Mr. Jason Pelton
Project Manager
New York State Department of Environmental Conservation
Remedial Bureau D
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Albany, New York 12233-7015

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Subject:
First Quarter 2018 Progress Report
Northrop Grumman Systems Corporation
Operable Unit 2, NYSDEC Site ID # 1-30-003A,
Bethpage, New York

ENVIRONMENT

Date:
April 10, 2018

Contact:
David E. Stern
Phone:
631.391.5284
Email:
david.stern@arcadis.com

Our ref:
NY001496.22TM.LARA5

Dear Jason:

In accordance with Appendix "A", Section XIII of Administrative Order on Consent (AOC) Index # W1-118-14-12, this letter reports Operable Unit 2 (OU2) activities performed by Northrop Grumman Systems Corporation (Northrop Grumman) during the First Quarter of 2018 (January through March 2018). Activities planned for Second Quarter of 2018 (April through June 2018) are also described.

This progress report provides data that have been received as final and/or validated from the current period that are not included in other routine reporting for OU2 (e.g., quarterly reports as specified in the Groundwater Monitoring Plan).

As this is an ongoing remediation project, Northrop Grumman has transitioned the frequency of these progress reports from monthly to quarterly. Therefore, the next report will be submitted following the close of June 2018.

OU2 ACTIVITIES CONDUCTED DURING FIRST QUARTER 2018

OU2 On-Site Containment (ONCT) System

- Continued Operation, Maintenance, and Monitoring (OM&M) of the OU2 ONCT system

- Completed First Quarter 2018 ONCT system sampling
- Data not routinely reported are provided for the current period as follows:
    - Analytical data associated with Tower 96 Effluent, Tower 102 Effluent, and monthly sampling of ONCT Tower 96 system Remedial Wells 1 and 3R are provided in Table 1. Locations of wells are shown on Figure 1.
    - Split sample data for analytical method comparison associated with Tower 96 Effluent, Tower 102 Effluent, Outfall 05, and Outfall 06 are also provided in Table 1.

Regional Groundwater Monitoring & Outpost Well Monitoring

- Continued supplemental (quarterly) VOC sampling at Monitoring Wells GM-21D2, GM-33D2, GM-75D2 and GM-20D located just south of the ONCT remedial wells to monitor ONCT system hydraulic effectiveness following 2017 ONCT South Basins maintenance activities. Sampling frequency of Monitoring Well GM-21D was changed from monthly to quarterly beginning January 2018 per e-mail communication to NYSDEC dated February 23, 2018.
- Completed First Quarter 2018 routine OU2 groundwater monitoring activities
- Data not routinely reported are provided for the current period as follows:
    - Analytical data associated with sampling of Monitoring Wells GM-21D2, GM-20D, GM-33D2 and GM-75D2 are provided in Table 1. Locations of wells are shown on Figure 1.
    - Analytical data associated with discharge samples for compliance with local POTW are also provided in Table 1
- Prepared and submitted Fourth Quarter 2017 sampling event data (Form 1 packages) to NYSDEC

Northrop Grumman Cooperation with Navy

- Coordinated with Navy and completed First Quarter 2018 sampling of additional outpost wells
- Prepared and submitted Fourth Quarter 2017 sampling event data for Navy owned wells (Form 1 packages) to Navy for distribution
- Continued groundwater modeling support for design of Navy's IRM recovery well associated with the RE-108 off-site area

Other

- Prepared and submitted the 2017 Annual OU2 Operation, Maintenance, and Monitoring Report
- Prepared and submitted the Fourth Quarter 2017 AOC quarterly progress report

OU2 ACTIVITIES SCHEDULED FOR SECOND QUARTER 2018

OU2 On-Site Containment (ONCT) System

- Continue OM&M of OU2 ONCT system, including preparation and performance of maintenance of South Basins (center-most basin), following the winter season and dependent on weather
- Conduct Second Quarter 2018 ONCT system sampling

Regional Groundwater Monitoring & Outpost Well Monitoring

- Conduct Second Quarter 2018 sampling including water level collection from wells in Northrop Grumman's routine monitoring program.
- Continue supplemental (quarterly) VOC sampling at Monitoring Wells GM-21D2, GM-33D2, GM-75D2 and GM-20D

Northrop Grumman Cooperation with Navy

- Conduct Second Quarter 2018 sampling including water level collection from additional outpost wells and plume monitoring wells
- Complete groundwater modeling support for design of Navy's IRM recovery well associated with the RE-108 off-site area

Other

- Prepare and submit the First Quarter 2018 AOC quarterly progress report on April 10, 2018.
- Prepare and submit the First Quarter 2018 Annual OU2 Operation, Maintenance, and Monitoring Report by May 31, 2018.

Sincerely,

Arcadis of New York, Inc.

David E. Stern
Associate Project Manager

Enclosures

Copies:
Krista Anders, NYSDOH
Steven Karpinski, NYSDOH
Patrick Foster, Esq., NYSDEC
Steven Scharf – NYSDEC
Donald Hesler, NYSDEC
Edward J. Hannon, Northrop Grumman
Jill Palmer, Esq., Northrop Grumman
Daniel Riesel, Esq., Sive, Paget & Riesel, P.C.
Mark A. Chertok, Esq., Sive, Paget & Riesel, P.C.
Lora Fly, NAVFAC Mid-Atlantic Environmental
Chris Engler, PE, Arcadis
Carlo San Giovanni, Arcadis
Mike Wolfert, Arcadis
File, Arcadis

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Location ID: / Sample ID: / Constituents (units in µg/L) / Date:	DISCHARGE[2] DISCHARGE_111017 11/10/2017	GM-20D GM-20D_20180108 1/8/2018	GM-21D2 GM_21D2_20171228 12/28/2017	GM-21D2 GM-21D2_20180124 1/24/2018
Volatile Organic Compounds[1]				
1,1,1-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	< 2.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)	< 5.0	< 10	< 10	< 10
4-Methyl-2-Pentanone	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	< 5.0	< 10	< 10	< 10
Benzene	< 1.0	< 0.50	< 0.50	< 0.50
Bromodichloromethane	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	< 1.0	< 2.0	< 2.0	< 2.0
Carbon Disulfide	< 1.0	< 2.0	< 2.0	< 2.0
Carbon Tetrachloride	< 1.0	< 1.0	< 1.0	< 1.0
CFC-11	< 2.0	--	--	--
CFC-12	< 2.0	--	--	--
Chlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0
Chlorodibromomethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	< 1.0	< 1.0	**0.52 J**	< 1.0
cis-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane	< 1.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylenes	< 1.0	< 1.0	< 1.0	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)	< 5.0	< 5.0	< 5.0	< 5.0
Methyl-tert-butylether	< 1.0	--	--	--
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	< 2.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	< 1.0	< 1.0	**3.6**	**3.2**
Toluene	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	< 1.0	**0.61 J**	**16.3**	**13.9**
Vinyl chloride	< 1.0	< 1.0	< 1.0	< 1.0
Total VOCs[3]	0	**0.61**	**20**	**17**

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Location ID:	GM-33D2	GM-75D2	WELL 1	WELL 3R
Sample ID:	GM-33D2_20180116	GM-75D2_20180116	WELL 1_20180115	WELL 3R_20180115
Constituents (units in µg/L) Date:	1/16/2018	1/16/2018	1/15/2018	1/15/2018
Volatile Organic Compounds [1]				
1,1,1-Trichloroethane	< 1.0	< 1.0	**0.33 J**	**0.75**
1,1,2,2-Tetrachloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	**5.6**	< 5.0	**4.1**	**4.1**
1,1,2-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	< 1.0	< 1.0	**0.65 J**	**1.4**
1,1-Dichloroethene	< 1.0	< 1.0	**2.6**	**4.5**
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	< 1.0	< 1.0	**4.5**	< 1.0
2-Butanone (MEK)	< 10	< 10	< 10	< 10
4-Methyl-2-Pentanone	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	< 10	< 10	< 10	< 10
Benzene	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	< 2.0	< 2.0	< 2.0	< 2.0
Carbon Disulfide	< 2.0	< 2.0	< 2.0	< 2.0
Carbon Tetrachloride	< 1.0	< 1.0	< 1.0	< 1.0
CFC-11	--	--	--	--
CFC-12	--	--	--	--
Chlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0
Chlorodibromomethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	< 1.0	< 1.0	**0.33 J**	< 0.50
Chloromethane	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	< 1.0	< 1.0	**5.3**	**4.4**
cis-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylenes	< 1.0	< 1.0	< 1.0	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)	< 5.0	< 5.0	< 5.0	< 5.0
Methyl-tert-butylether	--	--	--	--
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	**3.8**	**0.80 J**	**21.8**	**31.2**
Toluene	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 0.50	< 0.50
trans-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	**17.3**	**24.7**	**570**	**348**
Vinyl chloride	< 1.0	< 1.0	< 1.0	**2.5**
Total VOCs[3]	**27**	**26**	**610**	**400**

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Constituents (units in µg/L)	Location ID: / Sample ID: / Date:	102 EFFLUENT[2] T102 EFFLUENT (GW) 20180209 2/9/2018	102 EFFLUENT T102 EFFLUENT (GW) 20180209 2/9/2018	96 EFFLUENT[2] T96 EFFLUENT (GW) 20180115 1/15/2018	96 EFFLUENT T96 EFFLUENT (GW) 20180116 1/15/2018
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-Tetrachloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane		< 0.50	< 0.50	< 0.50	< 2.0
1,1,2-Trichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene		< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)		< 5.0	< 10	< 5.0	< 10
4-Methyl-2-Pentanone		< 5.0	< 5.0	< 5.0	< 5.0
Acetone		< 5.0	< 10	< 5.0	< 10
Benzene		< 1.0	< 0.50	< 1.0	< 0.50
Bromodichloromethane		< 1.0	< 1.0	< 1.0	< 1.0
Bromoform		< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		< 1.0	< 2.0	< 1.0	< 2.0
Carbon Disulfide		< 1.0	< 2.0	< 1.0	< 2.0
Carbon Tetrachloride		< 1.0	< 1.0	< 1.0	< 1.0
CFC-11		--	--	--	--
CFC-12		--	--	--	--
Chlorobenzene		< 1.0	< 1.0	< 1.0	< 1.0
Chlorodibromomethane		< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		< 0.50	< 0.50	< 0.50	< 0.50
Chloromethane		< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene		< 0.50	< 0.50	< 0.50	< 1.0
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane		< 0.50	< 0.50	< 0.50	< 2.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylenes		< 1.0	< 1.0	< 1.0	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)		< 5.0	< 5.0	< 5.0	< 5.0
Methyl-tert-butylether		--	--	--	--
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)		< 2.0	< 1.0	< 2.0	< 1.0
Tetrachloroethene		< 0.50	< 0.50	< 0.50	< 1.0
Toluene		< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene		< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene		< 0.50	< 0.50	< 0.50	< 0.50
Vinyl chloride		< 0.50	< 0.50	< 0.50	< 1.0
Total VOCs[3]		0	0	0	0

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Location ID: / Sample ID: / Constituents (units in µg/L) / Date:	96 EFFLUENT[2] T96 EFFLUENT (GW) 20180209 2/9/2018	OUTFALL 05 OUTFALL 005 20180115 1/15/2018	OUTFALL 06 OUTFALL 006 20180115 1/15/2018	QAQC FB122817AR1 12/28/2017
Volatile Organic Compounds[1]				
1,1,1-Trichloroethane	< 0.50	< 0.50	< 0.50	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0	--	--	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	< 0.50	< 2.0	< 2.0	< 5.0
1,1,2-Trichloroethane	< 1.0	--	--	< 1.0
1,1-Dichloroethane	< 1.0	--	--	< 1.0
1,1-Dichloroethene	< 0.50	< 0.50	< 0.50	< 1.0
1,2-Dichloroethane	< 1.0	--	--	< 1.0
1,2-Dichloropropane	< 1.0	--	--	< 1.0
2-Butanone (MEK)	< 5.0	--	--	< 10
4-Methyl-2-Pentanone	< 5.0	--	--	< 5.0
Acetone	< 5.0	--	--	**5.7 J**
Benzene	< 1.0	--	--	< 0.50
Bromodichloromethane	< 1.0	--	--	< 1.0
Bromoform	< 1.0	--	--	< 1.0
Bromomethane	< 1.0	--	--	< 2.0
Carbon Disulfide	< 1.0	--	--	< 2.0
Carbon Tetrachloride	< 1.0	--	--	< 1.0
CFC-11	--	--	--	--
CFC-12	--	--	--	--
Chlorobenzene	< 1.0	--	--	< 1.0
Chlorodibromomethane	< 1.0	--	--	< 1.0
Chloroethane	< 1.0	--	--	< 1.0
Chloroform	< 0.50	< 0.50	< 0.50	< 1.0
Chloromethane	< 1.0	--	--	< 1.0
cis-1,2-Dichloroethene	< 0.50	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	< 1.0	--	--	< 1.0
Dichloromethane	< 0.50	< 2.0	< 2.0	< 2.0
Ethylbenzene	< 1.0	--	--	< 1.0
m&p-Xylenes	< 1.0	--	--	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)	< 5.0	--	--	< 5.0
Methyl-tert-butylether	--			--
o-Xylene	< 1.0	--	--	< 1.0
Styrene (Monomer)	< 2.0	--	--	< 1.0
Tetrachloroethene	< 0.50	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	--	--	< 1.0
trans-1,2-Dichloroethene	< 0.50	< 0.50	< 0.50	< 1.0
trans-1,3-Dichloropropene	< 1.0	--	--	< 1.0
Trichloroethene	< 0.50	**1.1**	< 0.50	< 1.0
Vinyl chloride	< 0.50	< 1.0	< 1.0	< 1.0
Total VOCs[3]	0	**1.1**	0	**5.7**

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Location ID: / Sample ID: / Constituents (units in µg/L) / Date:	QAQC TB122817PP1 12/28/2017	QAQC TB010818PP1 1/8/2018	QAQC[2] TB-011518-MG-1 1/15/2018	QAQC TB011618PP1 1/16/2018
Volatile Organic Compounds[1]				
1,1,1-Trichloroethane	< 1.0	< 1.0	< 0.50	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	< 5.0	< 5.0	< 0.50	< 5.0
1,1,2-Trichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	< 1.0	< 1.0	< 0.50	< 1.0
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)	< 10	< 10	< 5.0	< 10
4-Methyl-2-Pentanone	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	< 10	< 10	< 5.0	< 10
Benzene	< 0.50	< 0.50	< 1.0	< 0.50
Bromodichloromethane	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	< 2.0	< 2.0	< 1.0	< 2.0
Carbon Disulfide	< 2.0	< 2.0	< 1.0	< 2.0
Carbon Tetrachloride	< 1.0	< 1.0	< 1.0	< 1.0
CFC-11	--	--	--	--
CFC-12	--	--	--	--
Chlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0
Chlorodibromomethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	< 1.0	< 1.0	< 0.50	< 1.0
Chloromethane	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	< 1.0	< 1.0	< 0.50	< 1.0
cis-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane	< 2.0	< 2.0	< 0.50	< 2.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylenes	< 1.0	< 1.0	< 1.0	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)	< 5.0	< 5.0	< 5.0	< 5.0
Methyl-tert-butylether	--	--	--	--
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	< 1.0	< 1.0	< 2.0	< 1.0
Tetrachloroethene	< 1.0	< 1.0	< 0.50	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 0.50	< 1.0
trans-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	< 1.0	< 1.0	< 0.50	< 1.0
Vinyl chloride	< 1.0	< 1.0	< 0.50	< 1.0
Total VOCs[3]	0	0	0	0

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Location ID: / Sample ID: / Date: / Constituents (units in µg/L)	QAQC TB012418PP1 1/24/2018	QAQC FB012418PP1 1/24/2018	QAQC[2] TB-020918-AR-1 2/9/2018
Volatile Organic Compounds[1]			
1,1,1-Trichloroethane	< 1.0	< 1.0	< 0.50
1,1,2,2-Tetrachloroethane	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	< 5.0	< 5.0	< 0.50
1,1,2-Trichloroethane	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	< 1.0	< 1.0	< 0.50
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)	< 10	< 10	< 5.0
4-Methyl-2-Pentanone	< 5.0	< 5.0	< 5.0
Acetone	< 10	< 10	< 5.0
Benzene	< 0.50	< 0.50	< 1.0
Bromodichloromethane	< 1.0	< 1.0	< 1.0
Bromoform	< 1.0	< 1.0	< 1.0
Bromomethane	< 2.0	< 2.0	< 1.0
Carbon Disulfide	< 2.0	< 2.0	< 1.0
Carbon Tetrachloride	< 1.0	< 1.0	< 1.0
CFC-11	--	--	--
CFC-12	--	--	--
Chlorobenzene	< 1.0	< 1.0	< 1.0
Chlorodibromomethane	< 1.0	< 1.0	< 1.0
Chloroethane	< 1.0	< 1.0	< 1.0
Chloroform	< 1.0	< 1.0	< 0.50
Chloromethane	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	< 1.0	< 1.0	< 0.50
cis-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0
Dichloromethane	< 2.0	< 2.0	< 0.50
Ethylbenzene	< 1.0	< 1.0	< 1.0
m&p-Xylenes	< 1.0	< 1.0	< 1.0
Methyl N-Butyl Ketone (2-Hexanone)	< 5.0	< 5.0	< 5.0
Methyl-tert-butylether	--	--	--
o-Xylene	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	< 1.0	< 1.0	< 2.0
Tetrachloroethene	< 1.0	< 1.0	< 0.50
Toluene	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 0.50
trans-1,3-Dichloropropene	< 1.0	< 1.0	< 1.0
Trichloroethene	< 1.0	< 1.0	< 0.50
Vinyl chloride	< 1.0	< 1.0	< 0.50
Total VOCs[3]	0	0	0

Notes and Abbreviations on last page.

Table 1.
Concentrations of Volatile Organic Compounds
Operable Unit 2, Northrop Grumman Systems Corporation
Bethpage, New York

Notes and Abbreviations:

(1) Sample analysis by VOC Method 8260C unless otherwise noted.

(2) Sample analysis by VOC Method 624.

(3) Results rounded to two significant figures.

Results validated following protocols specified in OU2 Groundwater Monitoring Plan (ARCADIS 2016), or as received as final from the laboratory as of the end of the AOC reporting period.

--	Not Analyzed
3.6	Bold value indicates a detection
µg/L	Micrograms per liter
D	Sample was diluted
<1.0	Constituent not detected above its laboratory quantification limit.
OU2	Operable Unit 2
FB	Field Blank
J	Value is estimated concentration
QAQC	Quality Assurance/Quality Control sample
TB	Trip blank
VOC	Volatile Organic Compound

HWD 10208
HWD 8779
FORMER OXY/RUCO POLYMER SITE
(107)
PLANT 111
PLANT 110
PLANT 115
PLANT 21
PLANT 37
PLANT 35
PLANT 15
PLANT 14
PLANT 26
PLANT 30
BETHPAGE COMMUNITY PARK
NWIRP SITE (FORMER NAVY SITE)
PLANT 12
PLANT 12A
PLANT 3
HN-24I
HN-24S
FW-03
PLANT 10
WT
HN-42S
HN-42I
FARMERS AVENUE
BWD 8768
BWD 8767
HAYPATH ROAD
(PLAINVIEW ROAD)
BETHPAGE COMMUNITY PARK
BETHPAGE HIGH SCHOOL
BWD 9591
GM-13D
GM-16I
GM-16SR
HN-40S
HN-40I
BROADWAY
MW-3-1
WELL 3R
WELL 3
10597
GM-17SR
GM-17I
GM-17D
PLANT 5 BASINS
PLANT 5
OU2 MAIN FACILITY REMEDIAL SYSTEM (TOWER 96)
OU2 MAIN FACILITY REMEDIAL SYSTEM (TOWER 102)
EXISTING OU2 TREATMENT SYSTEMS
MW-1GF
GM-32S
PLANT 2
PLANT 1 FUEL DEPOT AREA
GRUMMAN ROAD
PLANT 1
OU-2 ON-SITE GROUNDWATER REMEDY TREATMENT SYSTEMS
WELL 1
GM-18S
GM-18I
GM-18D
MW-2GF
GM-39DA
GM-39DB
GM-19S
GM-19I
MW-5
MW-4
MW-6
GM-15SR
GM-15I
GM-15D
GM-15D2
GM-73D3
GM-73D2
GM-73D
GM-74I
GM-74D
GM-74D2
GM-74D3
WELL 19
GM-33D2
10631
WELL 18
SOUTH BASINS
WELL 17
10600
GM-78S
GM-78I
GM-78D
GM-78D2
GM-20I
GM-20D
GM-21D2
10633
BLOOMINGDALE ROAD
CENTRAL AVENUE
9921
GM-21S
GM-21I
GM-21D
GM-75D2
10624
10627
GM-79I
GM-79D
10628
LONG ISLAND RAILROAD
GM-37D
GM-37D2
10634
GM-71D2
GM-70D2
GM-35D2
GM-36D
GM-36D2
N-10821
BWD 6915
6916
NORTH WANTAGH AVE.
HICKSVILLE ROAD
STEWART AVENUE
BETHPAGE STATE PARKWAY
SEAFORD - OYSTER BAY EXPRESSWAY
MALLARD ROAD
(GARDINER'S AVENUE)
LOWLAND ROAD
GM-34D
GM-34D2
BWD 8941
3876
GM-38D
GM-38D2
BWD 8004
TOH(LWD) 7076
PIKE
BPOW 1-4
BPOW 1-5
BPOW 1-6
BPOW 1-3
BPOW 1-1
BPOW 1-2
SFWD 7377
SFWD 5148
SFWD 4043
BOUNDARY AVENUE
BPOW 4-2R
BPOW 4-1R
TOH(LWD) 5303
BPOW 2-2
BPOW 2-3
BPOW 2-1
SFWD 6150
BPOW 3-3
BPOW 3-4
BPOW 3-2
BPOW 3-1
NYAW 9338
NYAW 8480
HICKSVILLE

EXPLANATION

- PROPERTY BOUNDARY OF THE FORMER GRUMMAN AEROSPACE SITE
- PROPERTY BOUNDARY OF THE FORMER NAVY SITE
- PROPERTY BOUNDARY OF THE FORMER OXY/RUCO SITE
- LONG ISLAND RAILROAD
- DENOTES NORTHROP GRUMMAN OWNED PROPERTY (AS OF 2009)
- DENOTES NAVY OWNED PROPERTY (AS OF 2014)
- DENOTES FORMER NAVY OWNED PROPERTY
- RECHARGE BASIN
- 10592 OBSERVATION/MONITORING/OUTPOST WELL (1)
- 9591 PUBLIC SUPPLY WELL (2)
- WELL-17 NORTHROP GRUMMAN REMEDIAL WELL
- PART OF ON-SITE REMEDY
- NWIRP NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
- TOH (LWD) TOWN OF HEMPSTEAD LEVITOWN WATER DISTRICT
- HWD HICKSVILLE WATER DISTRICT
- SFWD SOUTH FARMINGDALE WATER DISTRICT
- BWD BETHPAGE WATER DISTRICT
- NYAW NEW YORK AMERICAN WATER

NOTE:

(1) THIS FIGURE DEPICTS OBSERVATION/MONITORING/OUTPOST WELLS INCLUDED IN THE OU-2 GROUNDWATER MONITORING PROGRAM.

(2) PUBLIC SUPPLY WELLS ARE NOT SAMPLED AS A PART OF THE OU2 GROUNDWATER MONITORING PROGRAM AND ARE ONLY FOR REFERENCE.

0 1000' 2000'
APPROXIMATE SCALE IN FEET

NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK
OPERABLE UNIT 2

LOCATIONS OF WELLS AND ON-SITE GROUNDWATER REMEDY

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1