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

ENVIRONMENT

Date:
January 10, 2020

Contact:
Art Zahradnik

Phone:
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Email:
art.zahradnik@arcadis.com

Our ref:
30017989.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 Fourth Quarter of 2019 (October through December 2019). Activities planned for the First Quarter of 2020 (January through March 2020) are also described, as applicable.

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 March 2020.

OU2 ACTIVITIES CONDUCTED DURING FOURTH QUARTER 2019

OU2 On-Site Containment (ONCT) System

- Continued Operation, Maintenance, and Monitoring (OM&M) of the OU2 ONCT system, including maintenance of the South Basins, and rehabilitation of Well 3R, which generally included chemical redevelopment and disinfection of the well, post-rehabilitation video log, and extension of the drop pipe by 20 feet.
- Completed routine Fourth Quarter 2019 ONCT system sampling.
- Analytical data associated with Tower 96 Effluent and monthly sampling of ONCT Tower 96 system Remedial Well 1 which are not routinely reported are provided in Table 1. Well locations are shown on Figure 1.
- Significant shutdown instances this period are summarized below. In each instance the system was fully restored following shutdown.
    - Well 19 of the Tower 102 System was shut down from October 8 to October 10, 2019 due to a VFD internal fan failure and subsequent replacement.
    - Well 3R of the Tower 96 System was shut down from October 10 to December 13, 2019 for a scheduled well rehabilitation effort.
    - Tower 102 was shut down from December 3 to December 14, 2019 to accommodate scheduled sluice gate repairs at the South Basins.
    - Tower 102 was shut down from December 16 to December 17, 2019 to accommodate scheduled sluice gate repairs at the South Basins .
    - Tower 102 was shut down from December 19 to December 23, 2019 to accommodate scheduled sluice gate repairs at the South Basins.

Regional Groundwater Monitoring & Outpost Well Monitoring

- Initiated and completed routine Fourth Quarter 2019 OU2 groundwater monitoring activities including collection of semi-annual water levels.
- Completed Fourth Quarter 2019 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 the 2017 ONCT South Basins maintenance activities.
- Data not routinely reported are provided for the current period as follows:
    - Analytical data associated with the samples collected from supplemental monitoring wells (GM-20D, GM-21D2, GM-33D2 and GM-75D2) during the Third Quarter 2019 are included in Table 1. Analytical data associated with the sample collected from Monitoring Well GM-20D during the Fourth Quarter 2019 is also included in

Table 1. Fourth Quarter 2019 data from the remaining supplemental Monitoring Wells GM-21D2, GM-33D2 and GM-75D2 will be reported in the OU2 2019 Annual Operation, Maintenance and Monitoring Report as these wells are sampled routinely during the fourth quarter.

- Analytical data associated with the samples collected from the purge water discharged as part of the Third and Fourth Quarter 2019 sampling events (Location ID "Discharge").

- Prepared and submitted Third Quarter 2019 and Fourth Quarter 2019 sampling event data (Form 1 packages) to NYSDEC.

Northrop Grumman Cooperation with Navy

- Coordinated with Navy and completed Fourth Quarter 2019 routine sampling of additional outpost wells, including collection of semi-annual water levels.
- Prepared and submitted the Third Quarter 2019 sampling event data for Navy-owned wells (Form 1 packages and data reports) to Navy for distribution.

Other

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

OU2 ACTIVITIES SCHEDULED FOR FIRST QUARTER 2020

OU2 ONCT System

- Continue OM&M of OU2 ONCT system.
- Conduct the routine First Quarter 2020 ONCT system sampling.

Regional Groundwater Monitoring & Outpost Well Monitoring

- Conduct the First Quarter 2020 sampling from wells in Northrop Grumman's routine monitoring program (BPOW2 well cluster).

Northrop Grumman Cooperation with Navy

- Conduct the First Quarter 2020 sampling of additional outpost wells.

Other

- Prepare and submit the Fourth Quarter 2019 AOC quarterly progress report on January 10, 2020.

- Prepare and submit the 2019 Annual OU2 Operation, Maintenance and Monitoring Report by March 31, 2020.

Sincerely,

Arcadis of New York, Inc.

Art Zahradnik
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
Chris Engler, Arcadis
Mike Wolfert, Arcadis
File, Arcadis

TABLES

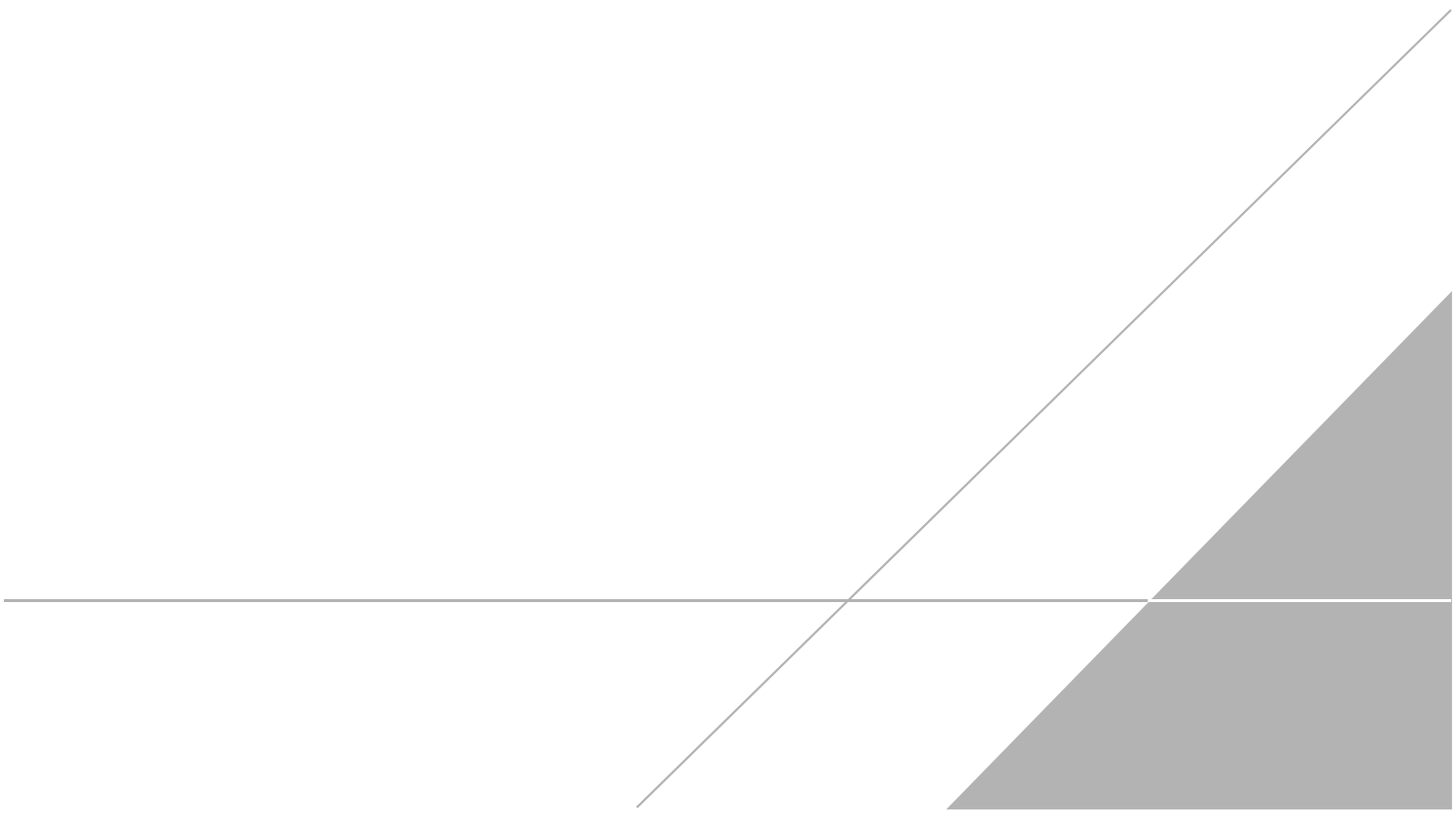

Table 1
Summary of Analytical Data
Operable Unit 2,
Northrop Grumman Systems Corporation
Bethpage, New York

ARCADIS Design & Consultancy for natural and built assets

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	96 EFFLUENT / 96 EFFLUENT / 10/15/2019	96 EFFLUENT / 96 EFFLUENT / 11/15/2019	GM-20D / GM-20D / 9/10/2019	GM-20D / GM-20D / 11/13/2019
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		<0.50	<0.50	<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 (Freon 113)		<0.50	<0.50	<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		<0.50	<0.50	<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
4-Methyl-2-Pentanone		<5	<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	<2.0J	< 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		<0.50	<0.50	<1.0	< 1.0
Chloromethane		<1.0	<1.0	<1.0	< 1.0
cis-1,2-Dichloroethene		<0.50	<0.50	<1.0	< 1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	< 1.0
Dichloromethane		<0.50	<0.50	<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		<0.50	<0.50	<1.0	< 1.0
Toluene		<1.0	<1.0	<1.0	< 1.0
trans-1,2-Dichloroethene		<0.50	<0.51	<1.0	< 1.0
trans-1,3-Dichloropropene		<1.0	<1.1	<1.0	< 1.0
Trichloroethene		<0.50	<0.50	**0.54 J**	< 1.0
Vinyl chloride		<0.50	<0.50	<1.0	< 1.0
Total VOCs[2]		0	0	**0.54**	0

Notes and abbreviations on last page.

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

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	GM-21D2 / GM-21D2 / 9/10/2019	GM-21D2 / REP091019DC / 9/10/2019	GM-33D2 / GM-33D2 / 9/11/2019	GM-75D2 / GM-75D2 / 9/11/2019
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-trichloro-1,2,2-trifluoroethane (Freon 113)		<5.0	<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)		<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		<2.0J	<2.0J	<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	<1.0J	<1.0J
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
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		**1.0**	**0.98 J**	<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		**7.0**	**7.2**	**7.3**	**15.8**
Vinyl chloride		<1.0	<1.0	<1.0	<1.0
Total VOCs[2]		**8.0**	**8.2**	**7.3**	**16**

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:	WELL 1 / WELL 1 / 10/15/2019	WELL 1 / WELL 1 / 11/15/2019	DISCHARGE[3, 4] / DISCHARGE / 9/12/2019	DISCHARGE[3, 4] / DISCHARGE / 10/22/2019	DISCHARGE[3, 4] / DISCHARGE / 11/13/2019
Volatile Organic Compounds[1]						
1,1,1-Trichloroethane		<0.50	**0.28 J**	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)		**2.8**	**3.3**	<2.0	<2.0	<2.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		**0.64 J**	**0.77 J**	<1.0	<1.0	<1.0
1,1-Dichloroethene		**0.83**	**2.6**	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		**3.8**	**4.3**	<1.0	<1.0	<1.0
2-Butanone (MEK)		<10	<10	<5.0	<5.0	<5.0
4-Methyl-2-Pentanone		<5.0	<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<5.0	<5.0	<5.0
Benzene		<0.50	<0.50	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane		<2.0	<2.0	<1.0	<1.0	<1.0
Carbon Disulfide		<2.0	<2.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0
CFC-11		--	--	<2.0	<2.0	<2.0
CFC-12		--	--	<2.0	<2.0	<2.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0
Chlorodibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<0.50	**0.57**	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**5.0**	**5.8**	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0
Dichloromethane		<0.50	<0.50	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0
m&p-Xylenes		<1.0	<1.0	<1.0	<1.0	<1.0
Methyl N-Butyl Ketone (2-Hexanone)		<5.0	<5.0	<5.0	<5.0	<5.0
Methyl-tert-butylether		--	--	<1.0	<1.0	<1.0
o-Xylene		<1.0	<1.0	<1.0	<1.0	<1.0
Styrene (Monomer)		<1.0	<1.0	<2.0	<2.0	<2.0
Tetrachloroethene		**14.0**	**15.8**	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<0.50	<0.50	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene		**525**	**639**	**0.76 J**	**1.2**	**4.8**
Vinyl chloride		<0.50	<0.50	<1.0	<1.0	<1.0
Total VOCs[2]		**550**	**670**	**0.76**	**1.2**	**4.8**

Notes and abbreviations on last page.

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

Constituents (units in µg/L)	Location ID: / Sample ID: / Date Sampled:	QAQC TB091019DC 9/10/2019	QAQC FB091019DC 9/10/2019	QAQC TB091119MW 9/11/2019	QAQC FB091119MW 9/11/2019
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-trichloro-1,2,2-trifluoroethane (Freon 113)		<5.0	<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)		<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	<2.0J	<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	<1.0J	<1.0J
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
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		<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

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-10152019-RA-01 10/15/2019	QAQC FB111319CK1 11/13/2019	QAQC TB111319CK1 11/13/2019	QAQC TB-111519-RA-1 11/15/2019
Volatile Organic Compounds[1]					
1,1,1-Trichloroethane		<0.50	< 1.0	< 1.0	<0.50
1,1,2,2-Tetrachloroethane		<1.0	< 1.0	< 1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)		<0.50	< 5.0	< 5.0	<0.50
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	< 1.0	< 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	< 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		<0.50	< 1.0	< 1.0	<0.50
Chloromethane		<1.0	< 1.0	< 1.0	<1.0
cis-1,2-Dichloroethene		<0.50	< 1.0	< 1.0	<0.50
cis-1,3-Dichloropropene		<1.0	< 1.0	< 1.0	<1.0
Dichloromethane		<0.50	< 2.0	< 2.0	<0.50
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		<0.50	< 1.0	< 1.0	<0.50
Toluene		<1.0	< 1.0	< 1.0	<1.0
trans-1,2-Dichloroethene		<0.50	< 1.0	< 1.0	<0.50
trans-1,3-Dichloropropene		<1.0	< 1.0	< 1.0	<1.0
Trichloroethene		<0.50	< 1.0	< 1.0	<0.50
Vinyl chloride		<0.50	< 1.0	< 1.0	<0.50
Total VOCs[2]		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

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 monitoring well purge water discharged as part of the Third Quarter or Fourth Quarter2019 sampling events.
(4) Monitoring well 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.
2.8	Bold value indicates a detection
µg/L	Micrograms per liter
FB	Field Blank
J	Value is estimated concentration
OU2	Operable Unit 2
QAQC	Quality Assurance/Quality Control sample
REP	Blind duplicate sample.
TB	Trip Blank
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