

VILLAGE OF MAYBROOK

WATER DEPARTMENT

Village Hall @ 111 Schipps Lane

Maybrook, New York 12543

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Board Meetings 2nd and 4th Mondays

ANNUAL WATER SUPPLY STATEMENT FOR CALENDAR YEAR 2016 OF SYSTEM 3503533

The Village of Maybrook serves a population of approximately 3,000, within the Towns of Montgomery and Hamptonburgh. It services a portion of County Route 4 (AKA Maybrook Road). The **Water Supply** is obtained from 7 Bedrock Wells of an average depth of 357'. **The general quality of these sources is good, and is in compliance with New York State Department of Health and Federal EPA standards.**

*During 2016 the quantity of water from these sources exceeded the demand for consumption, 76,410,301 gallons (209,434/day) were treated and processed throughout the distribution system. A total 48,848,072 gallons (133,831/day) was delivered to customers served by the Village of Maybrook. The difference of approximately 75,603 gallons per day average is reflective of leaks both in the distribution system and residential, bi-annual hydrant flushing, watering of parks, street sweeping, firefighting operations, meter replacements and normal system losses. This difference represents a 36 % average for unaccounted water usage. **leaks were discovered and repaired in 2016 one large leak in December on Adams Drive and Indian Trail (approximately 200 GPM), along with some various service line leaks and residential leaks due to freezing in unoccupied structures** . The water department has the master meters calibrated annually. We periodically check for leaks with leak detection equipment, we also have a hydrant replacement program and do residential leak detection on an as needed basis.*

In July of 2016 the village issued a voluntary water restriction due to the drought conditions which continued through the end of the year. This was to protect our resources and as a public safety measure to ensure sufficient water supply for firefighting operations in the event of a major incident.

The water which is withdrawn from these sources, is treated with Chlorine for disinfection to destroy microorganisms. It is also treated with Polyphosphates for sequestering of Iron and Manganese (Naturally occurring Earth Elements) and corrosion control prior to delivery to our customers.

As always customers are advised to follow water conservation measures as posted on our website (www.villageofmaybrook.com) and if at all possible are asked to retrofit old plumbing fixtures with new water saving devices and to perform lawn and garden watering in an efficient manner. These measures can be expected to reduce future capital expenditures that may be necessary to increase the capacity of our water supply. **During 2016, the average water rate per residence was \$4.15 per 1,000 gallons of water used, the business rate was \$4.89 .**

The Village has 1 State Certified Chief Water Treatment (Grade IIB) and Distribution System (Grade D) Operator, along with 1 State Certified Assistant (Grade IIB &D) Operator on staff. These operators are required to attend annual re-certification training in accordance with DOH and EPA guidelines. We also keep in constant contact with the Orange County Department of Health and our Engineers regarding all aspects of our Water System.

Due to the close proximity of the Nepera site to the wells (1,2,3) on County Route 4, the **Village is required to monitor for VOC's, POC's, 625bn (Pyridine, Alphapyridine and Picoline) at this site quarterly, in addition to all the other required annual testing.**

The Village now is using the code red emergency warning system which allows us to notify you the consumer of any emergencies and work being done in the village. If you have not yet registered, please go to the village website (www.villageofmaybrook.com) for information on what the system can do for you. It includes notices that can be

sent to cell phones, texting and voice mail along with landline information. This is also used for any type of public notifications.

SWAP (source water assessment program) SUMMARY & EDUCATIONAL INFORMATION

The New York State Department of Health completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. **The susceptibility rating is an estimate of the potential for contamination of the source water, IT DOES NOT MEAN THAT THE WATER DELIVERED TO CONSUMERS IS, OR WILL BECOME CONTAMINATED.** See “ Table of detected Contaminants” for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters in the future.

As mentioned before, our water is derived from seven drilled bedrock wells. The source water assessment has rated these wells as having a medium to very-high susceptibility to microbials, nitrates, industrial solvents, and other contaminants. These ratings are due to primarily to the close proximity of a SPDES permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/ or federal government), the low-level residential activity and the waste site that are located in the assessment area. In addition, the wells draw from a confined aquifer with the estimated recharge area located within the selected time of travel and the overlying soils may not provide adequate protection from potential contamination. While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted in this report.

The Village has in effect, a set of **Watershed Rules and Regulations, which were adopted in 1982 by the New York State Health Department and are part of State Law.** The Village also has a comprehensive **Wellhead Protection** plan to insure that our current and future wells are and will be protected from possible sources of contamination. The water department does 2 Annual inspections and submits a report to the Health Department. We also do periodic inspections of industrial facilities and the Nepera site to ensure the safety of our water sources.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (1 –800-426-4791).

Because some people may be vulnerable to disease causing microorganisms or pathogens, New York State Law requires water suppliers to notify their customers about the risks of cryptosporidiosis and giardiasis.

Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic parasites. **Cryptosporidiosis can be very serious for people with weak immune systems, such as those on chemotherapy, dialysis or organ transplant patients. People with Crohn’s disease or HIV infection, also some elderly and infants can be at higher risks for infection. People with weakened immune systems should discuss with their health care providers the need to take extra precautions such as boiling water, using a certified bottled water or a specially approved home filter.** Individuals who think that they may have either illness should contact their health care provider immediately. **The EPA/CDC has guidelines on appropriate means to lessen the risk of Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline @ (1-800- 426-4791).**

Since the Village’s Water sources are solely from deep bedrock wells (groundwater, 300’ to 500’), it is at very low risk for the presence of Giardia or Cryptosporidium, according to health experts in this field.

The sources of drinking water (*both Tap Water and Bottled Water*) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As the water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material, and it can pick up substances resulting from the presence of animal or human activities. Contaminants that may be present in source water include, pesticides and herbicides, organic chemical contaminants and radioactive contaminants. In order to ensure that tap water is safe to drink, the State DOH and the EPA prescribe regulations, which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

For additional information on cryptosporidiosis or giardiasis, call the Orange County Health Department at (845) 291-2331. The New York State Department of Health can be contacted at (800) 458-1158 and the USEPA Drinking Water Hotline at (800) 426-4791.

ANNUAL WATER SUPPLY STATEMENT, CALENDAR YEAR 2016 DEFINITIONS:

The State Department of Health and the EPA require that definitions of terminology used in this report be supplied to the consumer. The following are the explanations of terms used for our testing results, possible sources of contaminants that were detected and the associated health effects.

Entry Point: Is the point at which treated water enters the distribution system for the purpose of consumption. This is usually the first service connection, and in our case is at each of the well sites

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG as possible.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

90th Percentile Value: The values reported for **lead and copper** represent the 90th percentile value. A percentile is a value on a scale of 100 that indicates the percent of the distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected in the sampling of the water system as set forth by the EPA guidelines.

Unconfirmed Detection: when a contaminant is detected in a water sample and subsequent repeat samples from the same location do not detect the same contaminant again.

Milligrams per Liter (mg/l) or Parts Per Million (ppm): corresponds to one part of liquid in one million parts of a liquid.

Micrograms per Liter (ug/l) or Parts Per Billion (ppb): corresponds to one part of liquid in one billion parts of a liquid.

Picocuries per Liter (pCi/l) A measure of radioactivity in water

Reduced Monitoring: The frequency and number of samples required were reduced by the Department of Health because the initial sampling passed all applicable drinking water standards and subsequent samples again met drinking water standards.

Non-Detectable: (ND) Substance tested for was not detectable at the limits set forth by the EPA or DOH.

Maximum Residual Disinfectant Level (MRDL) The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) The level of a drinking water disinfectant below, which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

TABLE OF DETECTED CONTAMINANTS:

Contaminant Detected	Violation Yes/No	Date of Sample	Level Detected (Avg./Max) (Range)	Unit Measurement Mg/l, ug/l	MCLG	Regulatory Limit (MCL, TT or Al)	Likely Source of Contaminant Detected
Antimony	NO	10/2016	ND – 0.47	Ug/l	6	6	Used in household plumbing solder
Copper	NO	9/2/2015	0.07-*(2) 0.039 – .77	Mg/l	1.3	1.3	Corrosion of household plumbing
Lead	NO	9/2/2015	ND -2.3 1.65 *(2)	Ug/l	0	15	Corrosion of household plumbing
Barium	NO	10/2016	0.074 – 0.21	Mg/l	2	2	Erosion of natural earth deposits
Iron	NO	Quarterly	ND – 55	Ug/l	N/A	300	Naturally occurring Earth Element
Nickel	NO	10/2016	2.8 – 5.4	Ug/l	N/A	100	Erosion of natural deposits
Nitrate	NO	2016	ND– 0.66	Mg/l	10	10	Naturally occurring erosion of natural deposits
Manganese	NO	Quarterly	ND – 860 240	Ug/l	N/A	300	Naturally occurring Earth Element
Sodium	NO	2016	40 - 140	Mg/L	N/A	See Health Effects	Naturally occurring, Road Salt
Radium 226-228	NO	2008	ND - 1.22	pCi/l	0	5	Erosion of natural deposits
Total Tri-Halomethanes	NO	8/2016	13 * (1)	Ug/L	N/A	80	By-product of drinking water chlorination to kill harmful organisms
Haloacetic Acids (HAA5's)	NO	8/2016	3.9 * (1)	Ug/L	N/A	60	By-product of drinking water chlorination needed to kill harmful
Uranium	NO	5/2015	ND - 1.8	Ug/L	0	30	Deposition of Natural Deposits
Coliform	NO	5/20/2106	3 samples	N/A	0	Confirmed positive sample	Naturally present in the environment

Notes: *(1) On May 20, 2016 we collected 3 routine bacteria samples that showed the presence of Coliform and E-Coli. However, we immediately collected all the repeat samples as required by The Department of Health and all samples were negative for both Coliform and E-Coli. Therefore, these samples were *NOT CONFIRMED* and did not pose a threat to public health, if it would have, the public would have been notified immediately. All monthly samples since May have been negative for Coliform and E-Coli.

***(2) refer to 90th percentile values for the number of required reduced monitoring (tri-annual) samples (10) for the Year 2015. Sampling will be done again in 2018.**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Village of Maybrook is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

The copper and lead results are from our **2015 reduced monitoring samples & additional sampling requirements**. Lead and Copper in household plumbing tends to build up when water is not used for long periods of time. The EPA suggests (flush before you brush) running the water until you get a noticeable temperature change before drinking.

Sodium: was detected from all sites ranging from 35(ppm) to 180 (ppm), There is no MCL: Sodium is naturally occurring and can come from road salt, *water softeners* and animal waste. Water containing more than 20 mg/l should not be used for drinking by people on severely restricted Sodium Diets. Water containing more than 270 mg/l should not be used for drinking by people on moderately restricted Sodium Diets.

A special note regarding **Sodium in drinking water**. Those homeowners with **Water Softeners** are reminded that **water-softening devices use 46mg/l (ppm) of salt for every 100 mg/l (ppm) of water hardness (usually Calcium Carbonate CaCO₃, our water ranges from 191ppm to 330ppm)**. Those on restricted sodium diets should consult their Physician.

Iron: was detected from all sites ranging from non-detectable to 55 (ppb), MCL is 300(ppb): Iron is a naturally occurring earth element.

Iron has NO HEALTH EFFECTS. At 1000(ppb) a substantial number of people will note the bitter astringent taste of iron. Also at 10(ppm) it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels as low as 50(ppb), lower than those detectable than the taste buds. Therefore the MCL of 300(ppb) represents a reasonable compromise as adverse aesthetic effects are minimized at this level. **Many multivitamins contain 3000 (ppb) to 4000(ppb) per capsule (300 to 400 times the detected amount in our water).**

Manganese: was detected from all sites ranging from non-detectable to 640(ppb), MCL is 300(ppb): Manganese is naturally occurring and in excessive levels can be indicative of runoff from landfills. **The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2000(ppb) to 5000(ppb) for adults.** However, many people's diets lead them to consume even higher amounts of manganese, especially those that consume high amounts of vegetables or are vegetarians.

The sequestering procedure currently in use by the Village is used to maintain and stabilize the iron and manganese to reduce the sloughing process; also we flush our distribution system twice per year to achieve greater removal of deposits within the water mains.

The Village tests annually for **Volatile Organic Chemicals (VOC's, POC's)** of which there are a total of 55 possible contaminants (see attached list at end of report) additionally **Nitrates** are tested for annually.

The 2014 tests results for **Synthetic Organic Chemicals (SOC's, Pesticides)**, **45 total chemicals** had no detections of these particular contaminants.

The Village also tests monthly for **Bacteria (Coliform and E-Coli)**; there were **detections in 2016, however these detections were unconfirmed.**

A special note: Coliform bacteria, is naturally present in the environment. It can be found in the soil and on human skin. Coliform testing is used as an indicator mechanism to insure proper disinfection of the distribution system.

A complete supplement of the testing results is available for review at the DPW or Village Hall, or may be obtained by calling the office @ (845) 427-2717. If you have any questions concerning this report you may contact DPW Superintendent/Chief Operator Matthew A. Thorp @ (845) 427-2222 or the Orange County Department of Health @ (845) 291-2331, The State Department of Health @ (800) 458-1158 and the US EPA Hotline @ (800) 426-4791.

CHEMICAL ANALYSIS REQUIRED

Group I and II Inorganics: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanides (total), Fluoride, Mercury, Nickel, Selenium, Sulfate and Thallium.

Volatile Organic Chemicals (VOC's): Chloromethane, m,p-Xylene, Isopropylbenzene, Styrene, n-Propylbenzene, tert-Butylbenzene, sec-Butylbenzene, 1,3,5- Trimethylbenzene, 4- Isopropyltoluene, 1,2,4- Trimethylbenzene, Bromoethane, n-Butylbenzene, Hexachlorobutadiene, 1,2,4-Trichlorobenzene, Naphthalene, 1,2,3 Trichlorobenzene, MTBE, Dichlorodifluoromethane, Vinyl Chloride, Chloroethane, Methylene Chloride, Trichlorofluoromethane, 1,1-Dichloroethene, Bromochloromethane, 1,1-Dichloroethane, trans-1,2-Dichloroethene, cis-1,2- Dichloroethene, Chloroform, 1,2-Dichloroethane, 2,2-Dichloropropane, Dibromomethane, 1,1,1- Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2- Dichloropropane, 1,1-Dichloropropene, Trichloroethene, 1,3- Dichloropropane, Dibromochloromethane, 1,1,2- Trichloroethane, 1,2- Dibromoethane, Bromoform, 1,1,1,2- Tetrachloroethane, 1,2,3- Trichloropropane, 1,1,2,2- Tetrachloroethane, Tetrachloroethene, Chlorobenzene, Bromobenzene, 2- Chlorotoluene, 4- Chlorotoluene, 1,3- Dichlorobenzene, 1,2- Dichlorobenzene, 1,4- Dichlorobenzene, cis-1, 3- Dichloropropene, trans-1, 3-Dichloropropene, 1,2- Dibromo-3-Chloropropane, Benzene, Toluene, Ethylbenzene.

Synthetic Organic Chemicals (SOC's): Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Carbofuran, Oxamyl (vydate), Methomyl, 3-Hydroxycarbofuran, Carbaryl, Aroclor (1016, 1221, 1232, 1242, 1248, 1254, 1260), 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane, Heptachlor, Hexachlorocyclopentadiene, Atrazine, Heptachlor Epoxide, Dieldrin, Endrin, Methoxychlor, Alachlor, gamma-BHC (Lindane), Chlordane, Toxaphene, 2,4-D, 2,4,5-TP (Silvex), Pentachlorophenol (PCP), Dalapon, Dicamba, Dinoseb, Picloram, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Hexachlorobenzene, Benzene(a)pyrene, Simazine, Metachlor, Metribuzin, Butachlor, Hexachlorocyclopentadiene, Propachlor.

***** An additional note, information regarding all issues concerning our water and all Village Business can be found on our website www.VillageofMaybrook.com. *****

FUTURE SYSTEM IMPROVEMENTS:

The village is currently looking for grant funding to replace the 85 year old water storage tank on Prospect Avenue as the repair/repainting costs are 75% of the cost to replace it. We have also started installing Variable Frequency Drives (VFD's) to all the pumps at all treatment facilities to reduce energy costs and extend the life of all pumps and motors.

We are also adding automated slow close valves at the treatment facilities to eliminate water hammer in the distribution system which will help to alleviate water main breaks.

The village is also looking into well rehabilitation of all wells using the Aquafreed process, along with the Aqua-guard system to allow us to do annual maintenance keeping the quantity and quality of our wells at optimum levels.

If there are any questions please contact the DPW Superintendent/Chief Operator @ 845-427-2222 or mbkdpw@hvc.rr.com

Sincerely

Matthew A. Thorp
Chief Operator
Superintendent of Public Works