05	0.005	nd
4-Chloro-3-Methylphenol	0.05	0.005	nd
2,4-Dichlorophenol	0.05	0.006	nd
2,4-Dimethylphenol	0.05	0.008	nd
4-Nitrophenol	0.05	0.03	nd
Pentachlorophenol	0.22	0.08	nd
Phenol	0.05	0.005	nd

NOTE: The MCLs shown above and on page one of this report were derived from data published in following sources:
* EPA National Primary or Secondary Drinking Water Regulations or Health Advisories. Where no recommended level was available, we have used the minimum detection level generally available using approved analytical methods. Procedures used to analyze TDS, pesticides, herbicides and phenols are not USEPA approved.

I certify that the analyses performed for this report are accurate, and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Peter W Robertson

Director of Laboratories, NATIONAL TESTING LABORATORIES, INC.

REV. 3-88

ENCLOSURE No. 3

Fredericktowne Labs, Inc.

Main Street • P.O. Box 244 • Myersville, MD 21773 • (301) 293-3340 or 694-7133

Account No.: 2063-3
Vial No.: 2063-3
Location: Building Water
Telemanique
10/23/90 2:45 p.m.

Date collected: 10/23/90
Collected by: B. Barnhart
Associated Envir. Serv.
Date reported: 11/15/90

Volatiles in Drinking Water	Result As Received	Limit of Detection
Dichlorodifluoromethane	<0.05 ug/l	0.05 ug/l
Chloromethane	<0.03 ug/l	0.03 ug/l
Vinyl Chloride	<0.04 ug/l	0.04 ug/l
Bromomethane	<1.1 ug/l	1.1 ug/l
Chloroethane	<0.1 ug/l	0.1 ug/l
Trichlorofluoromethane	<0.03 ug/l	0.03 ug/l
1,1-Dichloroethene	<0.07 ug/l	0.07 ug/l
Methylene Chloride	<0.02 ug/l	0.02 ug/l
trans-1,2-Dichloroethene	<0.05 ug/l	0.05 ug/l
1,1-Dichloroethene	<0.07 ug/l	0.07 ug/l
2,2-Dichloropropane	<0.05 ug/l	0.05 ug/l
cis-1,2-Dichloroethene	<0.01 ug/l	0.01 ug/l
Chloroform	<0.02 ug/l	0.02 ug/l
Bromochloromethane	<0.01 ug/l	0.01 ug/l
1,1,1-Trichloroethane	<0.03 ug/l	0.03 ug/l
1,1-Dichloropropene	<0.02 ug/l	0.02 ug/l
Carbon Tetrachloride	<0.01 ug/l	0.01 ug/l
Benzene	<0.01 ug/l	0.01 ug/l
1,2-Dichloroethane	<0.03 ug/l	0.03 ug/l
Trichloroethene	<0.01 ug/l	0.01 ug/l
1,2-Dichloropropane	<0.01 ug/l	0.01 ug/l
Bromodichloromethane	<0.02 ug/l	0.02 ug/l
Dibromomethane	<2.2 ug/l	2.2 ug/l
cis-1,3-dichloropropene	<0.01 ug/l	0.01 ug/l
Toluene	<0.01 ug/l	0.01 ug/l
trans-1,2-dichloropropene	<0.01 ug/l	0.01 ug/l
1,1,2-Trichloroethane	<0.01 ug/l	0.01 ug/l
Tetrachloroethene	<0.04 ug/l	0.04 ug/l
1,2-Dichloropropane	<0.03 ug/l	0.03 ug/l
Dibromochloromethane	<0.03 ug/l	0.03 ug/l
1,2-Dibromoethane	<0.8 ug/l	0.8 ug/l
Chlorobenzene	<0.01 ug/l	0.01 ug/l
Ethylbenzene	<0.01 ug/l	0.01 ug/l
1,1,1,2-Tetrachloroethane	<0.01 ug/l	0.01 ug/l
m,p-Xylene	<0.01 ug/l	0.01 ug/l
o-Xylene	<0.02 ug/l	0.02 ug/l

(continued next page)

Fredericktowne Labs, Inc.

Main Street • P.O. Box 244 • Myersville, MD 21773 • (301) 293-3340 or 694-7133

(Acct. No. 2063-3 continued)

Volatiles in Drinking Water	Result As Received	Limit of Detection
Styrene	<0.01 ug/l	0.01 ug/l
Isopropylbenzene	<0.05 ug/l	0.05 ug/l
Bromoform	<1.6 ug/l	1.6 ug/l
1,1,2,2-Tetrachloroethane	<0.01 ug/l	0.01 ug/l
1,2,3-Trichloropropane	<0.4 ug/l	0.4 ug/l
n-Propylbenzene	<0.01 ug/l	0.01 ug/l
Bromobenzene	<0.03 ug/l	0.03 ug/l
1,3,5-Trimethylbenzene	<0.01 ug/l	0.01 ug/l
2-Chlorotoluene	<0.01 ug/l	0.01 ug/l
4-Chlorotoluene	<0.01 ug/l	0.01 ug/l
Tert-Butylbenzene	<0.06 ug/l	0.06 ug/l
1,2,4-Trimethylbenzene	<0.05 ug/l	0.05 ug/l
sec-Butylbenzene	<0.02 ug/l	0.02 ug/l
p-Isopropyltoluene	<0.01 ug/l	0.01 ug/l
1,2-Dichlorobenzene	<0.02 ug/l	0.02 ug/l
1,4-Dichlorobenzene	<0.01 ug/l	0.01 ug/l
n-Butylbenzene	<0.02 ug/l	0.02 ug/l
1,2-Dichlorobenzene	<0.02 ug/l	0.02 ug/l
1,2-Dibromo-3-Chloropropane	<3.0 ug/l	3.0 ug/l
1,2,4-Trichlorobenzene	<0.03 ug/l	0.03 ug/l
Hexachlorobutadiene	<0.02 ug/l	0.02 ug/l
Naphthalene	<0.06 ug/l	0.06 ug/l
1,2,3-Trichlorobenzene	<0.03 ug/l	0.03 ug/l

Notes: ug/l stands for micrograms per liter. This is nearly synonymous with parts per billion (ppb)

< stands for less than. In this report a result of "less than" signifies that the component in question was not detected.

The above analysis was performed using EPA Method 502.2.

PENNIMAN & BROWNE, INC.
CHEMISTS / ENGINEERS / INSPECTORS

6252 FALLS ROAD / P.O. BOX 65309 / BALTIMORE, MARYLAND 21209-0002 / TELEPHONE 301-825-4131 / FAX 301-321-7384

ENCLOSURE No. 4

CHEMICAL DIVISION

REPORT OF ANALYSIS

collection date

No. 911187 June 24, 1991 P.O. S 40412

Sample of Waters rec'd 5/8/91

Client Telemecanique

Source of Sample Sampled by Penniman & Browne, Inc.

Marks or Other Data Sampler: T. Baker #90-047

Sample I.D.	pH	Residual Chlorine, mg/l	Total Coliform, MPN/100 ml
001 - Nurses Station Sink	8.1	0.05	<2.2
002 - Men's Room Sink	7.1	0.05	<2.2
003 - Well #2	7.6	0.1	<2.2
004 - Well #1	6.6	0.1	<2.2
005 - Well #4	6.5	0.15	<2.2
006 - Well #5	7.1	0.1	<2.2
007 - Well #6	6.9	0.1	<2.2

According to state regulations, a water sample containing less than 2.2 MPN/100 ml can be considered free of coliform organisms and thus bacteriologically potable.

Harry Holthaus, Jr.
Harry Holthaus, Jr.

I. Stephen Jaworiwsky
I.Stephen Jaworiwsky, Ph.D.

BACTERIOLOGICAL EXAMINATION OF WATER

• *analytical*
• *consulting*
• *research*

05/22/91

ENCLOSURE No. 5

CULLIGAN - JIM
FINAL

COLLECTED: 05/20/91

EXAMINED: 05/20/91

TELEMACANIQUE
2002 BETHEL RD
WESTMINSTER, MD

METHOD USED	COLIFORM COUNT PER 100 ML	RESULTS *
MEMBRANE FILTER	0	S

S = SAFE FOR USE, MEETS EPA AND DER STANDARDS.

DER APPROVED LAB. # 67043

K G Rao, BE

K. G. RAO, PHD
PRESIDENT

LIMITATION OF LIABILITY AND CONSEQUENTIAL DAMAGES: EASTERN LABORATORY SERVICE ASSOCIATES (ELSA) SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFITS) INCURRED BY CLIENT OR ANY THIRD PARTY OCCASIONED BY SERVICES PERFORMED BY ELSA AND CLIENT AGREES TO INDEMNIFY, DEFEND, AND HOLD ELSA HARMLESS FROM ANY AND ALL SUCH DAMAGES OR LIABILITY.

CERT. FOR COLIFORM

CUSTOMER ADDRESS

TELEMECANIQUE INC.
2002 BETHEL ROAD
WESTMINSTER, MD -

DEALER ADDRESS

CULLIGAN OF YORK, PA
1215 ROOSEVELT AVE
YORK, PA 17404-

WATERCHECK / NATIONAL TESTING LABORATORIES INC.
6151 Wilson Mills Road
Cleveland, OH 44143
(216) 449-2525

DRINKING WATER ANALYSIS RESULTS

ENCLOSURE No. 6

NOTE: "*" indicates that the MCL (Maximum Contaminant Level) has been exceeded, or in the case of pH is either too high OR too low.
"ND" indicates that none of this contaminant has been detected at or above our detection level.
"**" Result may be invalid due to lack of "Time Collected" or because the sample has exceeded the 30-hour time frame.
"BD" Bacteria destroyed due to lack of collection information or because the sample has exceeded the 48-hour time frame.
TNTC-Too Numerous To Count NBS-No Bacteria Submitted

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Microbiological:			
Total coliform (organism/100ml)	0	0.0	ND
Inorganic chemicals - metals:			
Arsenic	0.05	0.002	ND
Barium	1.0	0.30	ND
Cadmium	0.01	0.002	ND
Chromium	0.05	0.004	ND
Copper	1.0	0.004	0.011
Iron	0.3	0.020	0.025
Lead	0.05	0.002	0.003
Manganese	0.05	0.004	0.027
Mercury	0.002	0.0002	ND
Nickel	0.15	0.02	ND
Selenium	0.01	0.002	ND
Silver	0.05	0.002	ND
Sodium	---	1.0	8.3
Zinc	5.0	0.004	0.050
Inorganic chemicals - other, and physical factors:			
Alkalinity (Total as CaCO3)	---	2.0	100
Chloride	250	10.0	14
Fluoride	4.0	0.50	ND
Nitrate as N	10	0.5	5.0
Nitrite as N	---	0.5	ND
Sulfate	250	10.0	ND
Hardness (suggested limit = 100)		20.0	105*
pH (Standard Units)	6.5-8.5	---	7.4
Total Dissolved Solids	500	20.0	193
Turbidity (Turbidity Units)	1.0	0.1	ND
Organic chemicals - trihalomethanes:			
Bromoform	---	0.004	ND
Bromodichloromethane	---	0.002	ND
Chloroform	---	0.002	ND
Dibromochloromethane	---	0.004	ND
Total THMs (sum of four above)	0.1	0.002	ND
Organic chemicals - volatiles:			
Benzene	0.005	0.001	ND
Vinyl Chloride	0.002	0.001	ND
Carbon Tetrachloride	0.005	0.001	ND
1,2-Dichloroethane	0.005	0.001	ND

Analysis performed	MCL (mg/l)	Detection Level	Level Detected
Trichloroethylene	0.005	0.001	ND
1,4-Dichlorobenzene	0.075	0.001	ND
1,1-Dichloroethylene	0.007	0.001	ND
1,1,1,-Trichloroethane	0.20	0.001	ND
Bromobenzene	---	0.002	ND
Bromomethane	---	0.002	ND
Chlorobenzene	---	0.001	ND
Chloroethane	---	0.002	ND
Chloroethylvinyl ether	---	0.002	ND
Chloromethane	---	0.002	ND
2-Dichlorotoluene	---	0.001	ND
4-Dichlorotoluene	---	0.001	ND
Dibromochloropropane (DBCP)	---	0.001	ND
Dibromomethane	---	0.002	ND
1,2-Dichlorobenzene	---	0.001	ND
1,3-Dichlorobenzene	---	0.001	ND
Dichlorodifluoromethane	---	0.002	ND
1,1-Dichloroethane	---	0.002	ND
Trans-1,2-Dichloroethylene	---	0.002	ND
cis-1,2-Dichloroethylene	---	0.002	ND
Dichloromethane	---	0.002	ND
1,2-Dichloropropane	---	0.002	ND
trans-1,3-Dichloropropene	---	0.002	ND
cis-1-3-Dichloropropene	---	0.002	ND
2,2-Dichloropropane	---	0.002	ND
1,1-Dichloropropene	---	0.002	ND
1,3-Dichloropropane	---	0.002	ND
Ethylbenzene	---	0.001	ND
Ethylenedibromide (EDB)	---	0.001	ND
Styrene	---	0.001	ND
1,1,1,2-Tetrachloroethane	---	0.002	ND
1,1,2,2-Tetrachloroethane	---	0.002	ND
Tetrachloroethylene (PCE)	---	0.002	ND
Trichlorobenzene(s)	---	0.002	ND
1,1,2-Trichloroethane	---	0.002	ND
Trichlorofluoromethane	---	0.002	ND
1,2,3-Trichloropropane	---	0.002	ND
Toluene	---	0.001	ND
Xylene	---	0.001	ND

I certify that the analyses performed for this report are accurate, and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods.

These test results are intended to be used for informational purposes only and may not be used for regulatory compliance.

PRESIDENT, NATIONAL TESTING LABORATORIES, INC.

REV. 2-91

GROUPE SCHNEIDER

Rakesh Patel
Supervisor, Environmental Projects

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SQUARE D COMPANY
GROUPE SCHNEIDER

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November 14, 1997

Mr. Donald Miller
Maryland Department of the Environment
Waste Management Administration
Inspection and Compliance Program
2500 Broening Highway
Baltimore, MD 21224

Dear Mr. Miller:

Re: Request for Site Closure, Former Telemacanique Facility
2002 Bethel Road, Westminister, MD
State Discharge Permit 94-DP-3054

Square D/Groupe Schneider respectfully requests that the Maryland Department of the Environment (MDE) consider the closure of the remediation activities at the above mentioned facility. This request is based on the analytical data collected from the on-site monitoring wells and the performance of the groundwater treatment system (GWTS). The analytical data indicates that the concentrations of Trichloroethylene (TCE) in the on-site groundwater monitoring wells are consistently below MCL and/or below the analytical detection limit (0.5 µg/L). The MCL for TCE is 5.0 µg/L. The data from the GWTS influent and effluent, indicates an asymptotic recovery of TCE.

The site has been under investigation since 1993, when low levels of certain chlorinated volatile organic compounds (VOCs) were detected in private well PW-2. Consequently, Square D proposed the installation of a GWTS for the recovery of dissolved phase VOCs, specifically TCE from the PW-2. Under the approval of MDE, the removal of TCE from PW-2 by the pump and treat method began in January 1994. At Square D's request the initial approval for the GWTS and discharge was in the form of a consent order until a NPDES permit (94-DP-3054) could be issued.

Currently, the groundwater quality at the site is being monitored, for TCE levels, under a semi-annual sampling program. The three wells subject to the semi-annual sampling are MW-1, PW-1 and PW-2, refer to Figure 1. Monthly effluent quality samples are collected to ensure compliance with the discharge permit requirements. In addition, influent (PW-2) samples are collected to monitor GWTS efficiency and VOC recovery estimates. The influent results are summarized in Table 1. The analytical data for MW-1 indicates that the dissolved-phase concentrations of TCE in MW-1 never exceeded 2.0 µg/L. The analytical data for PW-1 indicates that the dissolved-phase concentrations of TCE in PW-1 has remained below the analytical detection limit of 0.5 µg/L.

The analytical data for PW-2 indicates that the mean average for the dissolved-phase concentrations of TCE in PW-2 is 6.9 µg/L, refer to Figure 2.

Since start-up in January 1994, an estimated total of 3,014,420 gallons of water have been treated by the system. Mass TCE recovery by the treatment system has been calculated by extrapolating the total gallons of water pumped and influent TCE concentrations. Using this method, it is estimated that approximately 0.5 pounds of TCE has been recovered from PW-2 since start-up. The cumulative and instantaneous TCE recovery estimates are summarized in Figures 3 and 4, respectively. The data indicates that the rate of TCE recovery has decreased since August 1996, coinciding with the decrease in TCE concentrations at PW-2 (Fig. 2). The data illustrates the following:

- Approximately 93% of the TCE recovered to date was collected between January 1994 to August 1996.
- Since August 1996, approximately 0.03 pounds of TCE (7% of total) has been recovered.

Upon MDE's approval to terminate the operation of the GWTS, Square D is prepared to permanently close PW-2 in accordance with applicable federal and MDE requirements. Closure of this well would not affect the groundwater supply to the facility.

Square D proposes to cease operation of the pump-and-treat system, the closure of PW-2 and cancellation of the state discharge permit based on the following:

- TCE concentrations in on-site monitoring wells are consistently below MCL and/or below detection limits.
- Influent TCE concentrations reduced to near MCL value.
- Declining TCE recovery rate.

We trust the information provided in support of our request is to your satisfaction. If there are any questions, please contact Rakesh Patel at (416)752-8652 Ext. 261.

Sincerely,

GROUPE SCHNEIDER

Gladys Thomas FOR.
Manager, Environmental Affairs

Rakesh Patel
Supervisor, Environmental Projects

Attachments

cc: Roger Simons, MDE
Rich Widdowson, Groupe Schneider
Rick Kapuscinski, QST
Glenn Bair, QST

File: westmstr\mde1114

Table 1
VOC Concentrations in Groundwater
Former Telemecanique Facility
2002 Bethel Road
Westminister, MD

Well	Date Sampled	TCE (ug/L)	1,1-Dichloroethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	1,1,1-Trichloroethane (ug/L)
PW-1	18-Mar-93	ND	ND	ND	ND
	7-Sep-95	ND	ND	ND	ND
	27-Mar-96	ND	NS	NS	NS
	28-Aug-96	ND	NS	NS	NS
	4-Apr-97	ND	NS	NS	NS
	18-Sep-97	ND	NS	NS	NS
PW-2	18-Mar-93	18.0	0.8	11.1	0.7
	8-Sep-95	6.8	ND	3.9	ND
	26-Mar-96	10.0	NS	NS	NS
	27-Aug-96	6.6	NS	NS	NS
	28-Aug-96	5.7	NS	NS	NS
	25-Oct-96	5.7	NS	NS	NS
	22-Nov-96	5.8	NS	NS	NS
	27-Dec-96	4.8	NS	NS	NS
	10-Jan-97	4.7	NS	NS	NS
	10-Feb-97	5.1	NS	NS	NS
	7-Mar-97	5.1	NS	NS	NS
	4-Apr-97	6.0	NS	NS	NS
	9-May-97	7.0	NS	NS	NS
	11-Jun-97	8.7	NS	NS	NS
	11-Jul-97	5.4	NS	NS	NS
	11-Aug-97	4.6	NS	NS	NS
	18-Sep-97	4.5	NS	NS	NS
PW-3	Closed				
PW-4	18-Mar-93	ND	ND	ND	ND
PW-5	18-Mar-93	ND	ND	ND	ND
PW-6	18-Mar-93	ND	ND	ND	ND
MW-1	31-Mar-92	2.0	ND	ND	ND
	21-Apr-93	ND	ND	ND	ND
	10-Mar-94	ND	ND	ND	ND
	8-Sep-95	0.6	ND	ND	ND
	27-Mar-96	0.6	NS	NS	NS
	28-Aug-96	0.5	NS	NS	NS
	7-Mar-97	ND	NS	NS	NS
	18-Sep-97	0.5	NS	NS	NS
MW-2/2R	1-Jul-93	ND	ND	ND	ND
	10-Mar-94	ND	ND	ND	ND
MW-3	31-Mar-92	ND	ND	ND	ND
	24-Apr-93	ND	ND	ND	ND
	10-Mar-94	ND	ND	ND	ND
MCL (ug/L)		5.0	No MCL	70.0	200.0

MCL = Maximum Contaminant Level (ug/L)
TCE = Trichloroethylene
ND = Contaminant not detected above the analytical detection limit of 0.5 ug/L
NS = Not Sampled