Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

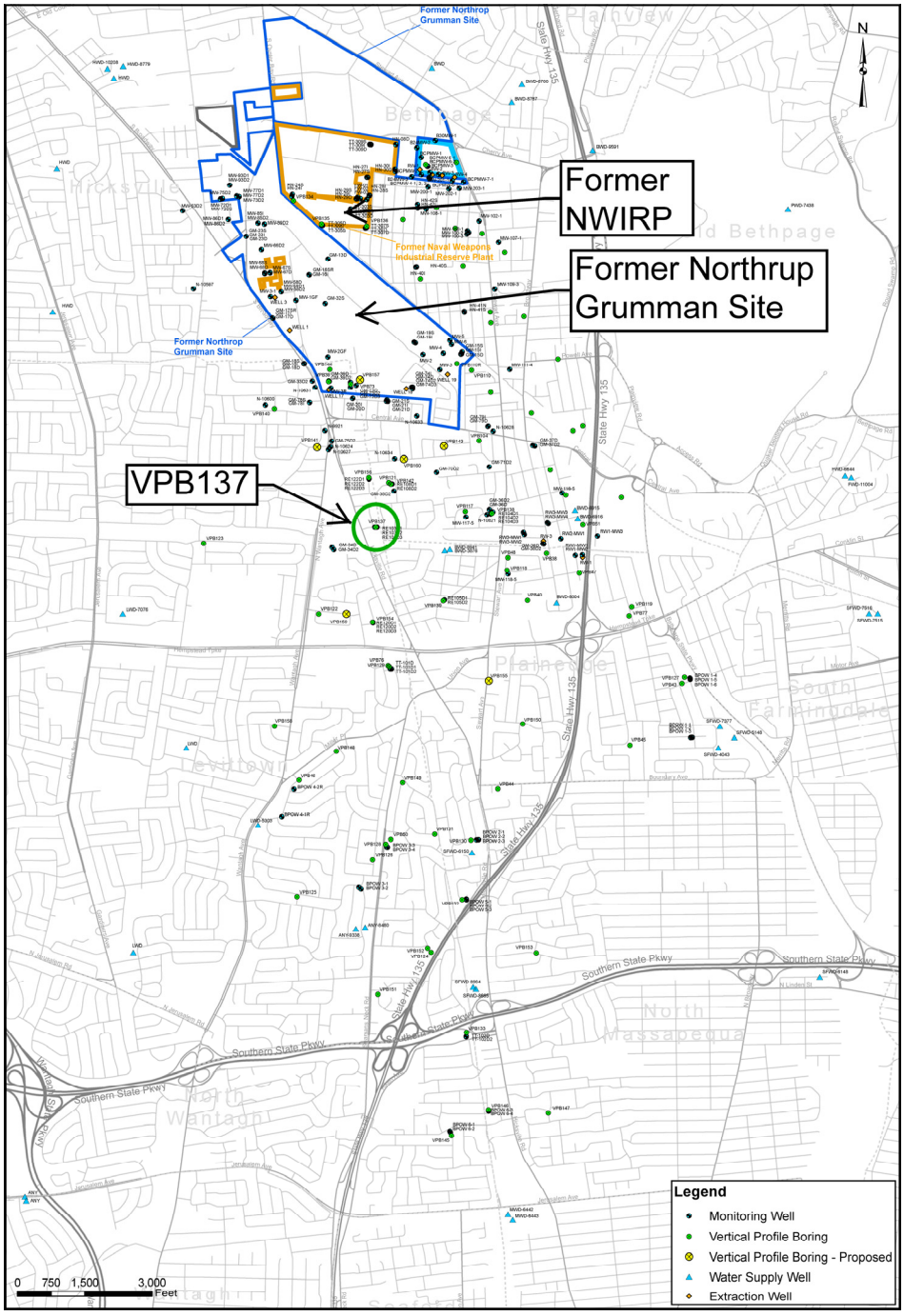
VPB137 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

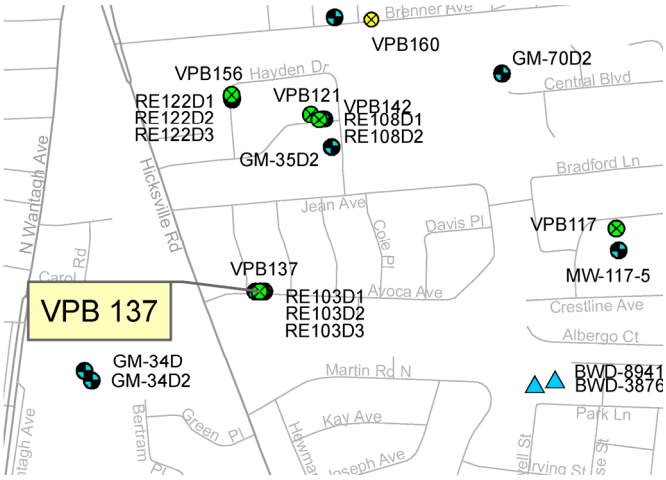
Vertical Profile Boring Installation Summary — May 2015

The VPB137 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB137 Investigation Summary

- *VPB137 was completed between November 6, 2012 and December 18, 2012;*
- *The final boring was 890 feet (ft) deep;*
- *30 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB137 (January-February 2013) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
158 - 160 ft	< 0.50	0.90
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	0.54
238 - 240 ft	0.76	3.9
258 - 260 ft	1.5	3.6
318 - 320 ft	< 0.50	4.5
328 - 330 ft	< 0.50	0.45
358 - 360 ft	< 0.50	0.94
388 - 390 ft	< 0.50	3.2
398 - 400 ft	2.2	**16**
418 - 420 ft	< 0.50	**11**
438 - 440 ft	1.4	**13**
468 - 470 ft	1.4	**21**
478 - 480 ft	2.5	**27**
498 - 500 ft	2.8	**12**
520 - 522 ft	1.4	**22**
538 - 540 ft	2.4	**330**
558 - 560 ft	1.4	**1100**
580 - 582 ft	2.0	**520**
598 - 600 ft	**5.8**	**1700**
648 - 650 ft	0.51	**280**
668 - 670 ft	4.3	**1800**
693 - 695 ft	0.47	**400**
698 - 700 ft	< 0.50	**11**
718 - 720 ft	< 1.0	0.57
738 - 740 ft	< 0.50	1.6
763 - 765 ft	< 1.0	< 1.0
838 - 840 ft	< 1.0	< 1.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

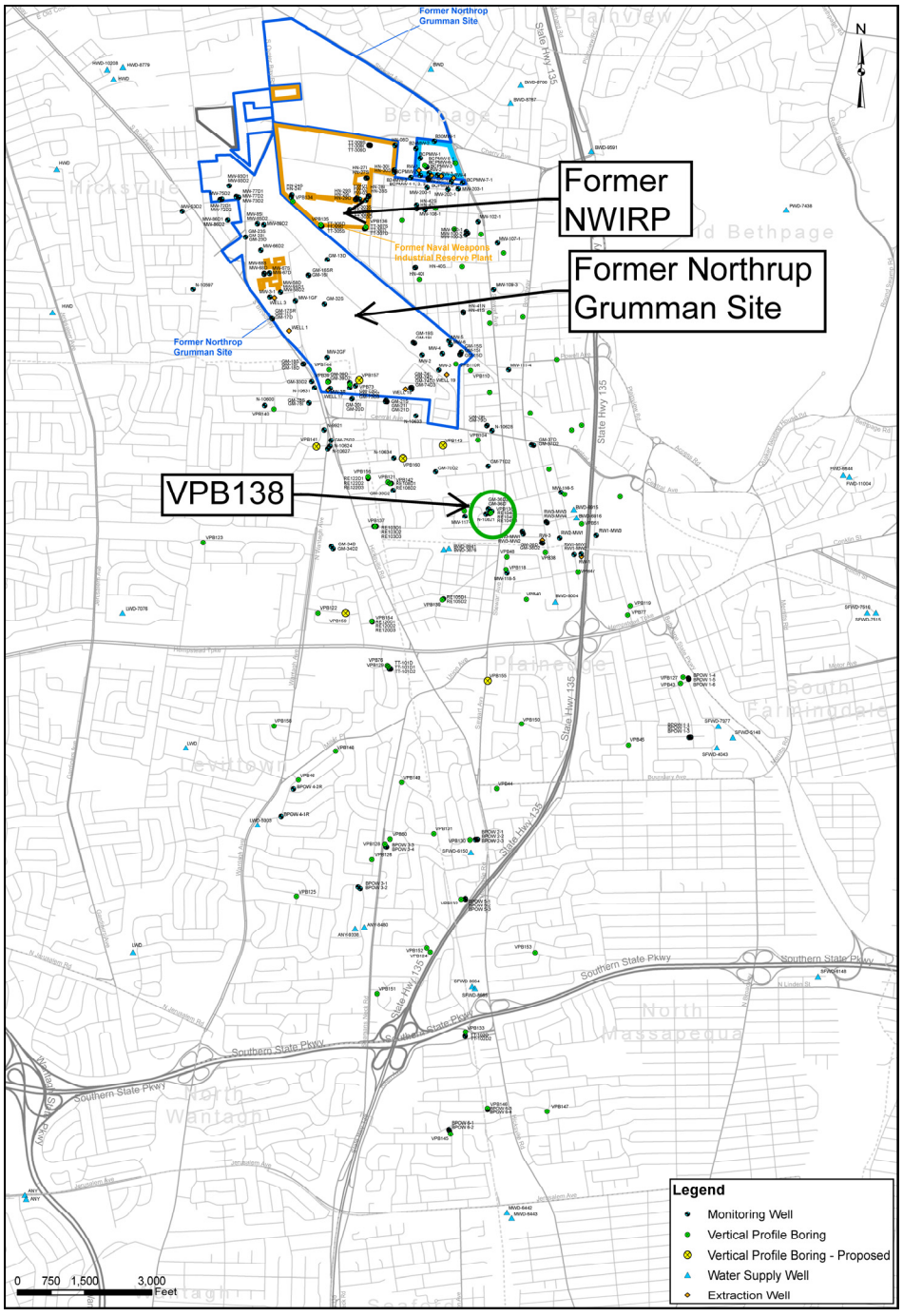
VPB138 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

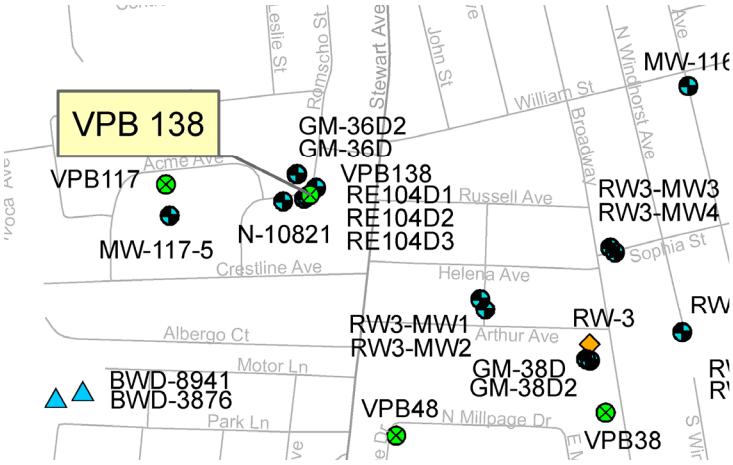
Vertical Profile Boring Installation Summary — May 2015

The VPB138 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB138 Investigation Summary

- *VPB138 was completed between March 7, 2013 and April 26, 2013;*
- *The final boring was 935 feet (ft) deep;*
- *36 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB138 (May-June 2013) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
123 - 125 ft	< 0.50	< 0.50
158 - 160 ft	< 0.50	< 0.50
208 - 210 ft	< 0.50	0.32
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	1.0	**6.8**
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	1.1	1.6
338 - 340 ft	3.4	**32**
358 - 360 ft	< 2.0	3.6
378 - 380 ft	< 0.50	**78**
398 - 400 ft	0.73	**90**
418 - 420 ft	< 2.5	4.5
438 - 440 ft	< 0.50	0.68
458 - 460 ft	< 0.50	1.3
478 - 480 ft	< 2.5	< 2.5
503 - 505 ft	< 0.50	3.7
518 - 520 ft	< 0.50	1.1
558 - 560 ft	< 0.50	0.54
578 - 580 ft	< 2.0	< 2.0
598 - 600 ft	< 2.0	< 2.0
618 - 620 ft	< 0.50	0.40
643 - 645 ft	< 0.50	< 0.50
658 - 660 ft	< 2.0	< 2.0
683 - 685 ft	< 0.50	< 0.50
698 - 700 ft	< 5.0	< 5.0
708 - 710 ft	< 2.0	< 2.0
713 - 715 ft	< 2.0	< 2.0
718.5 - 720.5 ft	< 5.0	< 5.0
738.5 - 740.5 ft	< 5.0	< 5.0
768.5 - 770.5 ft	< 5.0	< 5.0
783.5 - 785.5 ft	< 2.5	< 2.5
798.5 - 800.5 ft	< 2.0	< 2.0
823.5 - 825.5 ft	< 0.50	< 0.50
848.5 - 850.5 ft	< 0.50	< 0.50
858 - 860 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

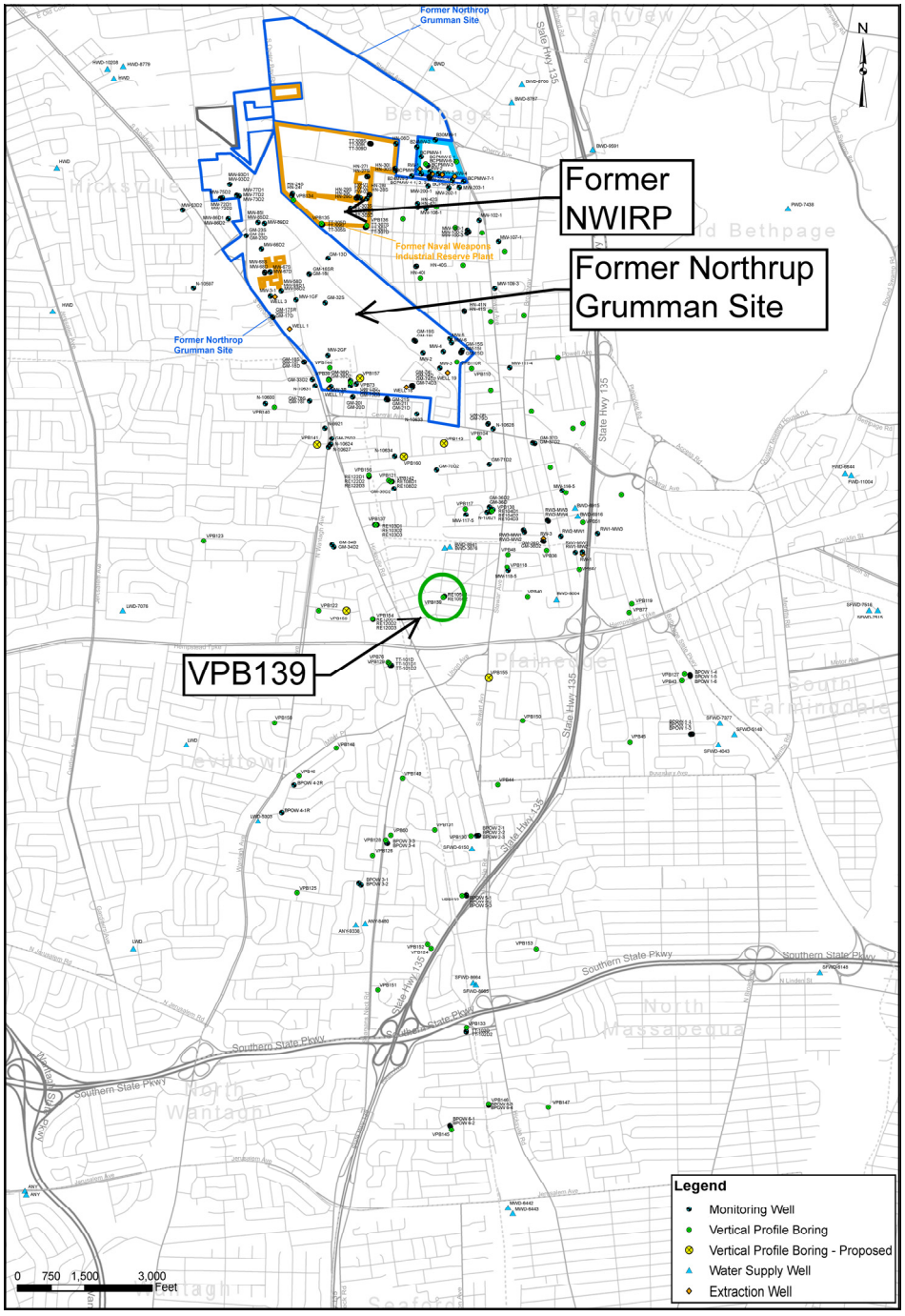
VPB139 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

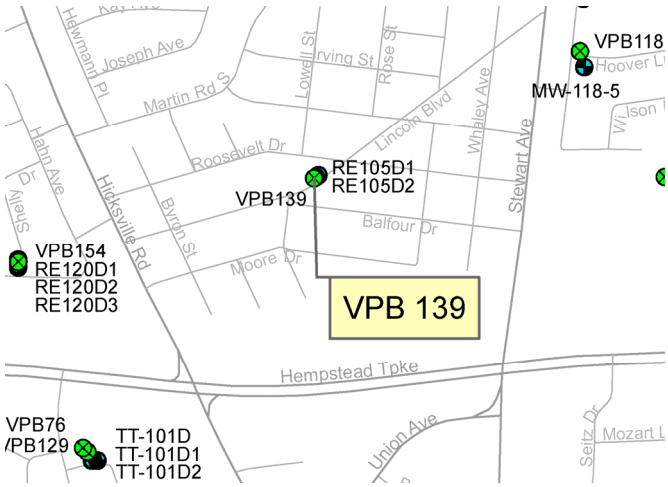
Vertical Profile Boring Installation Summary — May 2015

The VPB139 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB139 Investigation Summary

- *VPB139 was completed between June 26, 2013 and August 15, 2013;*
- *The final boring was 965 feet (ft) deep;*
- *37 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB139 (September 2013) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	0.42	**85**
98 - 100 ft	< 0.50	**7.4**
148 - 150 ft	< 0.50	1.2
198 - 200 ft	3.0	**6.5**
238 - 240 ft	< 1.0	< 1.0
258 - 260 ft	1.7	**8.1**
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	4.6	**97**
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	3.4	**50**
358 - 360 ft	< 0.50	**82**
388 - 390 ft	1.3	**190**
408 - 410 ft	< 0.50	**21**
418 - 420 ft	< 0.50	**16**
438 - 440 ft	< 0.50	0.53
508 - 510 ft	< 0.50	**13**
538 - 540 ft	< 0.50	**52**
568 - 570 ft	< 0.50	**18**
583 - 585 ft	< 1.0	< 1.0
598 - 600 ft	< 2.0	1.7
618 - 620 ft	< 5.0	< 5.0
643 - 645 ft	< 0.50	0.39
658 - 660 ft	< 10	< 10
684 - 685 ft	< 5.0	< 5.0
693 - 695 ft	< 1.0	3
698 - 700 ft	< 0.50	**82**
718 - 720 ft	< 2.5	**21**
738 - 740 ft	1.5	**1200**
758 - 760 ft	< 2.0	4.3
768 - 770 ft	< 2.5	< 2.5
798 - 800 ft	< 2.5	< 2.5
823 - 825 ft	< 2.5	< 2.5
838 - 840 ft	< 0.50	< 0.50
858 - 860 ft	< 10	< 10
878 - 880 ft	< 0.50	< 0.50
928 - 930 ft	< 0.50	< 0.50
938 - 940 ft	< 10	< 10

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

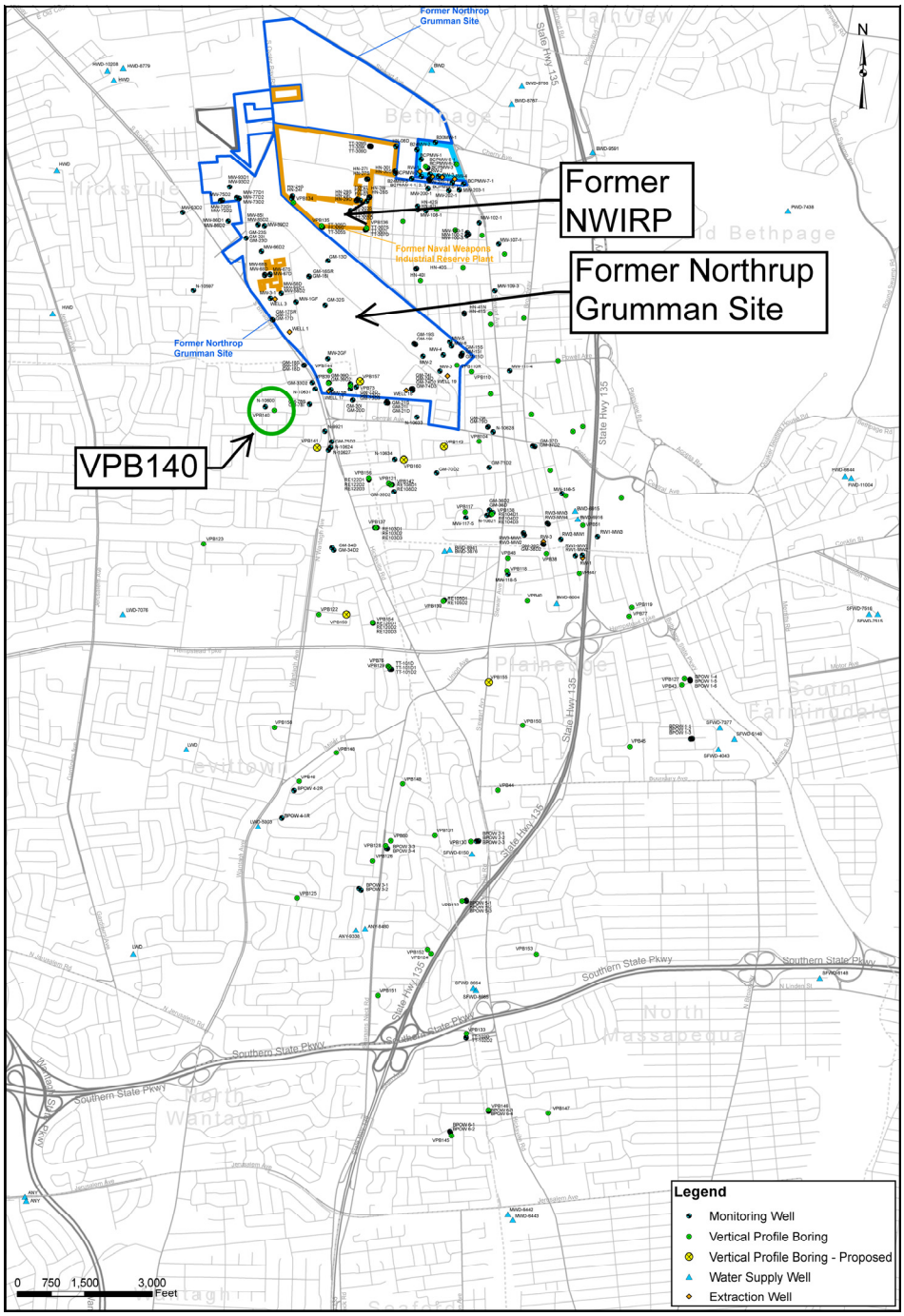
VPB140 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

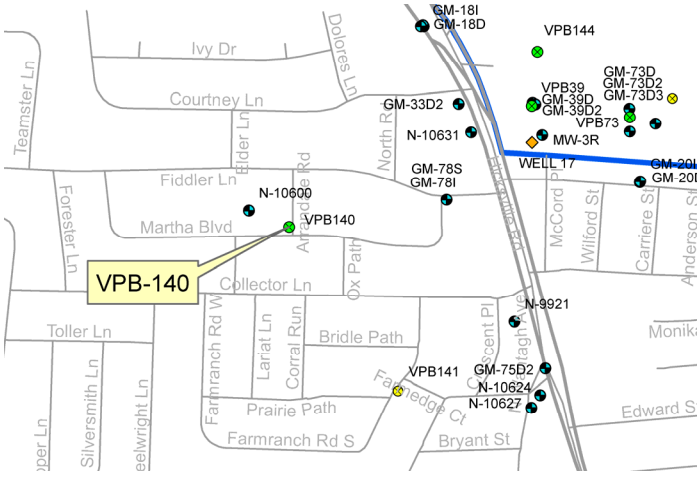
Vertical Profile Boring Installation Summary — May 2015

The VPB140 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB140 Investigation Summary

- *VPB140 was completed between April 1, 2014 and May 8, 2014;*
- *The final boring was 881 feet (ft) deep;*
- *34 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB140 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
100 - 102 ft	< 0.50	0.28
150 - 152 ft	< 0.50	< 0.50
200 - 202 ft	< 0.50	< 0.50
220 - 222 ft	< 0.50	2.4
245 - 247 ft	2.5	**17**
260 - 262 ft	< 0.50	1.2
280 - 282 ft	1.2	4.3
305 - 307 ft	< 0.50	0.40
320 - 322 ft	1.1	**5.8**
340 - 342 ft	0.41	3.1
360 - 362 ft	1.1	**8.3**
380 - 382 ft	< 0.50	0.78
400 - 402 ft	1.1	**5.6**
420 - 422 ft	< 0.50	1.8
440 - 442 ft	4.3	**26**
460 - 462 ft	0.84	**7.3**
485 - 487 ft	**18**	**120**
500 - 502 ft	**17**	**19**
520 - 522 ft	**49**	**19**
540 - 542 ft	< 2.0	< 2.0
560 - 562 ft	2.4	0.56
565 - 567 ft	1.0	0.41
585 - 587 ft	< 0.50	< 0.50
600 - 602 ft	< 0.50	< 0.50
640 - 642 ft	< 1.0	< 1.0
680 - 682 ft	< 0.50	< 0.50
700 - 702 ft	< 10	< 10
720 - 722 ft	< 2.0	< 2.0
745 - 747 ft	< 0.50	< 0.50
760 - 762 ft	< 0.50	< 0.50
785 - 787 ft	< 0.50	< 0.50
800 - 802 ft	< 0.50	< 0.50
840 - 842 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

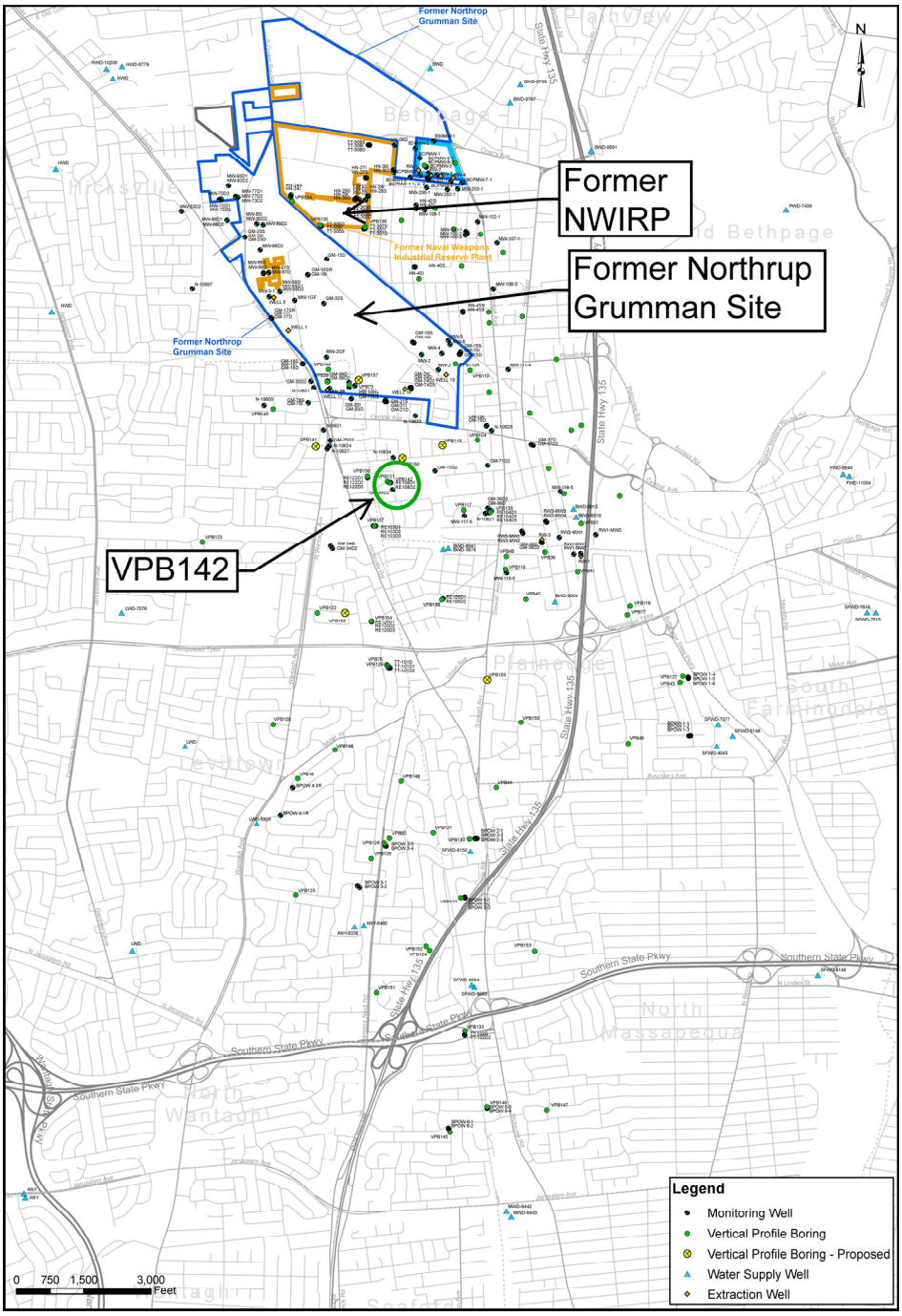
VPB142 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

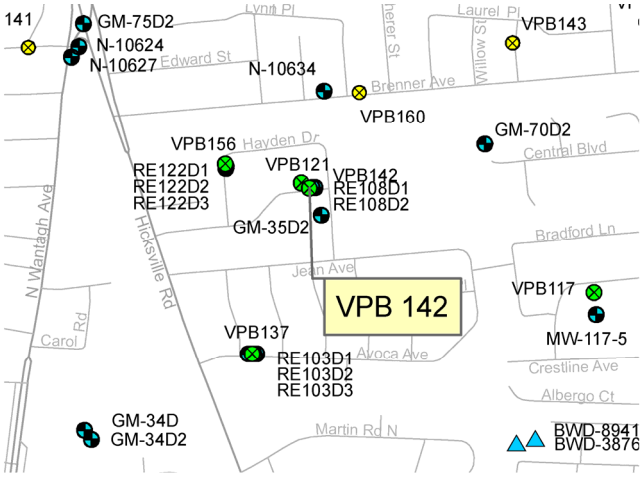
Vertical Profile Boring Installation Summary — May 2015

The VPB142 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB142 Investigation Summary

- *VPB142 was completed between September 26, 2013 and October 30, 2013;*
- *The final boring was 920 feet (ft) deep;*
- *29 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB142 (November-December 2013) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 2.0	< 2.0
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	< 0.50
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	0.33
358 - 360 ft	2.0	**24**
448 - 450 ft	0.60	**40**
488 - 490 ft	1.3	**68**
508 - 510 ft	3.2	**79**
518 - 520 ft	2.5	**47**
538 - 540 ft	2.5	**420**
565 - 567 ft	3.1	**85**
578 - 580 ft	< 0.50	0.80
618 - 620 ft	< 4.0	**280**
628 - 630 ft	*< 20*	**43**
643 - 645 ft	0.59	**740**
658 - 660 ft	< 1.0	**32**
668 - 670 ft	*< 50*	*< 50*
738 - 740 ft	< 0.50	< 0.50
763 - 765 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 1.0	< 1.0
858 - 860 ft	*< 20*	*< 20*

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

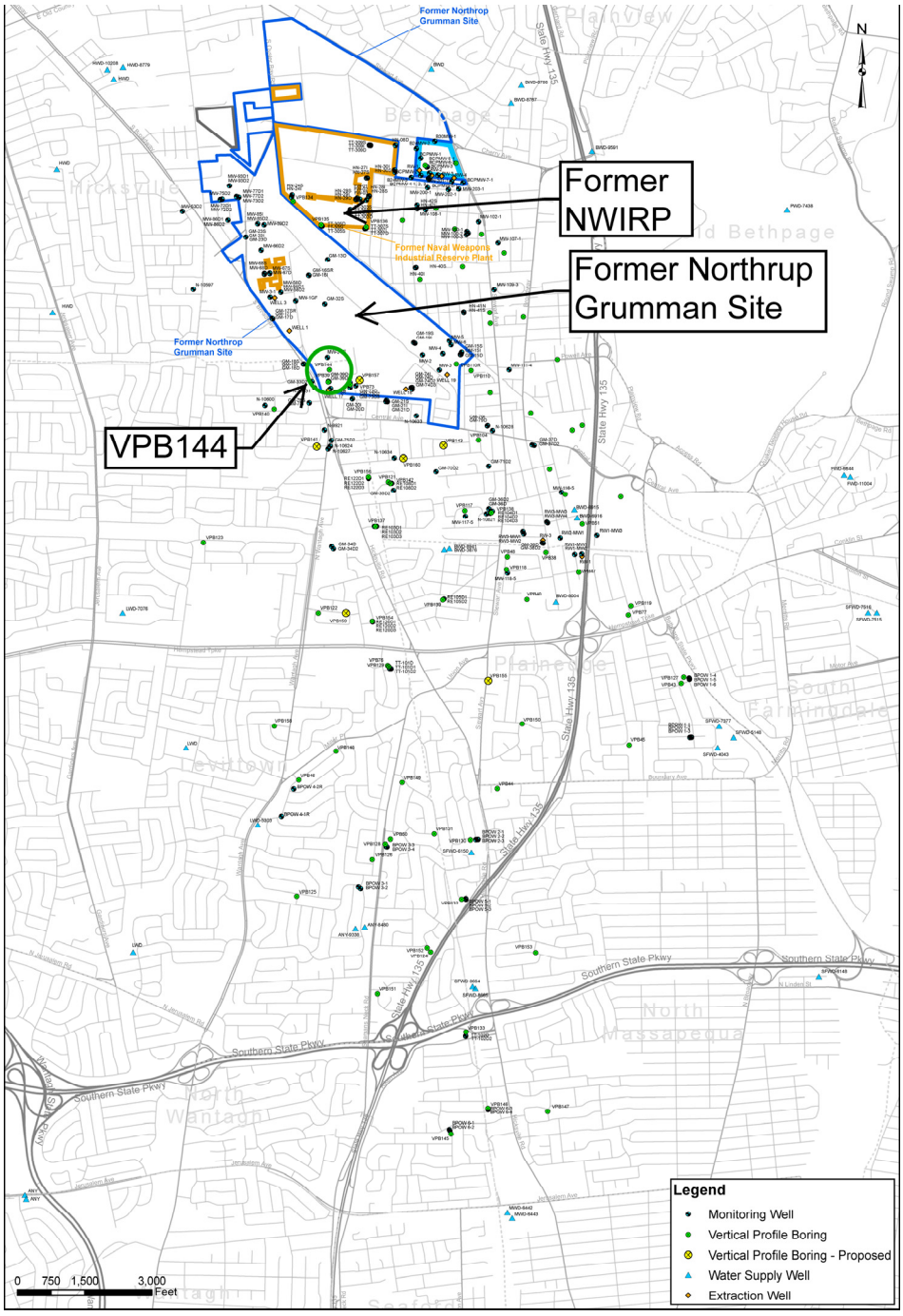
VPB144 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

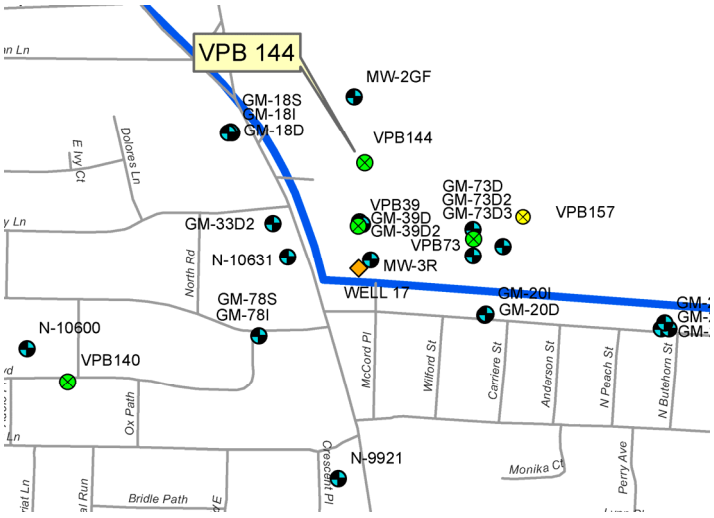
Vertical Profile Boring Installation Summary — May 2015

The VPB144 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB144 Investigation Summary

- *VPB144 was completed between November 26, 2013 and January 23, 2014;*
- *The final boring was 890 feet (ft) deep;*
- *32 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Currently, no additional monitoring wells are planned for this location due to the ongoing investigation being conducted in this area.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	0.33
103 - 105 ft	< 0.50	< 0.50
148 - 150 ft	0.49	**28**
198 - 200 ft	< 0.50	**5.8**
223 - 225 ft	< 0.50	0.57
238 - 240 ft	< 0.50	0.85
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	0.53	**50**
308 - 310 ft	< 0.50	**9.9**
318 - 320 ft	< 0.50	**5.2**
338 - 340 ft	< 0.50	**6.7**
363 - 365 ft	< 0.50	**11**
378 - 380 ft	< 0.50	**20**
423 - 425 ft	< 0.50	**7.8**
438 - 440 ft	< 0.50	1.9
458 - 460 ft	0.80	**150**
478 - 480 ft	**5.7**	**1200**
498 - 500 ft	**52**	**7600**
518 - 520 ft	**420**	**200**
538 - 540 ft	**28**	**22**
568 - 570 ft	0.69	1.1
598 - 600 ft	1.2	0.90
618 - 620 ft	< 0.50	< 0.50
643 - 645 ft	< 5.0	< 5.0
658 - 660 ft	< 3.0	< 3.0
688 -690 ft	< 0.50	< 0.50
698 - 700 ft	< 0.50	< 0.50
738 - 740 ft	< 0.50	< 0.50
758 - 760 ft	< 0.50	< 0.50
798 - 800 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

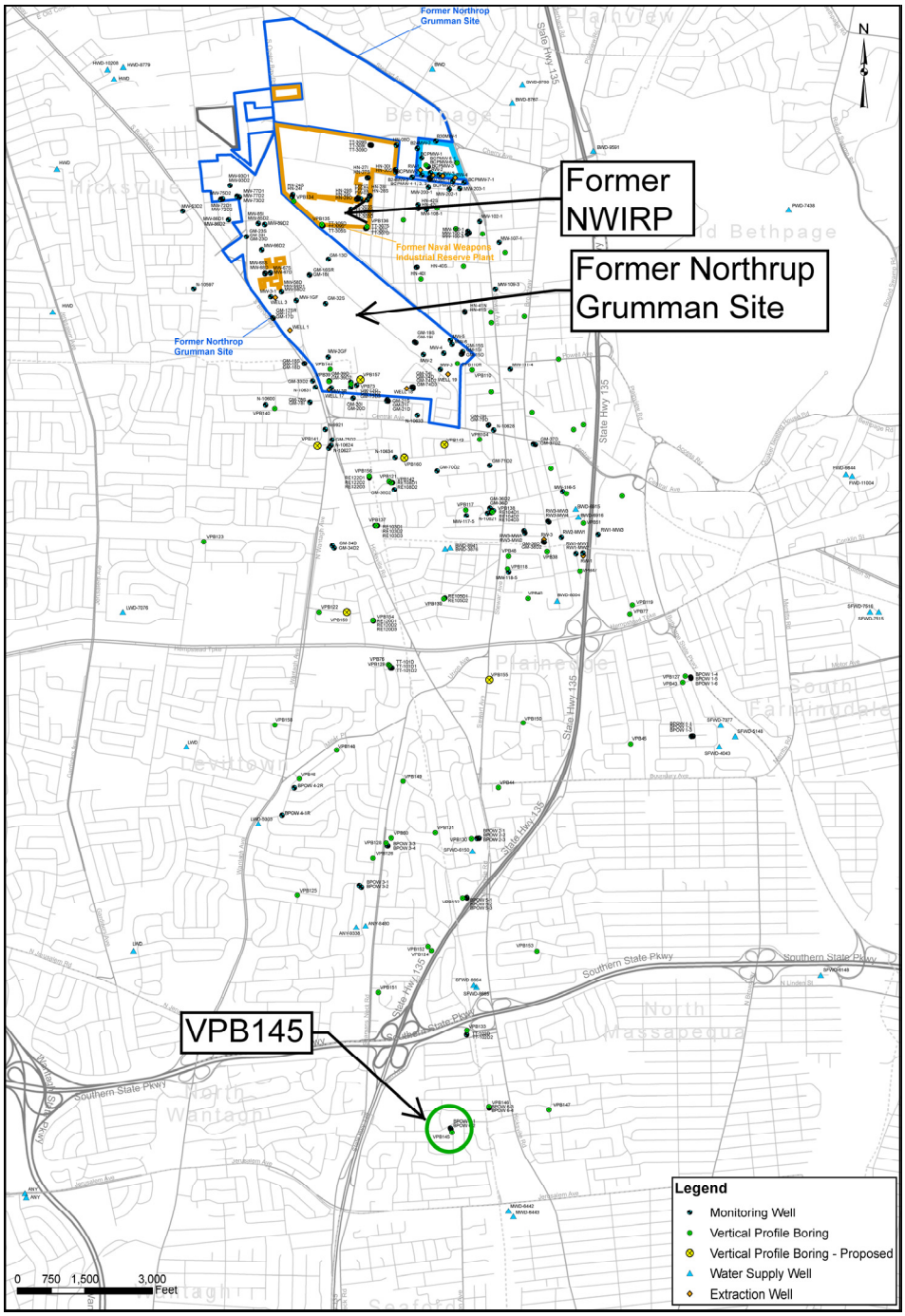
VPB145 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

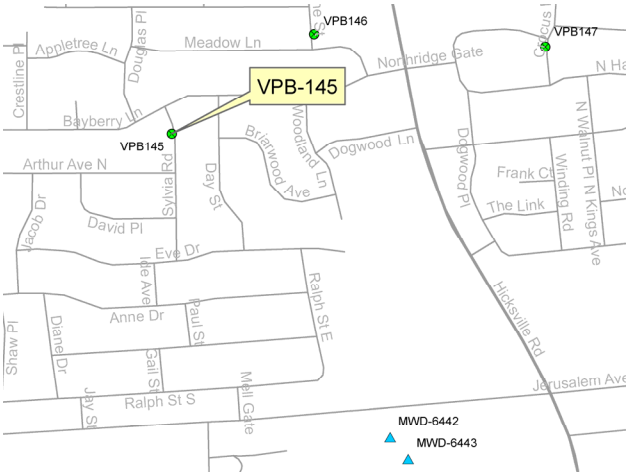
Vertical Profile Boring Installation Summary — May 2015

The VPB145 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB145 Investigation Summary

- *VPB145 was completed between April 12, 2014 and May 20, 2014;*
- *The final boring was 1025 feet (ft) deep;*
- *37 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB145 (August-September 2014) and are monitored as part of Northrup Grumman's Operable Unit 2 groundwater monitoring program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	< 0.50
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
398 - 400 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
433 - 435 ft	< 0.50	< 0.50
468 - 470 ft	< 0.50	< 0.50
478 - 480 ft	< 4.0	< 4.0
493 - 495 ft	< 0.50	< 0.50
513 - 515 ft	< 0.50	< 0.50
533 - 535 ft	< 0.50	< 0.50
553 - 555 ft	< 0.50	< 0.50
573 - 575 ft	< 0.50	< 0.50
593 - 595 ft	< 0.50	< 0.50
613 - 615 ft	< 0.50	< 0.50
633 - 635 ft	< 0.50	< 0.50
663 - 665 ft	< 0.50	< 0.50
678 - 680 ft	< 0.50	< 0.50
698 - 700 ft	< 0.50	< 0.50
823 - 825 ft	< 0.50	< 0.50
848 - 850 ft	< 40	< 40
868 - 870 ft	< 40	< 40
888 - 890 ft	< 0.50	< 0.50
918 - 920 ft	< 10	< 10
938 - 940 ft	< 0.50	< 0.50
958 - 960 ft	< 0.50	< 0.50
978 - 980 ft	< 10	< 10

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

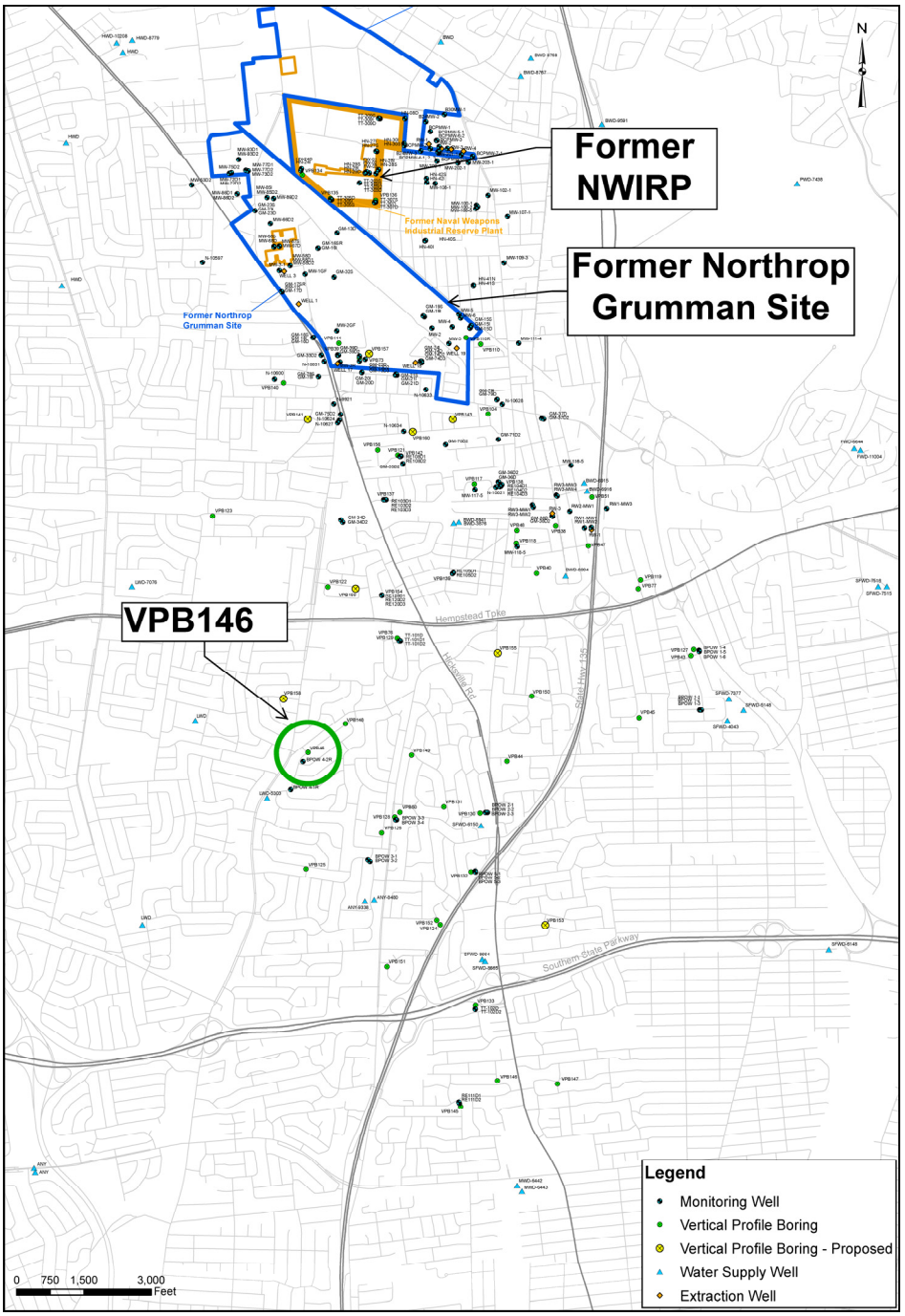
VPB146 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

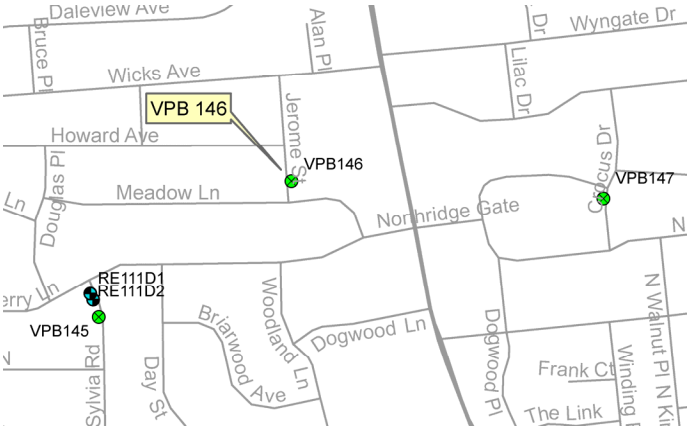
Vertical Profile Boring Installation Summary — March 2015

The VPB146 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB146 Investigation Summary

- *VPB146 was completed between January 6, 2014 and March 28, 2014;*
- *The final boring was 1015 feet (ft) deep;*
- *32 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at the VPB146 (November-December 2014) and are monitored as part of Northrup Grumman's Operable Unit 2 groundwater monitoring program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	2.8	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 5.0	< 5.0
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 2.0	< 2.0
318 - 320 ft	< 2.0	< 2.0
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
398 - 400 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 20	< 20
458 - 460 ft	< 20	< 20
478 - 480 ft	< 0.50	< 0.50
503 - 505 ft	< 0.50	< 0.50
523 - 525 ft	< 25.0	< 25.0
548 - 550 ft	< 1.0	< 1.0
558 - 560 ft	< 0.50	< 0.50
578 - 580 ft	< 0.50	< 0.50
598 - 600 ft	< 0.50	< 0.50
618 - 620 ft	< 2.0	< 2.0
638 - 640 ft	< 1.5	< 1.5
688 - 690 ft	< 0.50	< 0.50
698 - 700 ft	< 2.0	< 2.0
718 - 720 ft	< 0.50	< 0.50
738 - 740 ft	< 0.50	< 0.50
823 - 825 ft	< 0.50	< 0.50
948 - 950 ft	< 25.0	< 25.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

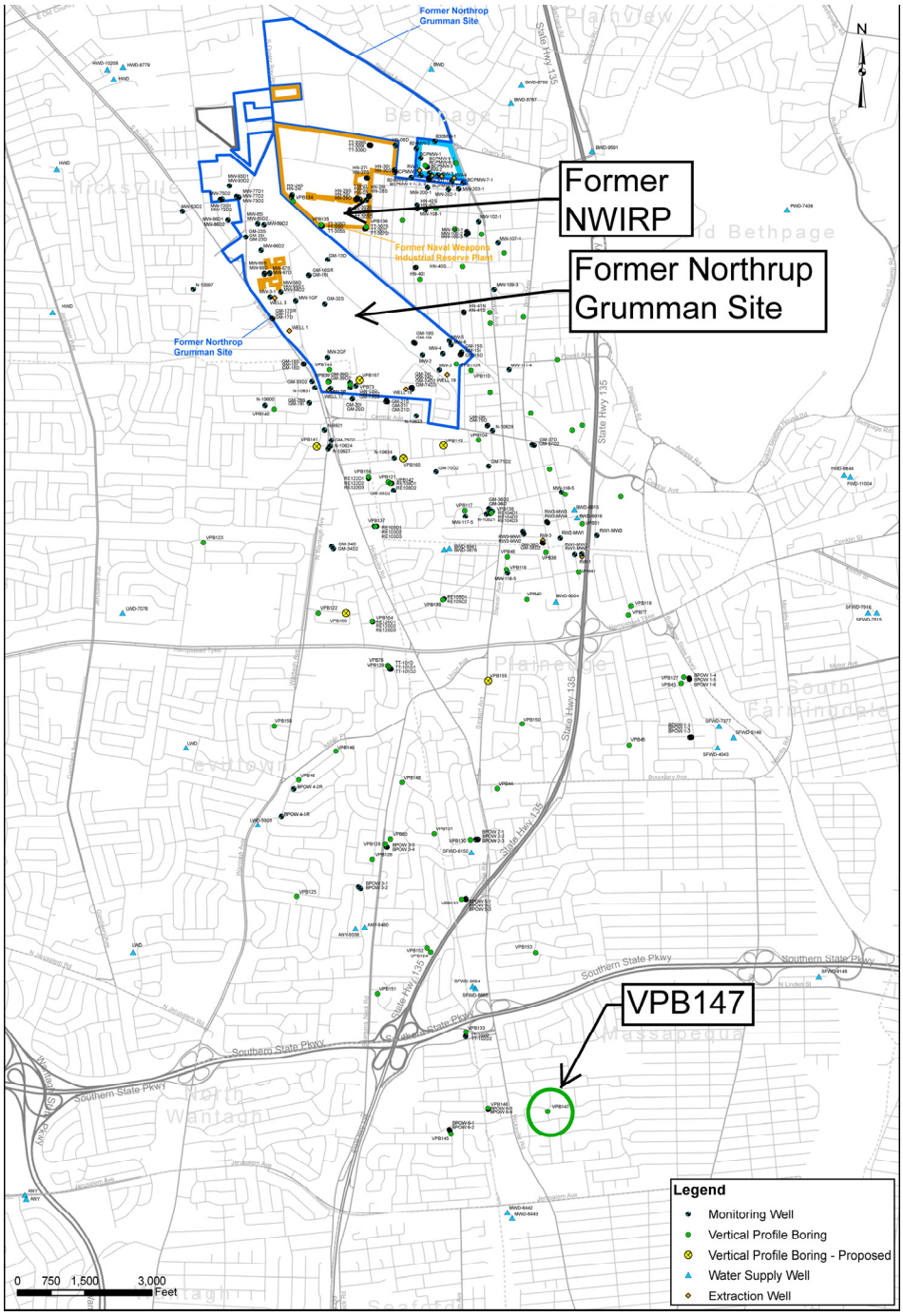
VPB147 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

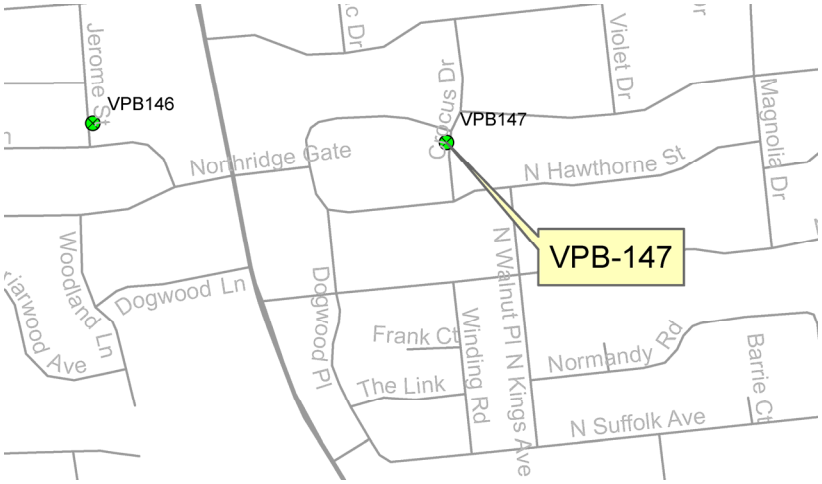
Vertical Profile Boring Installation Summary — May 2015

The VPB147 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB147 Investigation Summary

- *VPB147 was completed between May 29, 2014 and July 14, 2014;*
- *The final boring was 1030 feet (ft) deep;*
- *40 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB147 (May-June 2015) and will be monitored as part of Northrup Grumman's Operable Unit 2 groundwater monitoring program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	< 0.50
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
398 - 400 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
458 - 460 ft	< 0.50	< 0.50
478 - 480 ft	< 0.50	0.45
528 - 530 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
558 - 560 ft	< 0.50	< 0.50
578 - 580 ft	< 0.50	< 0.50
598 - 600 ft	< 0.50	< 0.50
618 - 620 ft	< 0.50	< 0.50
638 - 640 ft	< 0.50	< 0.50
668 - 670 ft	< 0.50	< 0.50
678 - 680 ft	< 0.50	< 0.50
718 - 720 ft	< 0.50	< 0.50
738 - 740 ft	< 0.50	< 0.50
758 - 760 ft	< 0.50	< 0.50
798 - 800 ft	< 0.50	< 0.50
818 - 820 ft	< 1.0	< 1.0
840 - 842 ft	< 0.50	< 0.50
858 - 860 ft	< 0.50	< 0.50
878 - 880 ft	< 2.0	< 2.0
888 - 890 ft	< 0.50	< 0.50
898 - 900 ft	< 1.0	< 1.0
938 - 940 ft	< 5.0	< 5.0
943 - 945 ft	< 5.0	< 5.0
958 - 960 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

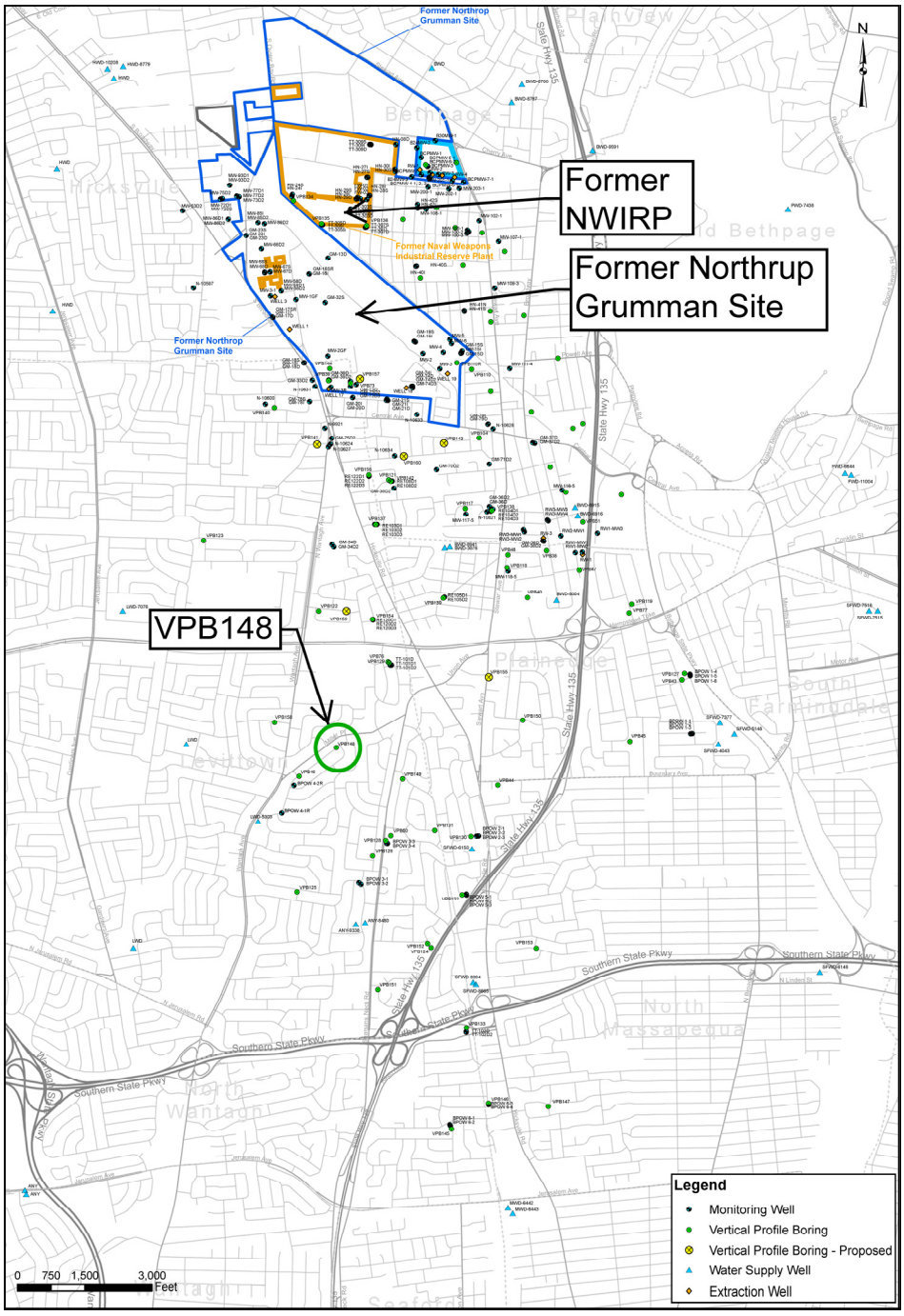
VPB148 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

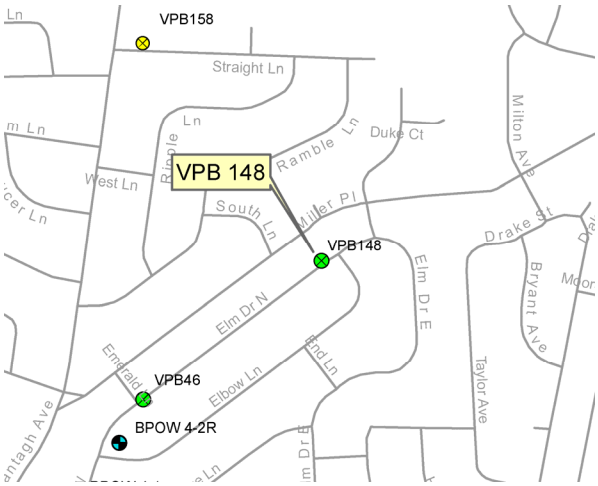
Vertical Profile Boring Installation Summary — May 2015

The VPB148 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB148 Investigation Summary

- *VPB148 was completed between January 27, 2014 and March 10, 2014;*
- *The final boring was 970 feet (ft) deep;*
- *39 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB148 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
63 - 65 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
153 - 155 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50 U	1.7
218 - 220 ft	< 0.50 U	1.8
238 - 240 ft	0.99	2.4
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
303 - 305 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
403 - 405 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
458 - 460 ft	< 0.50	< 0.50
483 - 485 ft	< 0.50	< 0.50
498 - 500 ft	< 0.50	1.8
518 - 520 ft	< 0.50	**68**
538 - 540 ft	< 0.50	**520**
558 - 560 ft	< 0.50	**110**
578 - 580 ft	< 0.50	**57**
598 - 600 ft	< 0.50	**42**
618 - 620 ft	< 0.50	**100**
658 - 660 ft	< 0.50	4.1
678 - 680 ft	< 0.50	0.30
703 - 705 ft	< 0.50	**28**
718 - 720 ft	< 0.50	**14**
738 - 740 ft	< 0.50	< 0.50
758 - 760 ft	< 2.5	< 2.5
798 - 800 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 10	< 10
858 - 860 ft	< 5.0	< 5.0
878 - 880 ft	< 5.0	< 5.0
898 - 900 ft	< 0.50	< 0.50
918 - 920 ft	< 20	< 20
948 - 950 ft	< 20	< 20

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

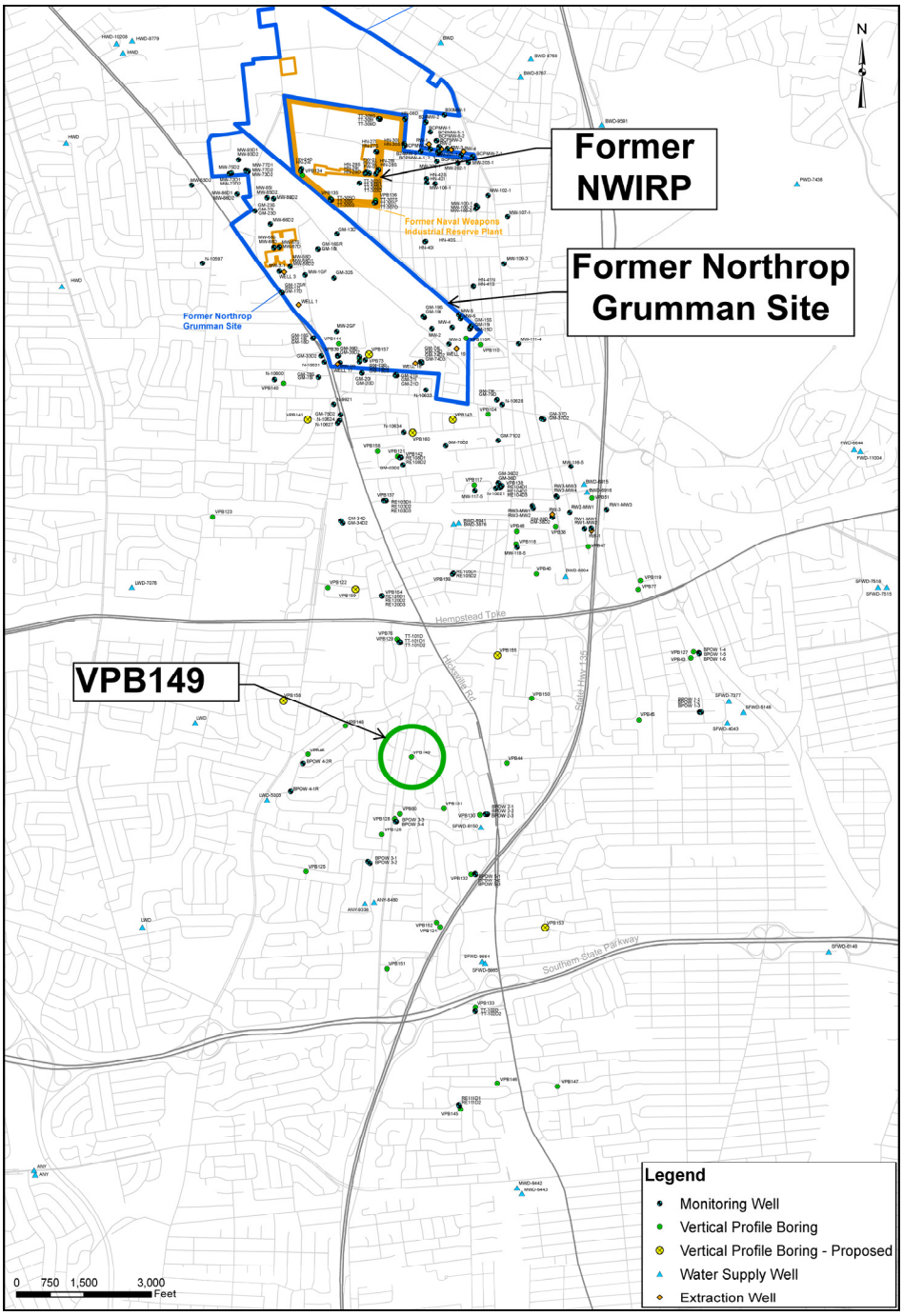
VPB149 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

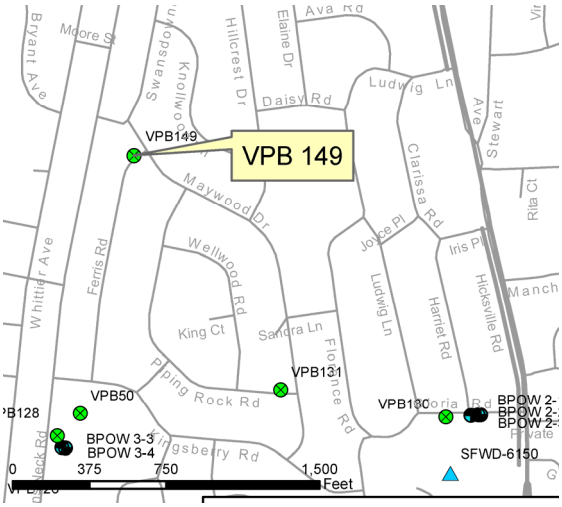
Vertical Profile Boring Installation Summary — March 2015

The VPB149 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB149 Investigation Summary

- *VPB149 was completed between September 12, 2014 and October 20, 2014;*
- *The final boring was 948 feet (ft) deep;*
- *38 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB149 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	1.1	3.2
198 - 200 ft	1.3	**11**
218 - 220 ft	4.0	**9.6**
238 - 240 ft	2.8	**8.1**
258 - 260 ft	< 0.50	< 0.50
283 - 285 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
458 - 460 ft	< 0.50	< 0.50
478 - 480 ft	< 0.50	< 0.50
498 - 500 ft	< 0.50	< 0.50
518 - 520 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
558 - 560 ft	< 0.50	< 0.50
578 - 580 ft	< 0.50	< 0.50
603 - 605 ft	< 0.50	< 0.50
618 - 620 ft	< 0.50	**95**
638 - 640 ft	< 0.50	**100**
658 - 660 ft	< 0.50	**53**
678 - 680 ft	< 0.50	0.61
698 - 700 ft	< 0.50	< 0.50
718 - 720 ft	< 0.50	**8.8**
738 - 740 ft	< 0.50	**16**
758 - 760 ft	< 0.50	< 0.50
808 - 810 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	< 0.50
858 - 860 ft	< 4.0	< 4.0
878 - 880 ft	< 2.0	< 2.0
903 - 905 ft	< 5.0	< 5.0
918 - 920 ft	< 4.0	< 4.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

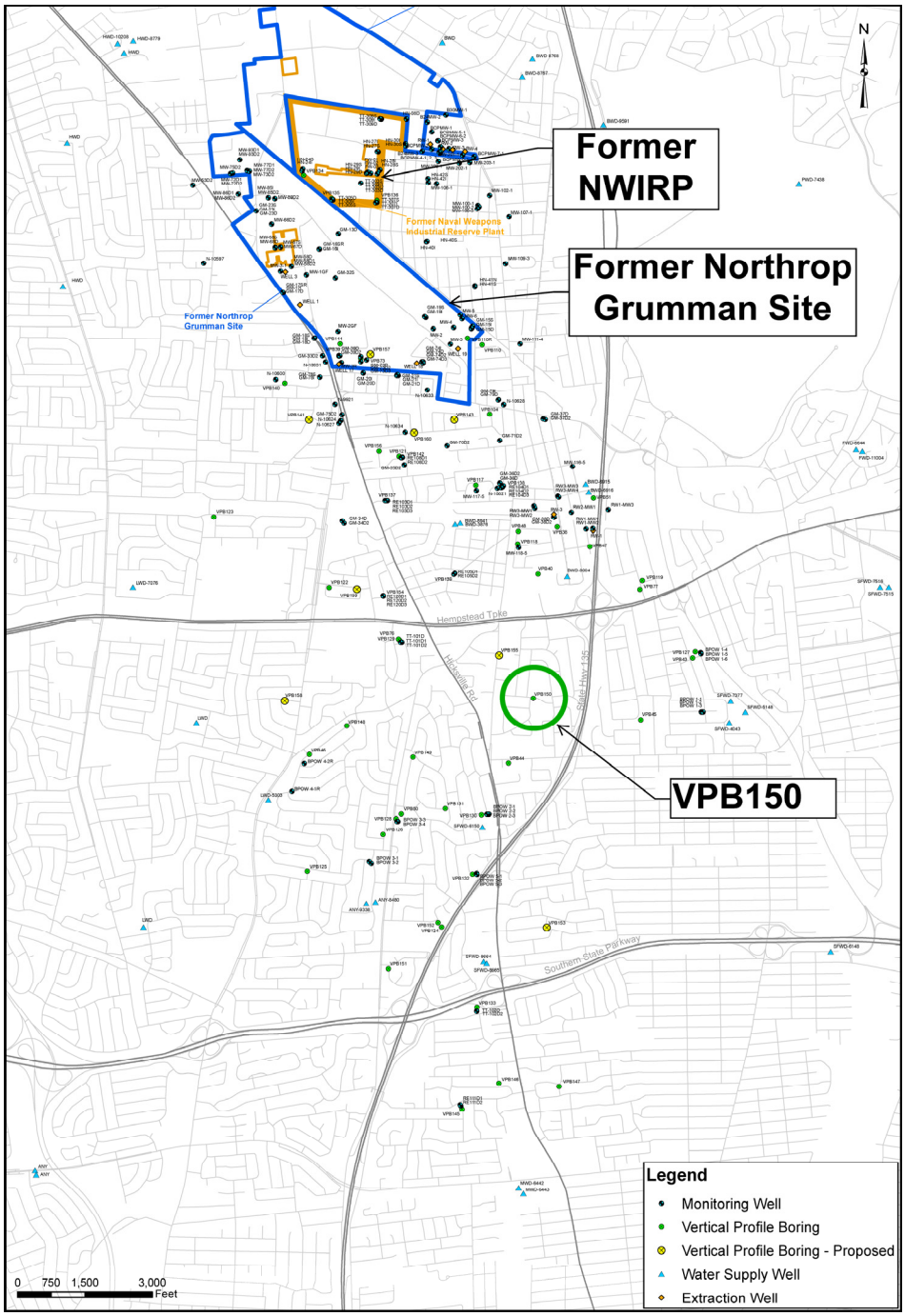
VPB150 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

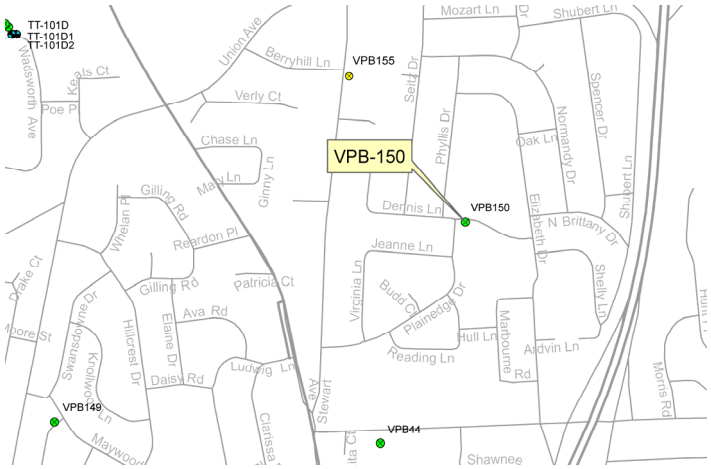
Vertical Profile Boring Installation Summary — March 2015

The VPB150 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB150 Investigation Summary

- *VPB150 was completed between March 24, 2014 and May 1, 2014;*
- *The final boring was 968 feet (ft) deep;*
- *40 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB150 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 1.0	< 1.0
98 - 100 ft	< 0.50	0.51
148 - 150 ft	< 0.50	0.94
198 - 200 ft	0.59	1.9
218 - 220 ft	< 0.50	0.48
243 - 245 ft	< 0.50	**26**
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
383 - 385 ft	< 0.50	< 0.50
398 - 400 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
463 - 465 ft	< 0.50	< 0.50
478 - 480 ft	< 0.50	< 0.50
498 - 500 ft	< 0.50	< 0.50
518 - 520 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
568 - 570 ft	< 0.50	< 0.50
578 - 580 ft	< 2.0	< 2.0
598 - 600 ft	< 0.50	< 0.50
618 - 620 ft	< 0.50	< 0.50
638 - 640 ft	< 0.50	< 0.50
658 - 660 ft	< 0.50	< 0.50
678 - 680 ft	< 10	< 10
698 - 700 ft	< 0.50	< 0.50
738 - 740 ft	< 5.0	< 5.0
758 - 760 ft	< 2.5	< 2.5
778 - 780 ft	< 0.50	< 0.50
798 - 800 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 10	< 10
858 - 860 ft	< 0.50	< 0.50
878 - 880 ft	< 0.50	< 0.50
908 - 910 ft	< 5.0	< 5.0
923 - 925 ft	< 100	< 100
938 - 940 ft	< 25.0	< 25.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

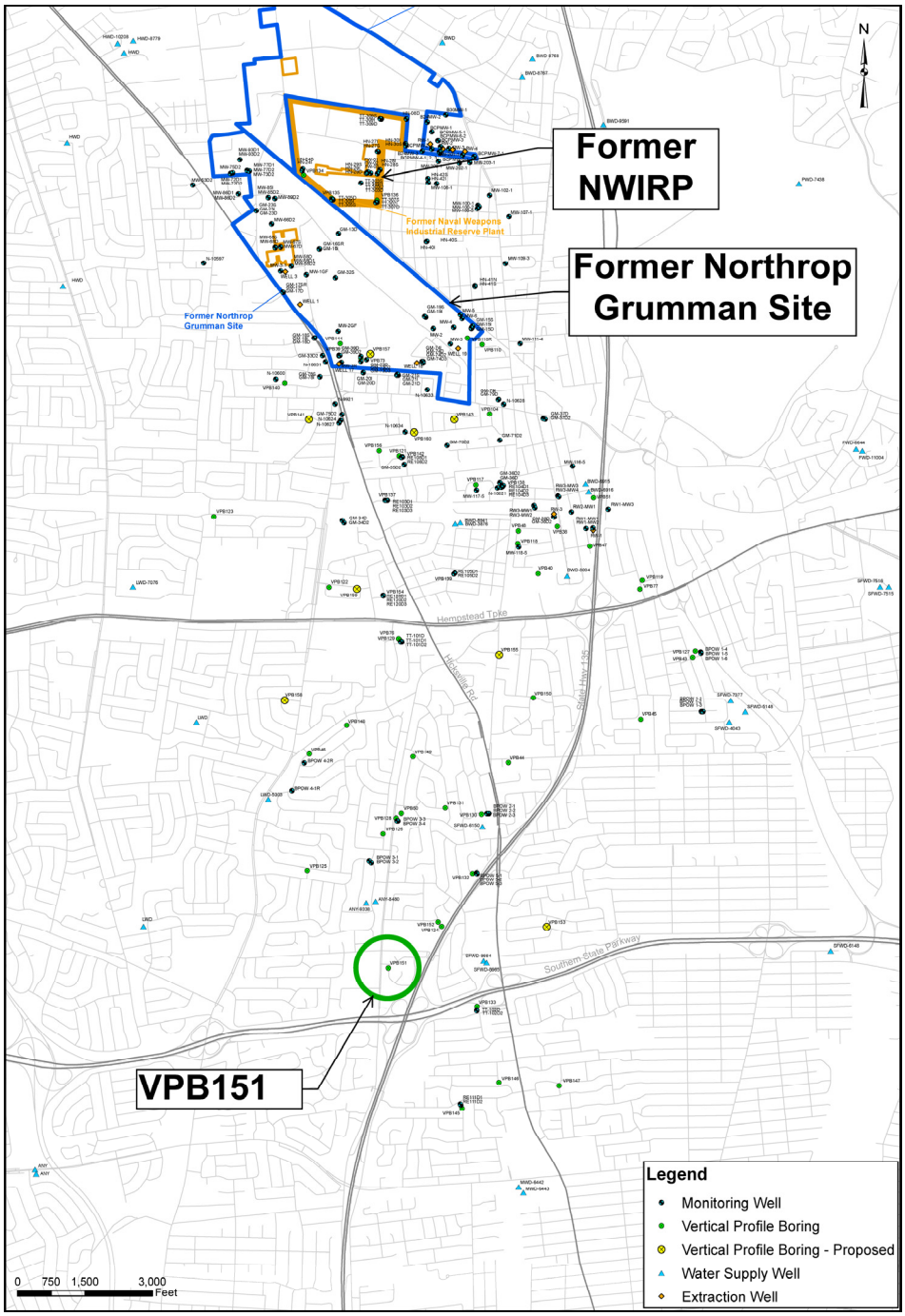
VPB151 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

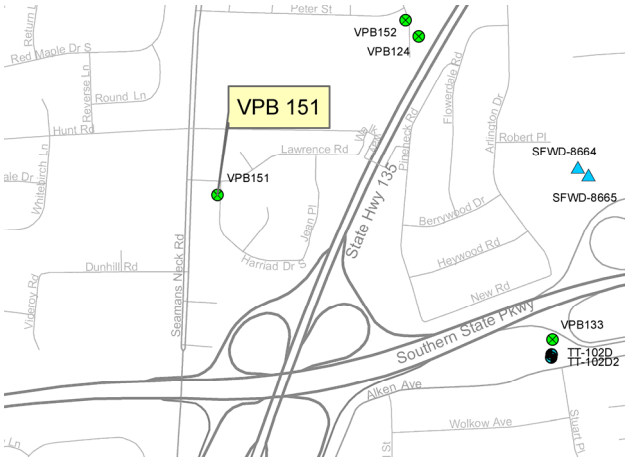
Vertical Profile Boring Installation Summary — March 2015

The VPB151 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB151 Investigation Summary

- *VPB151 was completed between July 8, 2014 and September 5, 2014;*
- *The final boring was 990 feet (ft) deep;*
- *40 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB151 (March -April 2015) and will be monitored quarterly as part of either the Navy's Environmental Restoration Program or Northrup Grumman's Operable Unit 2 groundwater monitoring program . Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
63 - 65 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
158 - 160 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	< 0.50
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
303 - 305 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
368 - 370 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
398 - 380 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
463 - 465 ft	< 0.50	< 0.50
478 - 480 ft	< 0.50	< 0.50
498 - 500 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
558 - 560 ft	< 0.50	< 0.50
583 - 585 ft	< 0.50	< 0.50
598 - 600 ft	< 0.50	< 0.50
618 - 620 ft	< 0.50	< 0.50
638 - 640 ft	< 0.50	< 0.50
658 - 660 ft	< 0.50	< 0.50
678 - 680 ft	< 0.50	< 0.50
708 - 710 ft	< 0.50	< 0.50
718 - 720 ft	< 0.50	< 0.50
738 - 740 ft	< 0.50	1.6
758 - 760 ft	< 0.50	< 0.50
778 - 780 ft	< 0.50	0.98
798 - 800 ft	< 0.50	0.77
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	< 0.50
858 - 860 ft	< 0.50	< 0.50
878 - 880 ft	< 0.50	< 0.50
923 - 925 ft	< 5.0	< 5.0
938 - 940 ft	< 5.0	< 5.0
958 - 960 ft	< 20	< 20

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

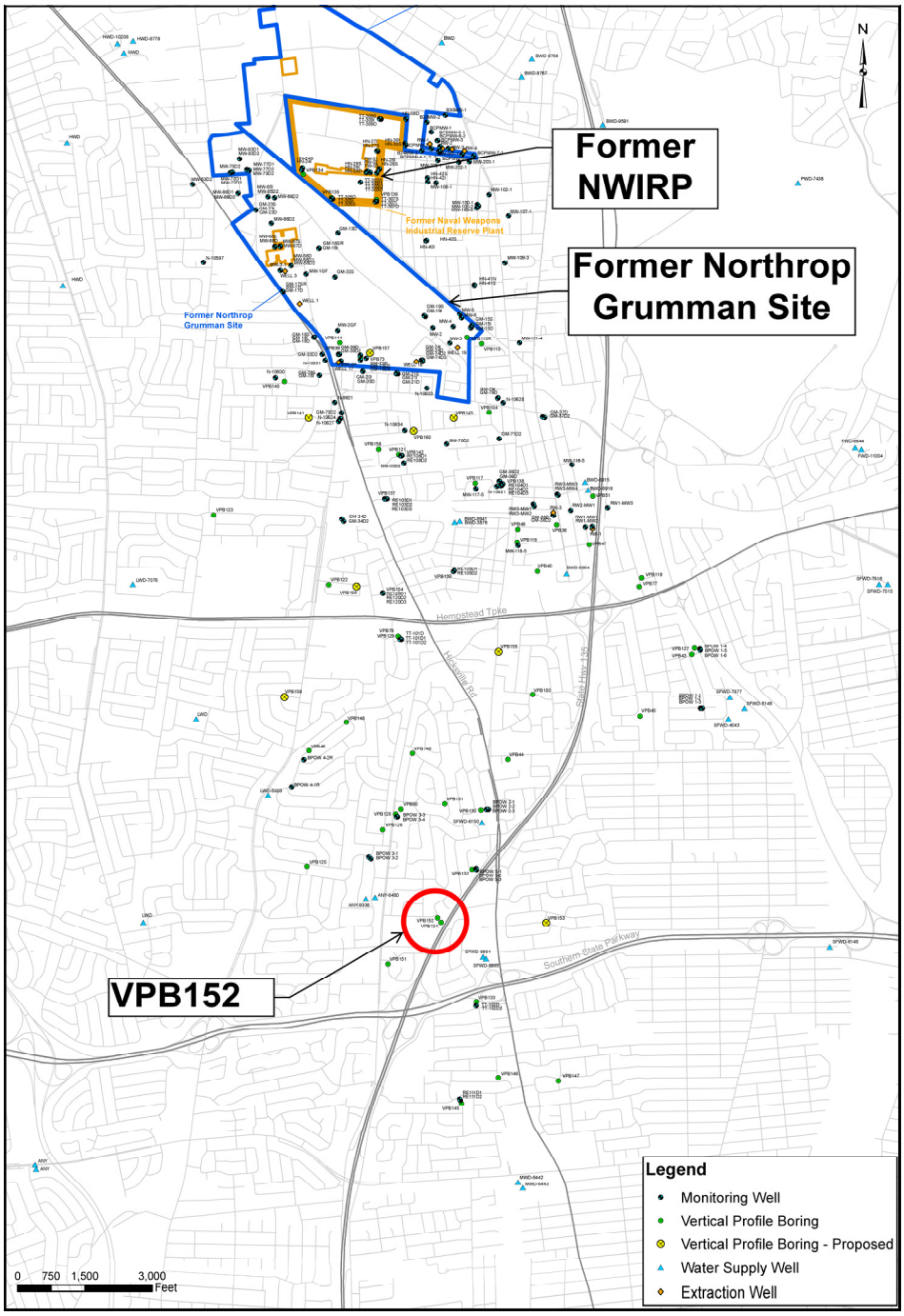
VPB152 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

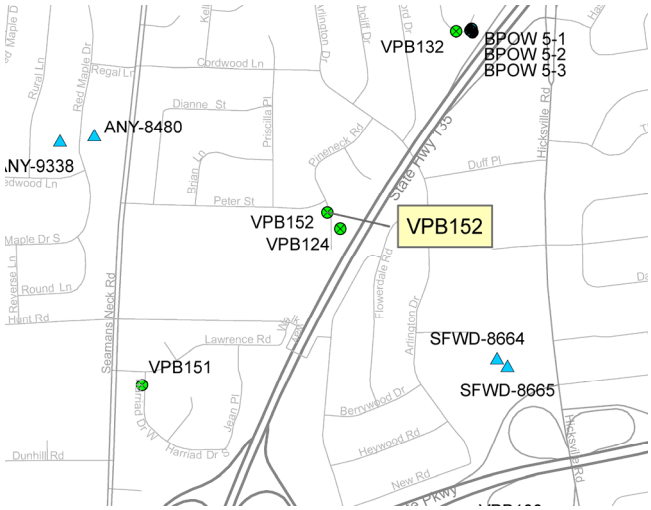
Vertical Profile Boring Installation Summary — March 2015

The VPB152 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB 152 Investigation Summary

- *VPB 152 was completed between May 23, 2014 and July 7, 2014;*
- *The final boring was 997 feet (ft) deep;*
- *40 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB152 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
150 - 152 ft	< 0.50	< 0.50
200 - 202 ft	< 0.50	< 0.50
220 - 222 ft	< 0.50	< 0.50
240 - 242 ft	< 0.50	< 0.50
260 - 262 ft	< 0.50	< 0.50
280 - 282 ft	< 0.50	< 0.50
300 - 302 ft	< 0.50	< 0.50
320 - 322 ft	< 0.50	< 0.50
345 - 347 ft	< 0.50	< 0.50
360 - 362 ft	< 0.50	< 0.50
380 - 382 ft	< 0.50	< 0.50
400 - 402 ft	< 0.50	< 0.50
420 - 422 ft	< 0.50	< 0.50
440 - 442 ft	< 0.50	< 0.50
460 - 462 ft	< 0.50	< 0.50
480 - 482 ft	< 0.50	< 0.50
500 - 502 ft	< 0.50	< 0.50
520 - 522 ft	< 0.50	< 0.50
540 - 542 ft	< 0.50	< 0.50
560 - 562 ft	< 0.50	< 0.50
580 - 582 ft	< 0.50	< 0.50
605 - 607 ft	< 0.50	< 0.50
620 - 622 ft	< 0.50	< 0.50
640 - 642 ft	< 0.50	< 0.50
660 - 662 ft	< 0.50	< 0.50
680 - 682 ft	< 0.50	< 0.50
700 - 702 ft	< 50	< 50
725 - 727 ft	< 25	< 25
740 - 742 ft	< 0.50	< 0.50
780 - 782 ft	< 0.50	< 0.50
800 - 802 ft	< 0.50	< 0.50
830 - 832 ft	< 0.50	< 0.50
850 - 852 ft	< 0.50	< 0.50
870 - 872 ft	< 0.50	< 0.50
880 - 882 ft	< 0.50	< 0.50
910 - 912 ft	< 0.50	< 0.50
930 - 932 ft	< 1.0	< 1.0
950 - 952 ft	< 1.0	< 1.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

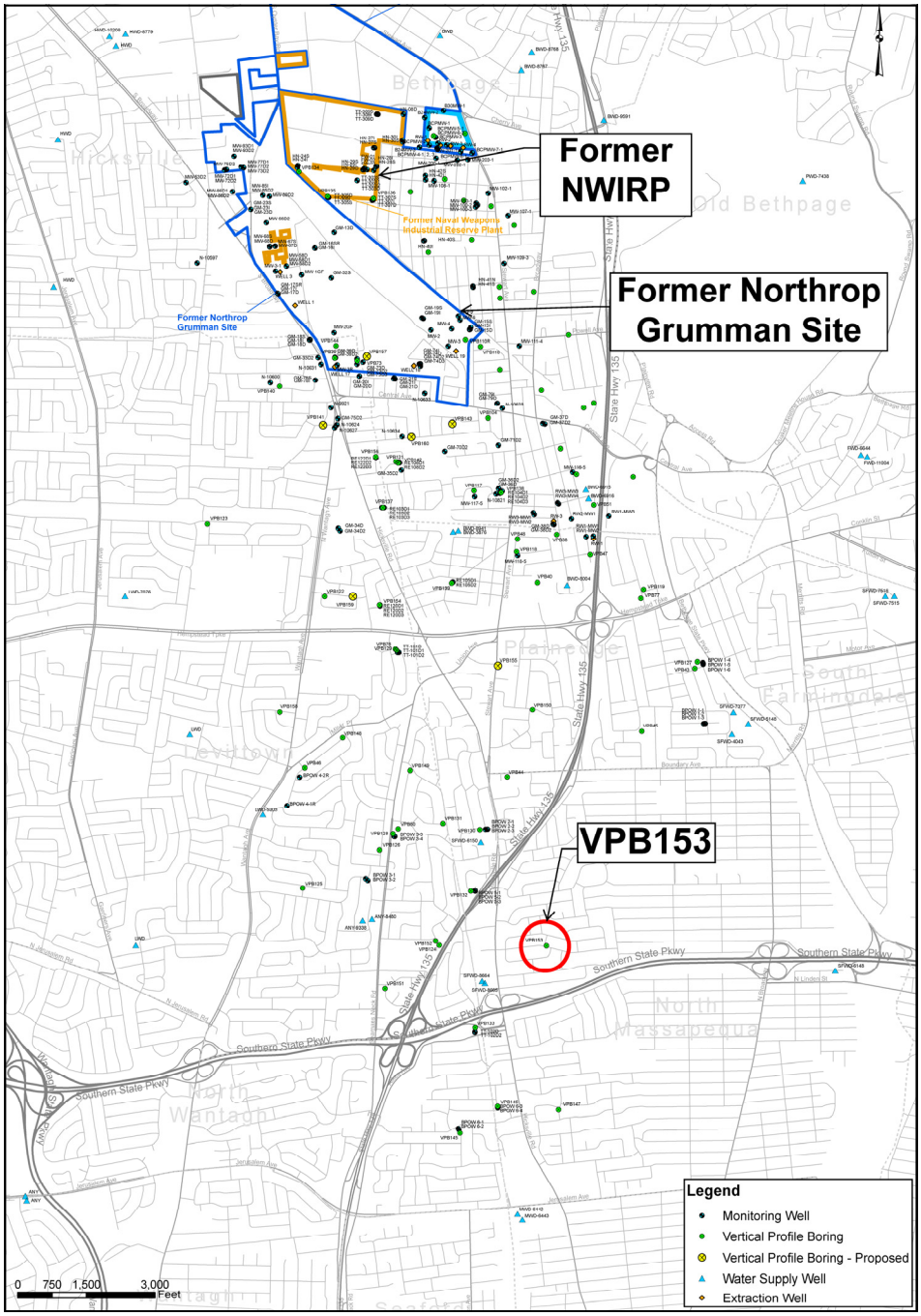
VPB153 Installation Summary

Vertical Profile Boring Installation Summary — April 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

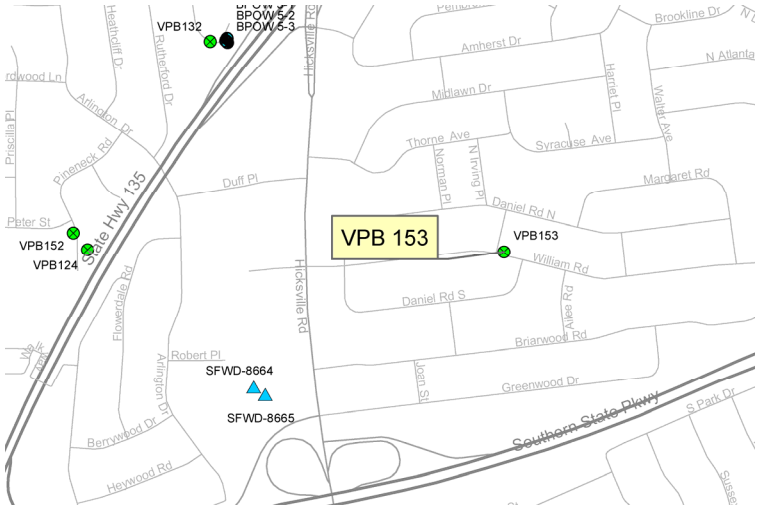
Vertical Profile Boring Installation Summary — April 2015

The VPB153 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB153 Investigation Summary

- *VPB153 was completed between November 4, 2014 and December 17, 2014;*
- *The final boring was 1010 feet (ft) deep;*
- *36 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB153 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	0.98	**21**
218 - 220 ft	1.6	**53**
238 - 240 ft	< 0.50	**51**
258 - 260 ft	< 0.50	4.8
278 - 280 ft	< 0.50	< 0.50
298 - 300 ft	< 0.50	< 0.50
318 - 320 ft	< 0.50	< 0.50
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
403 - 405 ft	< 0.50	< 0.50
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
458 - 460 ft	< 0.50	< 0.50
483 - 485 ft	< 0.50	< 0.50
498 - 500 ft	< 0.50	< 0.50
518 - 520 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
578 - 580 ft	< 0.50	< 0.50
603 - 605 ft	< 0.50	< 0.50
618 - 620 ft	< 0.50	< 0.50
638 - 640 ft	< 0.50	< 0.50
658 - 660 ft	< 0.50	< 0.50
678 - 680 ft	< 0.50	< 0.50
698 - 700 ft	< 0.50	< 0.50
718 - 720 ft	< 0.50	< 0.50
738 - 740 ft	< 2.0	2.8
798 - 800 ft	< 2.0	< 2.0
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	< 0.50
878 - 880 ft	< 0.50	< 0.50
898 - 900 ft	< 0.50	< 0.50
918 - 920 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

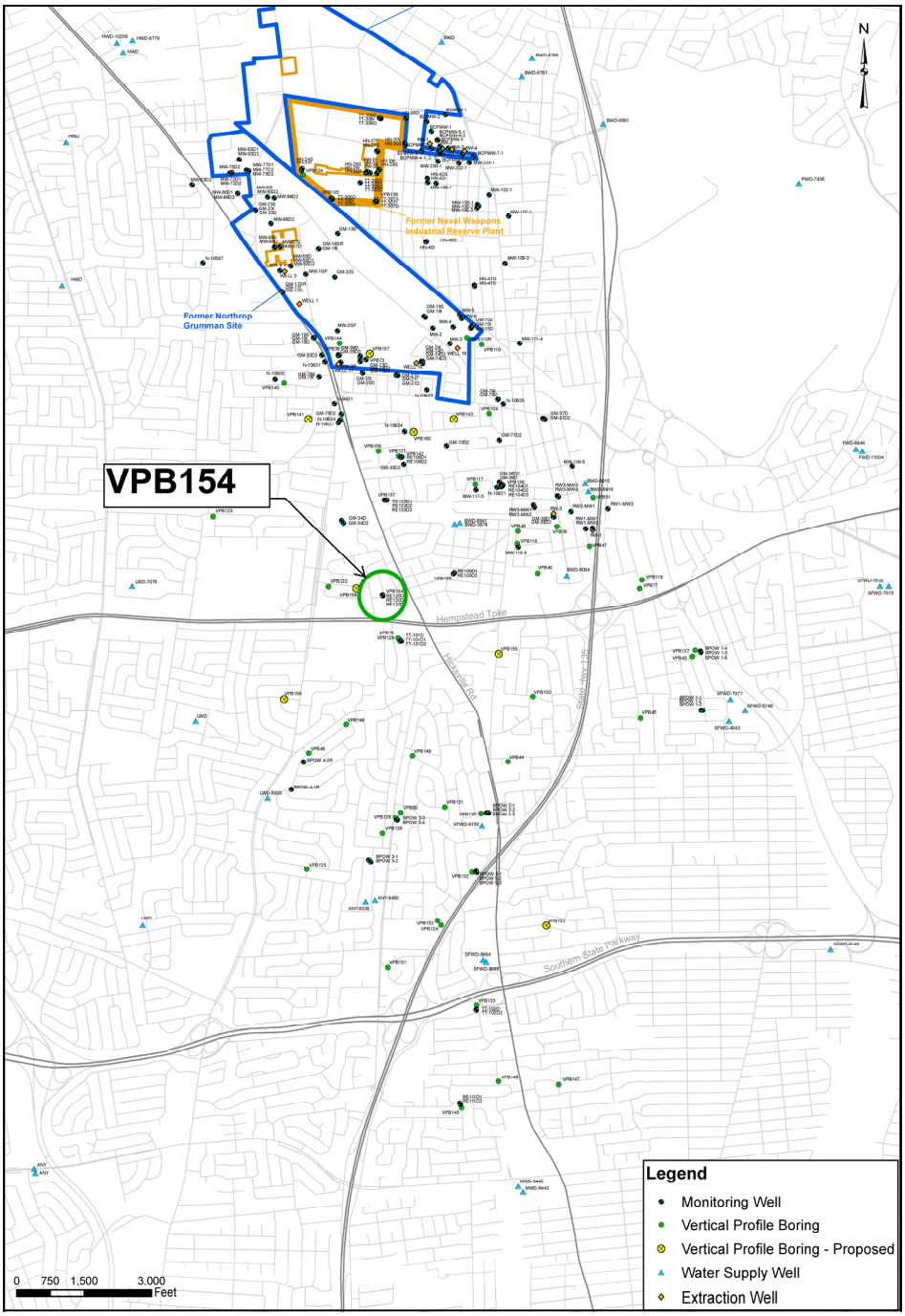
VPB154 Installation Summary

Vertical Profile Boring Installation Summary — March 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

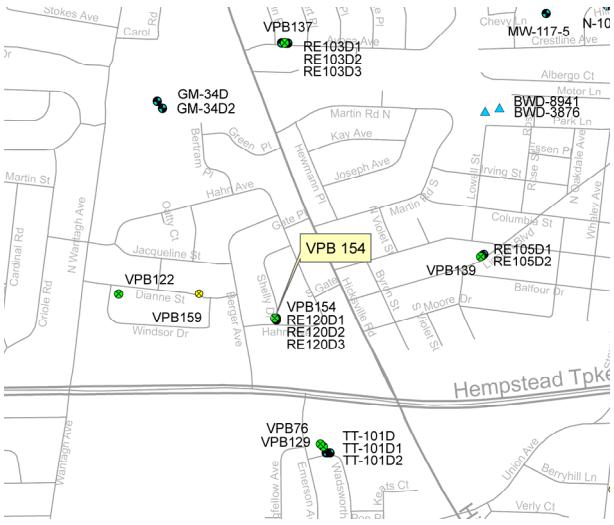
Vertical Profile Boring Installation Summary — March 2015

The VPB 154 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB 154 Investigation Summary

- *VPB 154 was completed between July 15, 2014 and September 3, 2014;*
- *The final boring was 950 feet (ft) deep;*
- *39 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB 154 (October-November 2014) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth	PCE (ug/L)	TCE (ug/L)
58 - 60 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	3.2	**31**
228 - 230 ft	4.8	**180**
238 - 240 ft	**5.1**	**190**
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	**7.1**	**200**
298 - 300 ft	**8.0**	**200**
318 - 320 ft	**7.5**	**180**
338 - 340 ft	< 0.50	**26**
358 - 360 ft	< 0.50	1.5
378 - 380 ft	< 0.50	0.34
398 - 400 ft	< 0.50	< 0.50
418 - 420 ft	4.8	**170**
438 - 440 ft	**5.0**	**190**
458 - 460 ft	**5.4**	**180**
483 - 485 ft	**6.6**	**160**
503 - 505 ft	< 0.50	**160**
518 - 520 ft	3.4	**340**
538 - 540 ft	**12**	**970**
558 - 560 ft	**10**	**900**
578 - 580 ft	**8.4**	**1800**
598 - 600 ft	0.40	**350**
618 - 620 ft	1.7	**810**
638 - 640 ft	**5.6**	**1800**
663 - 665 ft	< 0.50	**600**
678 - 680 ft	2.8	**550**
698 - 700 ft	4.6	**700**
718 - 720 ft	< 10	< 10
738 - 740 ft	< 1.0	1.4
763 - 765 ft	< 0.50	< 0.50
778 - 780 ft	< 1.0	< 1.0
798 - 800 ft	< 0.50	< 0.50
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	0.33
858 - 860 ft	< 0.50	< 0.50
908 - 910 ft	< 25	< 25
918 - 920 ft	< 25	< 25

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

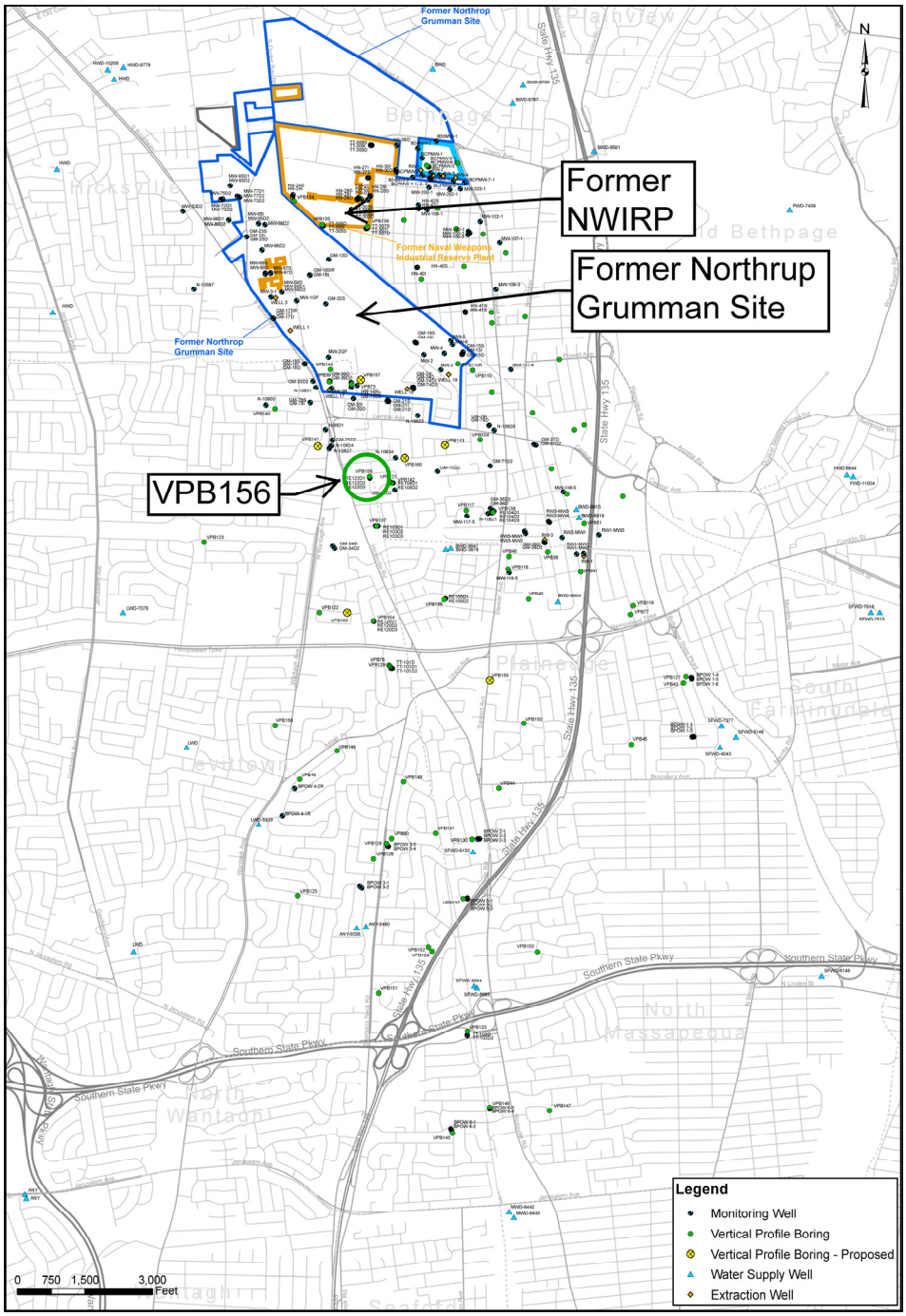
VPB156 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

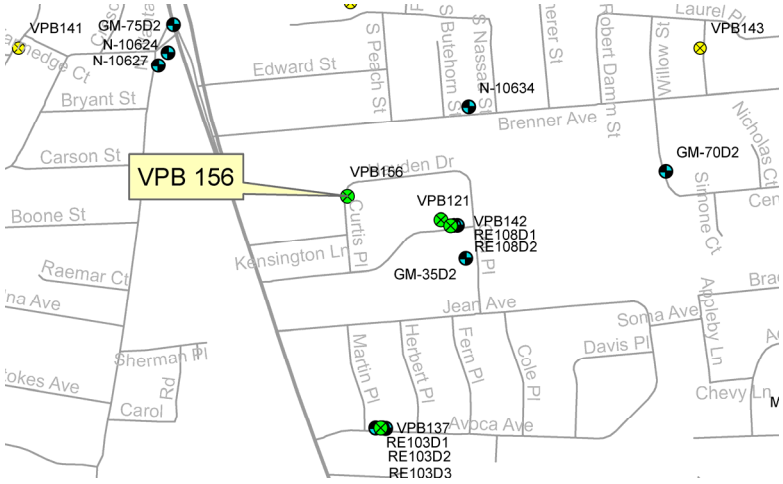
Vertical Profile Boring Installation Summary — May 2015

The VPB156 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB156 Investigation Summary

- *VPB156 was completed between May 21, 2014 and June 24, 2014;*
- *The final boring was 910 feet (ft) deep;*
- *36 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells were installed at VPB156 (December 2014-February 2015) and are monitored quarterly as part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth interval (ft bgs)	PCE (ug/L)	TCE (ug/L)
63 - 65 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	< 0.50	< 0.50
198 - 200 ft	< 0.50	< 0.50
218 - 220 ft	< 0.50	< 0.50
238 - 240 ft	< 0.50	< 0.50
258 - 260 ft	< 0.50	< 0.50
278 - 280 ft	< 0.50	< 0.50
303 - 305 ft	< 0.50	< 0.50
318 - 320 ft	2.1	**21**
338 - 340 ft	< 0.50	< 0.50
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	0.55
398 - 400 ft	< 0.50	< 0.50
423 - 425 ft	1.6	4.0
438 - 440 ft	0.42	0.68
458 - 460 ft	0.83	3.2
488 - 490 ft	< 0.50	1.3
498 - 500 ft	2.4	**67**
528 - 530 ft	2.6	**600**
538 - 540 ft	< 5.0	**14**
558 - 560 ft	0.92	**680**
578 - 580 ft	**5.3**	**2800**
598 - 600 ft	1.9	**8200**
618 - 620 ft	3.9	**5200**
638 - 640 ft	< 1.0	**48**
658 - 660 ft	< 0.50	**11**
718 - 720 ft	< 0.50	0.81
738 - 740 ft	< 1.0	1.8
758 - 760 ft	< 0.50	< 0.50
778 - 780 ft	< 0.50	< 0.50
808 - 810 ft	< 0.50	< 0.50
818 - 820 ft	< 1.0	< 1.0
838 - 840 ft	< 0.50	< 0.50
858 - 860 ft	< 0.50	< 0.50
878 - 880 ft	< 0.50	< 0.50

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil

Naval Weapons Industrial Reserve Plant, Bethpage, NY
Groundwater Investigation

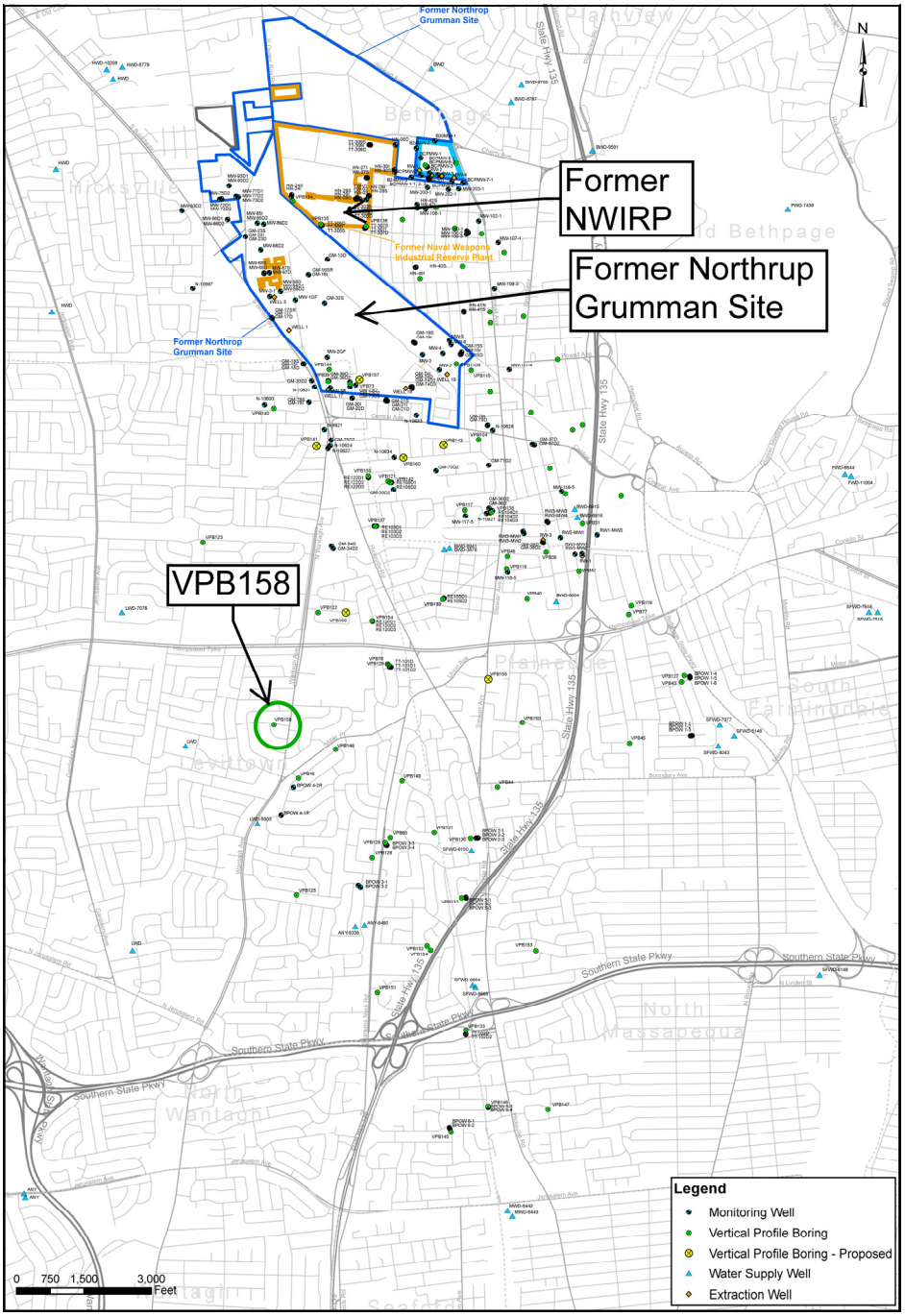
VPB158 Installation Summary

Vertical Profile Boring Installation Summary — May 2015

Historic storage and/or disposal practices at the former ***Naval Weapons Industrial Reserve Plant Bethpage (NWIRP Bethpage)*** and adjacent former Northrup 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 into the groundwater and 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 it 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.

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 1,000 feet deep) 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.

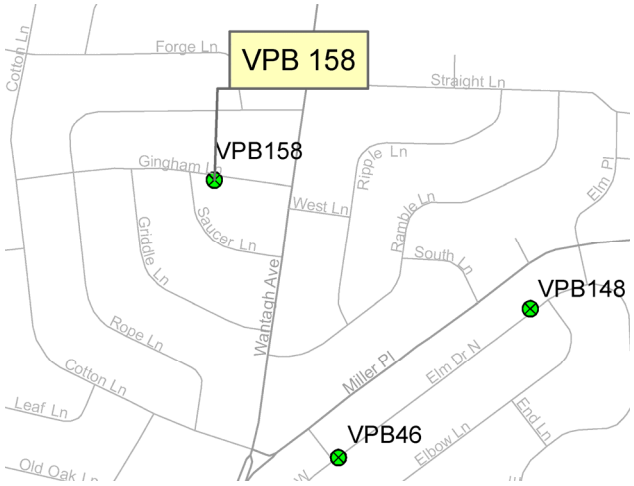
Vertical Profile Boring Installation Summary — May 2015

The VPB158 investigation focused on ***Trichloroethene (TCE)*** and ***Tetrachloroethene (PCE)***, which are two primary VOCs in the NWIRP Bethpage groundwater contamination. 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.

VPB158 Investigation Summary

- *VPB158 was completed between January 9, 2015 and March 17, 2015;*
- *The final boring was 930 feet (ft) deep;*
- *34 groundwater screening samples were collected at different depths;*
- *The table contains TCE and PCE levels; bolding indicates an exceedance of the NYSDEC MCL.*

Permanent wells are planned on being installed at the VPB158 location. Follow-on monitoring of wells will be part of the Navy's Environmental Restoration Program. Results of monitoring will be discussed at the RAB meetings and will be available on-line at the information repository website for review.



Depth	PCE (ug/L)	TCE (ug/L)
48 - 50 ft	< 0.50	< 0.50
98 - 100 ft	< 0.50	< 0.50
148 - 150 ft	1.1	**9.3**
198 - 200 ft	2.3	**35**
218 - 220 ft	2.3	**36**
243 - 245 ft	< 0.50	0.74
258 - 260 ft	< 2.0	2.4
278 - 280 ft	< 0.50	0.31
298 - 300 ft	< 0.50	**65**
318 - 320 ft	< 0.50	**140**
338 - 340 ft	< 0.50	0.36
358 - 360 ft	< 0.50	< 0.50
378 - 380 ft	< 0.50	< 0.50
398 - 400 ft	< 10	< 10
418 - 420 ft	< 0.50	< 0.50
438 - 440 ft	< 0.50	< 0.50
458 - 460 ft	< 0.50	0.79
498 - 500 ft	< 0.50	< 0.50
518 - 520 ft	< 0.50	< 0.50
538 - 540 ft	< 0.50	< 0.50
558 - 560 ft	< 0.50	< 0.50
578 - 580 ft	< 0.50	< 0.50
598 - 600 ft	< 0.50	< 0.50
638 - 640 ft	< 0.50	< 0.50
658 - 660 ft	< 0.50	< 0.50
678 - 680 ft	< 0.50	< 0.50
698 - 700 ft	< 0.50	< 0.50
718 - 720 ft	< 0.50	< 0.50
798 - 800 ft	< 2.0	< 2.0
818 - 820 ft	< 0.50	< 0.50
838 - 840 ft	< 0.50	< 0.50
858 - 860 ft	< 0.50	< 0.50
878 - 880 ft	< 2.0	< 2.0
898 - 900 ft	< 2.0	< 2.0

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 Officer, NAVFAC Mid-Atlantic, 9742 Maryland Ave, Norfolk VA 23511-3095 or Thomas.kreidel@navy.mil