Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

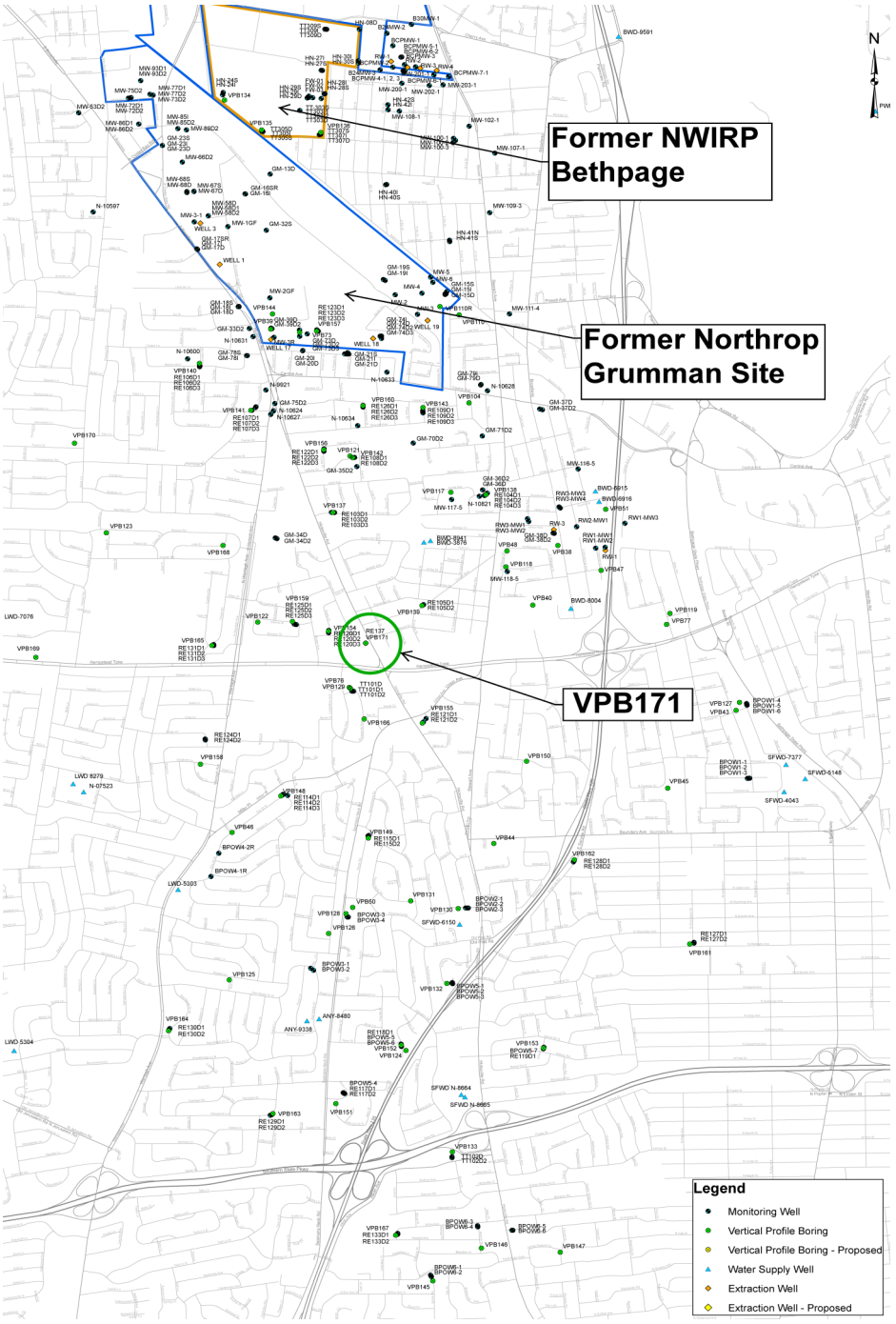
VPB171 Installation Summary

Vertical Profile Boring Installation Summary — Installed November 2016

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrop Grumman properties resulted in groundwater contamination in the local area. Over the last several decades, ***volatile organic compounds (VOCs)*** that originated from these facilities have moved off-property with the groundwater flow. The contamination has generally moved to the south while sinking downward to greater depths.

The Navy estimates the VOC contamination covers approximately 3,000 acres, but is not distributed evenly throughout the area. Instead of a single, contiguous plume, there are multiple widely dispersed plumes or "fingers", meaning VOCs are present in the groundwater at different concentrations and different depths in different areas, making installation of multiple wells necessary to determine the plume finger locations.

The Navy is conducting a groundwater investigation that includes the installation of ***vertical profile borings (VPB)*** to gather more information on the location, depth, and concentration of contaminants in the groundwater plume. Installation of a VPB involves drilling a deep hole (up to approximately 1,000 feet below ground surface [bgs]) and taking samples of the groundwater at various depths. One to three permanent monitoring wells are typically installed adjacent to the VPB hole, and the depth of the well(s) is determined based on the results of the sampling conducted during the VPB installation.



Please note the VPB investigation is sampling raw groundwater, meaning it has not been treated to remove contaminants. Raw groundwater is not what is distributed by the water districts to the public. All water distributed by the water districts is collected from their own water supply wells, and is regularly tested and treated by the districts to ensure a safe water supply.

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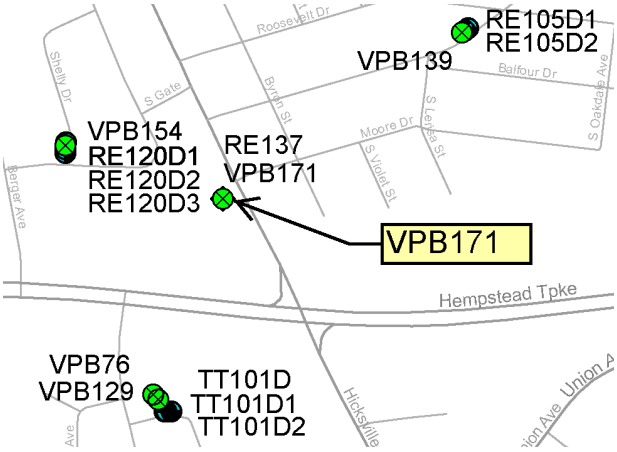
The VBP171 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage plume. The groundwater results were compared with ***Maximum Contaminant Levels (MCLs)***, which are used by the New York State Department of Health for determining when water is safe for distribution. The MCL for both TCE and PCE is 5 micrograms per liter (ug/L) or parts per billion.

VBP171 Investigation Summary

- *VBP171 was completed between October 21, 2016 and November 29, 2016;*
- *The final boring was 770 feet (ft) deep and reached the Raritan Clay below the Magothy Aquifer;*
- *30 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL*; ND denotes there were no detections in the sample.

Recovery well RE137 was installed at the VBP171 location to assess the location and design of the future RE108 Hotspot recovery wells(s). A step drawdown and constant rate aquifer test were completed at RE137 in April 2017 to evaluate the aquifer characteristics and complete a capture zone analysis.



Depth Interval (ft bgs)	TCE (ug/L)	PCE ug/L)
58-60	ND	ND
98-100	ND	ND
148-150	ND	ND
198-200	ND	ND
218-220	**5.6**	0.96
243-245	**79**	4.5
258-260	0.94	ND
278-280	ND	ND
298-300	**23**	ND
323-325	**24**	ND
338-340	**220**	4.9
358-360	**180**	3.6
383-385	**63**	1.3
418-420	ND	ND
438-440	ND	ND
458-460	ND	ND
478-480	**160**	**6.7**
498-500	**89**	**5.6**
518-520	**92**	1.1
538-540	**18**	ND
558-560	**100**	**6.6**
583-585	**230**	3.8
598-600	**240**	1.7
618-600	**180**	0.69
638-640	**120**	0.62
658-660	**200**	ND
678-680	**13**	ND
698-700	**3600**	3.2
718-720	**5.3**	ND
738-740	**460**	1.9

FOR MORE INFORMATION

Copies of all official environmental program documents are available for review at an information repository located at Bethpage Public Library, 47 Powell Avenue, Bethpage, NY 11714 (514)931-3907.

Additional information on the NWIRP Bethpage Environmental Restoration Program is available online at http://go.usa.gov/DyXF or by contacting: Public Affairs, NAVFAC Mid-Atlantic, 9324 Virginia Avenue, Norfolk VA 23511-3095, 757-341-1411.