ARCADIS Design & Consultancy for natural and built assets

Mr. Jason Pelton
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ENVIRONMENT

Subject:
Second Quarter 2019 Progress Report
Northrop Grumman Systems Corporation
Operable Unit 2, NYSDEC Site ID # 1-30-003A,
Bethpage, New York

Date:
July 10, 2019

Contact:
Art Zahradnik

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Our ref:
NYNG2019.22TM.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 Second Quarter of 2019 (April through June 2019). Activities planned for Third Quarter of 2019 (July through September 2019) 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 September 2019.

OU2 ACTIVITIES CONDUCTED DURING SECOND QUARTER 2019

OU2 On-Site Containment (ONCT) System

- Continued Operation, Maintenance, and Monitoring (OM&M) of the OU2 ONCT system, including preparation and interim maintenance of South Basins (easternmost)
- Significant shutdown instances this period are summarized below. In each instance the system was fully restored following shutdown.
    - Tower 96 of the ONCT System was shut down for approximately one and a half hours on May 30, 2019 due to power interruption caused by power supplier (Calpine).
    - Well 1 of the Tower 96 System was shut down for approximately 21 hours on June 16, 2019 through June 17, 2019 due to a Variable Frequency Drive failure and subsequent repair.
    - Tower 102 of the ONCT System was shut down for approximately 4 days from May 24, 2019 to May 28, 2019 due to software malfunction troubleshooting and restoration.
- Completed Second Quarter 2019 ONCT system sampling
- Data not routinely reported are provided for the current period as follows:
    - Analytical data associated with Tower 96 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.

Regional Groundwater Monitoring & Outpost Well Monitoring

- Completed Second Quarter 2019 routine OU2 groundwater monitoring activities, including the 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.
- Completed water level collection from wells in Northrop Grumman's routine monitoring program.
- Data not routinely reported are provided for the current period as follows:
    - Analytical data associated with the samples collected from supplemental monitoring wells (GM-21D2, GM-33D2 and GM-75D2) as a part of First Quarter 2019 are included in the attached table. It should be noted that analytical results for supplemental monitoring well GM-20D are not included because this well could not be sampled during the First Quarter 2019 due to accessibility issues.

Also included in the attached table, is the analytical data from the purge water discharged as part of the First Quarter 2019 sampling event (Location ID "DISCHARGE")

- Prepared and submitted First Quarter 2019 sampling event data (Form 1 packages) to NYSDEC
- Began preparation and submittal of Second Quarter 2019 sampling event data (Form 1 packages) to NYSDEC

Northrop Grumman Cooperation with Navy

- Coordinated with Navy and completed Second Quarter 2019 sampling of additional outpost wells and plume monitoring wells. Completed water level collection from wells in Navy's routine monitoring program
- Prepared and submitted First Quarter 2019 sampling event data for Navy owned wells (Form 1 packages) to Navy for distribution

Other

- Prepared and submitted the First Quarter 2019 OU2 Operation, Maintenance, and Monitoring Report
- Prepared and submitted the First Quarter 2019 AOC quarterly progress report

OU2 ACTIVITIES SCHEDULED FOR THIRD QUARTER 2019

OU2 On-Site Containment (ONCT) System

- Continue OM&M of OU2 ONCT system, including continued preparation for and performance of maintenance of South Basins (easternmost) in Third Quarter 2019, dependent on weather
- Conduct Third Quarter 2019 ONCT system sampling

Regional Groundwater Monitoring & Outpost Well Monitoring

- Conduct Third Quarter 2019 sampling from wells in Northrop Grumman's routine monitoring program (BPOW2 well cluster)
- Continue supplemental (quarterly) VOC sampling at Monitoring Wells GM-21D2, GM-33D2, GM-75D2 and GM-20D

Northrop Grumman Cooperation with Navy

- Conduct Third Quarter 2019 sampling from additional outpost wells

Other

- Prepare and submit the Second Quarter 2019 AOC quarterly progress report on July 10, 2019
- Prepare and submit the Second Quarter 2019 Annual OU2 Operation, Maintenance, and Monitoring Report on August 30, 2019

Sincerely,

Arcadis of New York, Inc.

Art Zahradnik
Associate Project Manager

Enclosures

Copies:
Steven Karpinski, NYSDOH
Steven Scharf, NYSDEC
Donald Hesler, NYSDEC
Andrew Guglielmi, 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.
Brian S. Murray, NAVFAC Mid-Atlantic Environmental
Bethpage Public Library
Carlo San Giovanni, Arcadis
David E. Stern, Arcadis
Mike Wolfert, Arcadis
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TABLES

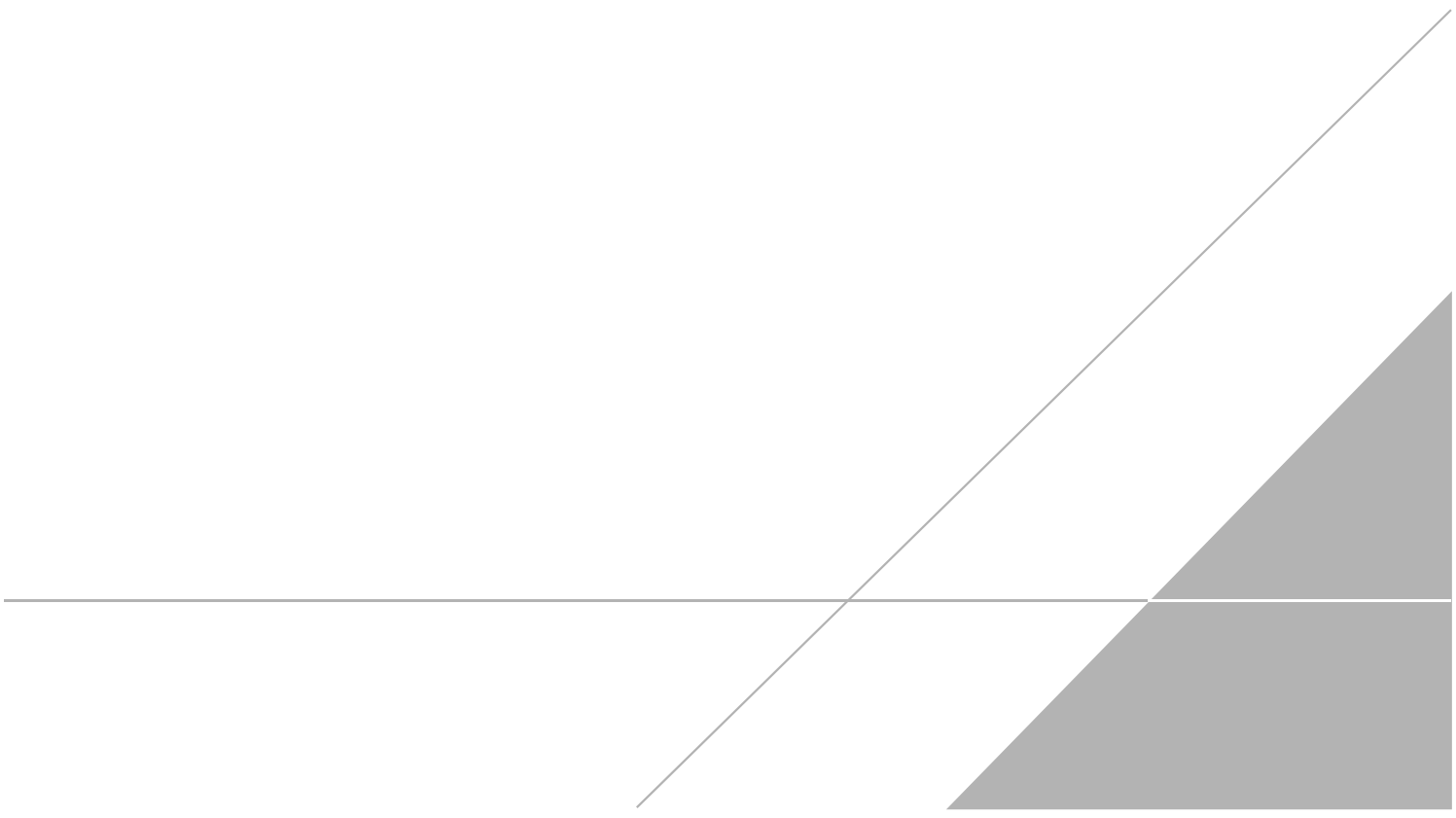

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	GM-21D2 GM-21D2_201900311 3/11/2019	GM-21D2 REP031119CD1 3/11/2019	GM-33D2 GM-33D2_201900313 3/13/2019	GM-75D2 GM-75D2_201900313 3/13/2019	WELL 1 WELL 1_201900313 3/13/2019	WELL 3R WELL 3R_201900313 3/13/2019
Volatile Organic Compounds[1]							
1,1,1-Trichloroethane		< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	**0.50**
1,1,2,2-Tetrachloroethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0	**0.72 J**	**1.4**
1,1-Dichloroethene		< 1.0	< 1.0	< 1.0	< 1.0	**2.3**	**3.3**
1,2-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		< 1.0	< 1.0	< 1.0	< 1.0	**4.5**	< 1.0
2-Butanone (MEK)		< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone(MIBK)		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acetone		< 10	< 10	< 10	< 10	< 10	< 10
Benzene		< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane		< 2.0	< 2.0	< 2.0J	< 2.0J	< 2.0	< 2.0
Carbon disulfide		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Carbon tetrachloride		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CFC-11		--	--	--	--	--	--
CFC-12		--	--	--	--	--	--
Chlorobenzene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		< 1.0	< 1.0	< 1.0	< 1.0	**0.48 J**	< 0.50
Chloromethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene		< 1.0	< 1.0	< 1.0	< 1.0	**5.7**	**3.6**
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Freon 113		< 5.0	< 5.0	**2.9 J**	< 5.0	**2.1**	**1.6**
m,p-Xylene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert Butyl Ether		--	--	--	--	--	--
Methylene chloride		< 2.0	< 2.0	< 2.0	< 2.0	< 0.50	< 0.50
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene		**1.0**	**1.0**	**1.1**	< 1.0	**16.6**	**23.6**
Toluene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene		< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50
trans-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene		**8.5**	**8.3**	**11.9**	**20.4**	**561**	**304**
Vinyl chloride		< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	**1.5**
Total VOCs[2]		**10**	**9.0**	**16**	**20**	**590**	**340**
Total TICs		0	0	0	0	0	0

Notes and abbreviations on last page.

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID:	96 EFFLUENT	WELL 1	WELL 3R	96 EFFLUENT
	Sample ID:	T96 EFFLUENT (GW)_20190313	WELL 1_ 201900402	WELL 3R_ 201900402	T96 EFFLUENT (GW)_20190402
	Date Sampled:	3/13/2019	4/2/2019	4/2/2019	4/2/2019
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		< 0.50	< 0.50	**0.62**	< 0.50
1,1,2,2-Tetrachloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		< 1.0	**0.81 J**	**1.6**	< 1.0
1,1-Dichloroethene		< 0.50	**2.6**	**4.0**	< 0.50
1,2-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		< 1.0	**5.0**	< 1.0	< 1.0
2-Butanone (MEK)		< 10	< 10	< 10	< 10
2-Hexanone		< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone(MIBK)		< 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
Chloroethane		< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		< 0.50	**0.51**	< 0.50	< 0.50
Chloromethane		< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene		< 0.50	**6.1**	**4.0**	< 0.50
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0
Freon 113		< 0.50	**2.9**	**2.8**	< 0.50
m,p-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert Butyl Ether		--	--	--	--
Methylene chloride		< 0.50	< 0.50	< 0.50	< 0.50
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Styrene		< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene		< 0.50	**17.4**	**27**	< 0.50
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	**544**	**317**	< 0.50
Vinyl chloride		< 0.50	< 0.50	**1.7**	< 0.50
Total VOCs[2]		0	**580**	**360**	0
Total TICs		0	0	0	0

Notes and abbreviations on last page.

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID:	DISCHARGE[3,4]	WELL 1	WELL 3R	96 EFFLUENT
	Sample ID:	DISCHARGE_052819	WELL 1_ 20190531	WELL 3R_ 20190531	T96 EFFLUENT (GW)_20190531
	Date Sampled:	5/28/2019	5/31/2019	5/31/2019	5/31/2019
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		< 1.0	< 0.50	< 0.50	< 0.50
1,1,2,2-Tetrachloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane		< 1.0	**0.67 J**	**1.3**	< 1.0
1,1-Dichloroethene		< 1.0	**2.3**	**3.7**	< 0.50
1,2-Dichloroethane		< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane		< 1.0	**4.6**	< 1.0	< 1.0
2-Butanone (MEK)		< 5.0	< 10	< 10	< 10
2-Hexanone		< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone(MIBK)		< 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
Chloroethane		< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		< 1.0	< 0.50	< 0.50	< 0.50
Chloromethane		< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene		< 1.0	**5.5**	**3.7**	< 0.50
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0
Freon 113		< 2.0	**2.9**	**2.4**	< 0.50
m,p-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert Butyl Ether		< 1.0	--	--	--
Methylene chloride		< 1.0	< 0.50	< 0.50	< 0.50
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Styrene		< 2.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene		< 1.0	**18.7**	**30.1**	< 0.50
Toluene		< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene		< 1.0	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene		**1.3**	**570**	**311**	**0.55**
Vinyl chloride		< 1.0	< 0.50	**1.3**	< 0.50
Total VOCs[2]		**1.0**	**600**	**350**	**1.0**
Total TICs		**--**	0	0	0

Notes and abbreviations on last page.

Table 1
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Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	QAQC TB031119DC1 3/11/2019	QAQC FB031119DC1 3/11/2019	QAQC FB031319DC1 3/13/2019	QAQC TB031319DC1 3/13/2019
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-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)		< 10	< 10	< 10	< 10
2-Hexanone		< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone(MIBK)		< 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
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	< 1.0	< 1.0
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0
Freon 113		< 5.0	< 5.0	< 5.0	< 5.0
m,p-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert Butyl Ether		--	--	--	--
Methylene chloride		< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Styrene		< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene		< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 1.0	< 1.0
Vinyl chloride		< 1.0	< 1.0	< 1.0	< 1.0
Total VOCs[2]		0	0	0	0
Total TICs		0	0	0	0

Notes and abbreviations on last page.

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	QAQC TB-031319-RM-1 3/13/2019	QAQC TB-040219-SC-1 4/2/2019	QAQC TB052819RM2 5/28/2019	QAQC TB-0531119-MG-1 5/31/2019
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		< 0.50	< 0.50	< 1.0	< 0.50
1,1,2,2-Tetrachloroethane		< 1.0	< 1.0	< 1.0	< 1.0
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	< 1.0	< 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)		< 10	< 10	< 5.0	< 10
2-Hexanone		< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone(MIBK)		< 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		--	--	< 2.0	--
CFC-12		--	--	< 2.0	--
Chlorobenzene		< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane		< 1.0	< 1.0	< 1.0	< 1.0
Chloroform		< 0.50	< 0.50	< 1.0	< 0.50
Chloromethane		< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene		< 0.50	< 0.50	< 1.0	< 0.50
cis-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane		< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		< 1.0	< 1.0	< 1.0	< 1.0
Freon 113		< 0.50	< 0.50	< 2.0	< 0.50
m,p-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert Butyl Ether		--	--	< 1.0	--
Methylene chloride		< 0.50	< 0.50	< 1.0	< 0.50
o-Xylene		< 1.0	< 1.0	< 1.0	< 1.0
Styrene		< 1.0	< 1.0	< 2.0	< 1.0
Tetrachloroethene		< 0.50	< 0.50	< 1.0	< 0.50
Toluene		< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene		< 0.50	< 0.50	< 1.0	< 0.50
trans-1,3-Dichloropropene		< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene		< 0.50	< 0.50	< 1.0	< 0.50
Vinyl chloride		< 0.50	< 0.50	< 1.0	< 0.50
Total VOCs[2]		0	0	0	0
Total TICs		0	0	--	**15.1 J**

Notes and abbreviations on last page.

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

Notes and Abbreviations:

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

(2) Results rounded to two significant figures.

(3) The sample is collected from purge water discharged as part of the First Quarter 2019 sampling event.

(4) Purge water discharge sample analysis by VOC Method 624.1.

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
<1.0	Constituent not detected above its laboratory quantification limit.
4.5	Bold value indicates a detection
µg/L	Micrograms per liter
J	Value is estimated concentration
FB	Field Blank
OU2	Operable Unit 2
QAQC	Quality Assurance/Quality Control sample
REP	Blind duplicate sample
TB	Trip Blank
Total TICs	Sum of individual Tentatively Identified Compounds - values are not calibrated
VOC	Volatile Organic Compound

FIGURES

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\BIM\OneDrive - ARCADIS\BIM 360 Docs\NORTHROP GRUMMAN\OU2 ONCT OM&M PROGRAM\2019\01-DWG\NGC-ONCT-ONSITE-GW-REMEDY.dwg LAYOUT: 1 SAVED: 3/26/2019 5:14 PM ACADVER: 23.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 3/26/2019 5:17 PM BY: SANCHEZ, ADRIAN
XREFS: IMAGES: PROJECTNAME: ----
X-LI-NY_R2.ST
X-1496X01

FORMER RUCO POLYMER SITE

NWIRP SITE (FORMER NAVY SITE)

BETHPAGE COMMUNITY PARK

BETHPAGE HIGH SCHOOL

OU-2 ON-SITE GROUNDWATER REMEDY TREATMENT SYSTEMS

OU2 MAIN FACILITY REMEDIAL SYSTEM (TOWER 96)

OU2 MAIN FACILITY REMEDIAL SYSTEM (TOWER 102)

SOUTH BASINS

OU2 OUTFALL 006

OU2 OUTFALL 005

HWD 10208

HWD 8779

BWD 8768

BWD 8767

BWD 9591

FW-03

HN-24I
HN-24S

HN-42S
HN-42I

HN-40S
HN-40I

GM-13D

GM-16I
GM-16SR

MW-3-1

WELL 3R

WELL 3

10597

GM-17SR
GM-17I
GM-17D

MW-1GF

GM-32S

PLANT 2

WELL 1

GM-39DA
GM-39DB

MW-2GF

GM-18S
GM-18I
GM-18D

GM-73D3
GM-73D2
GM-73D

GM-33D2
10631

WELL-17

WELL-18

WELL-19

10600

GM-78S
GM-78I
GM-78D
GM-78D2

MW-3R

GM-20I
GM-20D

GM-21D2

10633

9921

GM-75D2
10624

10627

GM-21S
GM-21I
GM-21D

GM-19S
GM-19I

MW-5
MW-6
MW-4

GM-74I
GM-74D
GM-74D2
GM-74D3

GM-15SR
GM-15I
GM-15D
GM-15D2

GM-79I
GM-79D

10628

GM-37D
GM-37D2

10634

GM-71D2

GM-70D2

GM-35D2

GM-36D
GM-36D2

N-10821

BWD 6915
BWD 6916

BWD 8941
3876

GM-38D
GM-38D2

BWD 8004

GM-34D
GM-34D2

TOH(LWD) 7076

BPOW 4-2R

BPOW 4-1R

TOH(LWD) 5303

BPOW 3-3
BPOW 3-4

BPOW 3-2
BPOW 3-1

NYAW 9338
NYAW 8480

BPOW 2-2
BPOW 2-3
BPOW 2-1

SFWD 6150

BPOW 1-4
BPOW 1-5
BPOW 1-6
BPOW 1-3
BPOW 1-1
BPOW 1-2

SFWD 7377
SFWD 5148
SFWD 4043

HAYPATH ROAD

FARMERS AVENUE

(PLAINVIEW ROAD)

BROADWAY

GRUMMAN ROAD

LONG ISLAND RAILROAD

CENTRAL AVENUE

BLOOMINGDALE ROAD

NORTH WANTAGH AVE.

HICKSVILLE ROAD

STEWART AVENUE

SEAFORD - OYSTER BAY EXPRESSWAY

BETHPAGE STATE PARKWAY

MALLARD ROAD

(GARDINER'S AVENUE)

LOWLAND ROAD

PIKE

BOUNDARY AVENUE

(107)

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 OF WELLS AND ON-SITE GROUNDWATER REMEDY

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1