

Grumman / Navy Groundwater Contamination Information Bulletin

Background: Toxic volatile organic chemicals TCE and PCE among others are traveling in a southerly direction from the Bethpage / Grumman site towards the supply wells in which the Massapequa Water District draws its drinking water from. Presently the dissolved volatile organic plume is approximately 18,000 feet long (north to south), 8,000 ft wide (east to west), and is approximately 700 feet deep. It is not clear how fast this plume is traveling or when it will impact our wells due to the inaccuracy of the hydraulic model used by the Navy/Grumman and DEC to predict the time of travel. This model used by the DEC since 1992 predicted that drinking water supply wells south of the Bethpage Water District would not be impacted for 15-20 years when in fact drinking water and outpost monitoring wells were impacted within 5 years. There is no doubt that this plume if not stopped will contaminate all of the Massapequa Water District (MWD) supply wells. It is estimated by MWD that our northwest well fields are within a 3-5 year range of contamination impact. MWD has estimated this timeframe for our northwest well fields impact based on prior feasibility studies and record of decisions furnished by the DEC and by using the actual time of travel that it took the plume to impact upgradient drinking water supply wells. These chemicals have contaminated our sole source aquifer and forced several neighboring districts to install wellhead treatment systems to meet today's drinking water standards. The approach to treat this contaminated water with wellhead treatment was the selected alternative deemed as least costly by the NY State Department of Environmental Conservation (DEC) as outlined in a Record of Decision (ROD) back in 2001. The Massapequa Water District has strongly opposed this position over the past 15 years for several reasons as already recorded in the media (see links below). The very basic argument is that this approach is not consistent with the State Sanitary Code, the New York State Department of Health, the New York State Department of Environmental Conservation or the United States Environmental Agency (EPA) regulations and laws necessary to protect public water supplies that draw water from a designated "sole source" aquifer.

MWD Position: The position of the Massapequa Water District has always been consistent and clear. The plume must be stopped and prevented from entering our well fields. This position has been opposed by the Navy, Grumman, and the NY State DEC from the very beginning of this process at least 20 years ago. MWD has conclusively proven that the ROD from 2001 to be inaccurate. Furthermore the implemented alternative of wellhead treatment is actually the more costly approach in dealing with this plume.

In essence there are two problems with the ROD. The remedy was based on extremely inaccurate data and a flawed planning approach. The plume has now travelled well beyond Hempstead Turnpike in a southerly direction. In addition the selected ROD remedy and cost estimate was predicated to provide wellhead treatment to a fraction of the wells that are in the path of the plume. This led to the development of extremely inaccurate cost estimate that made a false determination that plume remediation was not cost effective. The USEPA and USGS have also gone on record to indicate that the

groundwater model used was inaccurate. This is further evidence that the 2001 NYSDEC ROD is flawed

Beyond the financial inaccuracies and the disregard for the requirements of protecting our sole source aquifer, the district has shown that the ever changing drinking water regulations must be considered as a health impact to consumers. This means that if prior to 1988 a standard of 50 parts per billion for TCE was the limit and in 1989 the EPA changed this standard to 5 parts per billion a consumer has ingested this chemical at 50 ppb for many years if not decades. It is very common for the EPA to change the standards and make them more stringent as new research and testing is conducted. Remember the contaminants we are discussing are known carcinogens (cancer causing agents). This along with the failure of both the DEC and EPA to enforce the laws and their policies are the very reason the District is strongly opposed to wellhead treatment. The District is emphatic that the only alternative is remediation in combination with hydraulic containment in order to prevent the plume from traveling further south.

On September 19, 2011 US Senator Charles E. Schumer held a press conference at the Massapequa Water District that included MWD and impacted water suppliers. During the press conference the Senator stated the we need an aggressive federal regulator to lead the process and to get the clean-up moving immediately, before local wells are contaminated and local taxpayers have to pick up the cost of someone else's mess.

Alternatives: We recognize that the DEC has failed to implement measures that would protect our supply wells from contamination. Therefore the Massapequa Water District has proposed several alternatives to wellhead treatment. These measures should have been discussed and costs estimated prior to the original ROD being issued. The first as previously mentioned is remediation by hydraulically stopping the southern travel of the plume by use of extraction wells and pump and treat systems. In fact this method is even listed in the Navy documents regarding contaminated groundwater plumes as the first method to be utilized. The Navy policies on this matter even elaborate on the fact that the contamination should not be allowed to leave the original contamination site. This is a far different situation than was allowed to occur. The second MWD proposal is to deepen our existing wells or develop new supply wells into the Lloyd aquifer. This aquifer is considered the purest water available and in fact is the same water quality that the magothy aquifer had prior to the Navy Grumman contamination. The task of drilling wells into the Lloyd aquifer is something that the federal government must support. The District's position on this is clear. The Lloyd would provide for a clean water supply that would not need or rely upon wellhead treatment with this ever-changing effluent quality requirement. MWD also deems that this is a less costly method to remediating the problem. Third is an interim solution drilling new wells south of Sunrise Highway further away from the plume thus allowing additional time for government agencies to address the issue. Presently the regulations do not allow the drilling of wells south of Sunrise Highway. Lastly the District is investigating the feasibility of obtaining water sources from neighboring districts. This could require paying for wells to be installed in

the other districts, installing miles of transmission main, booster stations, and purchasing large amounts water for many years into the future.

Recent District Actions: In the Massapequa Water District 2009 Fall newsletter we updated our consumers regarding previous newsletters discussing the Navy Grumman contamination. In December 2009 the district was contacted by Senator Schumer's office to meet with us regarding this matter. Our first meeting was conducted in January 2010 at the District offices with Senator Schumer's Long Island representative Mr. Gerry Petrella. Following meetings in May and August 2010 with Mr. Petrella, and in large part thanks to the grassroots efforts of the Old Harbor Green Civic Association, a petition drive was started to bring much needed attention to this issue. The Massapequa Water District forwarded over three thousand petitions in opposition to wellhead treatment to US Senator Charles Schumer. These petitions prompted Senator Schumer to take action. Through his efforts a meeting was held at the Massapequa Water District on September 27, 2010 that included Senator Schumer, and high-ranking officials from the EPA, the DEC, the New York State Department of Health, the Nassau County Department of Health, the Navy, Grumman, the US Geological Survey, and adjacent water districts. At the meeting MWD advised Senator Schumer that the community requires the following as it relates to the Grumman plume which includes leadership, better data, better modeling, hydraulic barrier, plume clean-up, adequate funding (no impact to the local taxpayers) and immediate action. The meeting has led to the following developments in order to protect drinking water from the Grumman plume. Among them:

- Scientists from the U.S. Geological Survey will begin a probe to better define the dimensions of the plumes. Officials hope to finish the work in six months.
- A technical committee of public health officials, environmental regulators, water district representatives and the Northrop Grumman and the U.S. Navy is being established. The committee is to meet next month to review existing cleanup efforts and recommend additional steps.
- Senator Schumer asked Northrop Grumman and the Navy to create a dedicated fund to pay for any cleanup costs that water districts absorb so that ratepayers aren't stuck with the bill.

The Senator committed these agencies to stop the plume from infiltrating MWD and to clean up the source and plume. As a result of the meeting a special committee was formed to investigate the plume, the accuracy of the hydraulic model, and the appropriate measures to be taken in support of the Massapequa Water District. To date the Massapequa Water District has provided substantive information to support its position that the model is not accurate and should not longer be used, as well as the inaccurate calculations in support of wellhead treatment as less costly than remediation. Most importantly is that MWD has documented the complete disregard by the DEC for enforcing the laws that protect our sole source aquifer. Subsequently the Navy developed a subcommittee to review the existing model that was used to produce the ROD and specified approach. This subcommittee is part of the Navy's approach to optimization or for lack of a better term value engineering of the ROD. The District is confident that the sub committee will find the model is no longer useful due to the obvious inaccuracies.

The Massapequa Water District continues to bring to the table various cost analysis that shows the most cost effective method of dealing with this plume. More importantly the method that is in compliance with Federal and State regulations. The District continues to be completely opposed to wellhead treatment and is considering litigation against the responsible parties.

To view some of the many letters written by MWD to the various officials and agencies, click on the links below.