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ENVIRONMENT

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November 10, 2015

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Our ref:
NY001496.0114.LARA5

Subject:
October 2015 Monthly Progress Report
Northrop Grumman Systems Corporation
Operable Unit 2, NYSDEC Site ID # 1-30-003A,
Bethpage, New York

Dear Henry and Steve:

In accordance with Appendix “A”, Section III, C 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 month of October 2015. Activities planned for November 2015 are also discussed.

This progress report provides data validated in the current period that are not included in routine reporting, as applicable. Validated data submitted as part of routine reporting (e.g., quarterly reports as specified in the Groundwater Monitoring Plan) are not included to avoid redundancy.

Since this is an ongoing remediation project, Northrop Grumman would like to submit future progress reports on a quarterly frequency.

OU2 ACTIVITIES CONDUCTED DURING OCTOBER 2015

OU2 On-Site Containment (ONCT) System

- Continued Operation, Maintenance and Monitoring (OM&M) of the OU2 ONCT system
- Initiated preparation of Third Quarter 2015 Groundwater Monitoring data report
- Performed water sampling to support eventual disposal of Well 1 decon water, generated as part of drop pipe cleaning during recent well maintenance activities
- Data not routinely reported are provided for the current period as follows:
    - Validated analytical data associated with September 2015 sampling Tower 96 Influent and Tower 102 Influent and sampling data for Well 1 Decon Water are provided in Table 1

Regional Groundwater Monitoring & Outpost Well Monitoring

- Continued Fourth Quarter 2015 groundwater monitoring, including conducting semi-annual water-level monitoring
- Conducted well re-development activities at Monitoring Well N-10624
- Initiated preparation of Third Quarter 2015 Groundwater Monitoring Report

Northrop Grumman Cooperation with Navy

- Continued to work cooperatively with the Navy through periodic communications and meetings while NYSDEC is in process of reviewing the previously submitted Plan for Coordination with the U.S. Navy on the RE-108D2 Hot Spot (June 30 2015), including:
    - Continued communications with Navy to develop a plan to address the elevated levels of impacted groundwater identified in the vicinity of Well RE-108D2

- Continued sampling of additional outpost wells installed by Navy as requested by Navy (in May 6, 2015 letter)

Other

- Prepared and submitted the September 2015 AOC monthly progress report
- Provided sampling field support to NYSDEC as part of NYSDEC's radiological sampling plan

OU2 ACTIVITIES SCHEDULED FOR NOVEMBER 2015

OU2 On-Site Containment (ONCT) System

- Continue OM&M of OU2 ONCT system
- Complete and submit Third Quarter 2015 Groundwater Monitoring data report

Regional Groundwater Monitoring & Outpost Well Monitoring

- Continue Fourth Quarter 2015 groundwater monitoring
- Complete and submit Third Quarter 2015 Groundwater Monitoring data report

Northrop Grumman Cooperation with Navy

- Continue to work cooperatively with the Navy through periodic communications and meetings while NYSDEC is in process of reviewing the previously submitted Plan for Coordination with the U.S. Navy on the RE-108D2 Hot Spot (June 30, 2015), including:

- Continue with communications and meetings supporting the Navy plan to address the elevated levels of impacted groundwater identified in the vicinity of Well RE-108D2

- Sample new/additional outpost wells installed by Navy as requested in May 6, 2015 communication

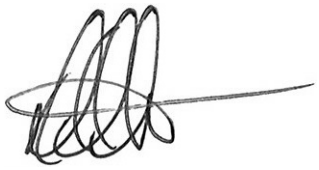
Other

- Submit October 2015 AOC monthly progress report

- Provide field sampling support to NYSDEC as part of NYSDEC's radiological sampling plan

Sincerely,

Arcadis of New York, Inc.



David Stern
Senior Hydrogeologist/Associate Project Manager

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Enclosures

Table 1. Concentrations of Constituents Sampled at Tower 96 Influent, Tower 102 Influent & Well 1 Decon Water Validated in September and October 2015, Operable Unit 2, Bethpage, New York.

Constituent	Location:	95 INFLUENT	102 INFLUENT	WELL 1 DECON WATER	QAQC
	Sample ID:	T96 INFLUENT	T102 INFLUENT	WELL 1 DECON WATER	TB-100615-KD2
(Units in µg/L)	Date:	9/8/2015	9/9/2015	10/6/2015	10/6/2015
Volitile Organic Compounds (PPL/TCL)[1]					
1,1,1-Trichloroethane		--	--	<1.0 U	<1.0 U
1,1,2,2-Tetrachloroethane		--	--	<1.0 U	<1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane		--	--	<5.0 U	<5.0 U
1,1,2-Trichloroethane		--	--	<1.0 U	<1.0 U
1,1-Dichloroethane		--	--	<1.0 U	<1.0 U
1,1-Dichloroethene		--	--	<1.0 U	<1.0 U
1,2,3-Trichlorobenzene		--	--	<1.0 U	<1.0 U
1,2,4-Trichlorobenzene		--	--	<1.0 U	<1.0 U
1,2-Dibromo-3-chloropropane		--	--	<2.0 U	<2.0 U
1,2-Dibromoethane		--	--	<1.0 U	<1.0 U
1,2-Dichlorobenzene		--	--	<1.0 U	<1.0 U
1,2-Dichloroethane		--	--	<1.0 U	<1.0 U
1,2-Dichloropropane		--	--	<1.0 U	<1.0 U
1,3-Dichlorobenzene		--	--	<1.0 U	<1.0 U
1,4-Dichlorobenzene		--	--	<1.0 U	<1.0 U
2-Butanone (MEK)		--	--	<10 U	<10 U
2-Chloroethyl vinyl ether		--	--	<10 U	<10 U
4-Methyl-2-Pentanone		--	--	<5.0 U	<5.0 U
Acetone		--	--	**14.6**	<10 U
Acrolein		--	--	<50 U	<50 U
Acrylonitrile		--	--	<50 U	<50 U
Benzene		--	--	<0.50 U	<0.50 U
Bromochloromethane		--	--	<1.0 U	<1.0 U
Bromodichloromethane		--	--	<1.0 U	<1.0 U
Bromoform		--	--	<1.0 U	<1.0 U
Bromomethane		--	--	<2.0 U	<2.0 U
Carbon Disulfide		--	--	<2.0 U	<2.0 U
Carbon Tetrachloride		--	--	<1.0 U	<1.0 U
CFC-11		--	--	<2.0 U	<2.0 U
CFC-12		--	--	<2.0 U	<2.0 U
Chlorobenzene		--	--	<1.0 U	<1.0 U
Chlorodibromomethane		--	--	<1.0 U	<1.0 U
Chloroethane		--	--	<1.0 U	<1.0 U
Chloroform		--	--	<1.0 U	<1.0 U
Chloromethane		--	--	<1.0 U	<1.0 U
cis-1,2-Dichloroethene		--	--	<1.0 U	<1.0 U
cis-1,3-Dichloropropene		--	--	<1.0 U	<1.0 U
Cyclohexane		--	--	<5.0 U	<5.0 U
Dichloromethane		--	--	<2.0 U	<2.0 U
Ethylbenzene		--	--	<1.0 U	<1.0 U
Isopropylbenzene		--	--	<1.0 U	<1.0 U
m,p-Xylene		--	--	<1.0 U	<1.0 U
Methyl Acetate		--	--	<5.0 U	<5.0 U
Methyl N-Butyl Ketone (2-Hexanone		--	--	<5.0 U	<5.0 U
Methylcyclohexane		--	--	<5.0 U	<5.0 U
Methyl-tert-butylether		--	--	<1.0 U	<1.0 U
o-Xylene		--	--	<1.0 U	<1.0 U
Styrene (Monomer)		--	--	<1.0 U	<1.0 U
Tetrachloroethene		--	--	<1.0 U	<1.0 U
Toluene		--	--	<1.0 U	<1.0 U
Total Xylenes		--	--	<1.0 U	<1.0 U
trans-1,2-Dichloroethene		--	--	<1.0 U	<1.0 U
trans-1,3-Dichloropropene		--	--	<1.0 U	<1.0 U
Trichloroethene		--	--	<1.0 U	<1.0 U
Vinyl chloride		--	--	<1.0 U	<1.0 U

Table 1. Concentrations of Constituents Sampled at Tower 96 Influent, Tower 102 Influent & Well 1 Decon Water Validated in September and October 2015, Operable Unit 2, Bethpage, New York.

Constituent (Units in µg/L)	Location: Sample ID: Date:	95 INFLUENT T96 INFLUENT 9/8/2015	102 INFLUENT T102 INFLUENT 9/9/2015	WELL 1 DECON WATER WELL 1 DECON WATER 10/6/2015	QAQC TB-100615-KD2 10/6/2015
Total Metals[2]					
Arsenic		--	--	<3.0 U	--
Barium		--	--	<200 U	--
Beryllium		--	--	<1.0 U	--
Cadmium		--	--	<3.0 U	--
Calcium		--	--	**8870**	--
Chromium		--	--	**22.0**	--
Cobalt		--	--	<50 U	--
Copper		--	--	**52.2**	--
Iron		--	--	**25600**	--
Lead		--	--	**123**	--
Magnesium		--	--	<5000 U	--
Manganese		--	--	**655**	--
Mercury		--	--	<0.20 U	--
Nickel		--	--	**10.7**	--
Potassium		--	--	<10000 U	--
Selenium		--	--	<10 U	--
Silver		--	--	<10 U	--
Sodium		--	--	**15900**	--
Thallium		--	--	<2.0 U	--
Vanadium		--	--	<50 U	--
Zinc		--	--	**3950**	--
Metals Analysis, TCLP Leachate[3]					
Arsenic		--	--	<500 U	--
Barium		--	--	<1000 U	--
Cadmium		--	--	<25 U	--
Chromium		--	--	<50 U	--
Lead		--	--	<500 U	--
Mercury		--	--	<0.20 U	--
Selenium		--	--	<500 U	--
Silver		--	--	<50 U	--
Semi-Volatile Organic Compounds (PPL/TCL)[4]					
1,1-Biphenyl		--	--	<1.1 U	--
1,2,4,5-Tetrachlorobenzene		--	--	<2.2 U	--
1,2-Dichlorobenzene		--	--	<1.1 U	--
1,2-Diphenylhydrazine		--	--	<1.1 U	--
1,3-Dichlorobenzene		--	--	<1.1 U	--
1,4-Dichlorobenzene		--	--	<1.1 U	--
1,4-Dioxane		--	--	**3.6**	--
2,2-Oxybis(1-Chloropropane)		--	--	<2.2 U	--
2,3,4,6-Tetrachlorophenol		--	--	<5.5 U	--
2,4,5-Trichlorophenol		--	--	<5.5 U	--
2,4,6-Trichlorophenol		--	--	<5.5 U	--
2,4-Dichlorophenol		--	--	<2.2 U	--
2,4-Dimethylphenol		--	--	<5.5 U	--
2,4-Dinitrophenol		--	--	<11 U	--
2,4-Dinitrotoluene		--	--	<1.1 U	--
2,6-Dinitrotoluene		--	--	<1.1 U	--
2-Chloronaphthalene		--	--	<2.2 U	--
2-Chlorophenol		--	--	<5.5 U	--
2-Methyl-4,6-dinitrophenol		--	--	<5.5 U	--
2-Methylnaphthalene		--	--	<1.1 U	--
2-Methylphenol		--	--	<2.2 U	--
2-Nitroaniline		--	--	<5.5 U	--

Table 1. Concentrations of Constituents Sampled at Tower 96 Influent, Tower 102 Influent & Well 1 Decon Water Validated in September and October 2015, Operable Unit 2, Bethpage, New York.

Constituent (Units in µg/L)	Location: / Sample ID: / Date:	95 INFLUENT / T96 INFLUENT / 9/8/2015	102 INFLUENT / T102 INFLUENT / 9/9/2015	WELL 1 DECON WATER / WELL 1 DECON WATER / 10/6/2015	QAQC / TB-100615-KD2 / 10/6/2015
Semi-Volatile Organic Compounds (PPL/TCL)[4] (cont'd)					
2-Nitrophenol		--	--	<5.5 U	--
3,3-Dichlorobenzidine		--	--	<2.2 U	--
3-Methylphenol, 4-Methylphenol		--	--	<2.2 U	--
3-Nitroaniline		--	--	<5.5 U	--
4-Bromophenyl phenyl ether		--	--	<2.2 U	--
4-Chloro-3-Methylphenol		--	--	<5.5 U	--
4-Chlorophenyl phenyl ether		--	--	<2.2 U	--
4-Nitroaniline		--	--	<5.5 U	--
4-Nitrophenol		--	--	<11 U	--
Acenaphthene		--	--	<1.1 U	--
Acenaphthylene		--	--	<1.1 U	--
Acetophenone		--	--	<2.2 U	--
Anthracene		--	--	<1.1 U	--
Atrazine		--	--	<2.2 U	--
Benzaldehyde		--	--	<5.5 U	--
Benzidine		--	--	<11 U	--
Benzo(a)anthracene		--	--	<1.1 U	--
Benzo(a)pyrene		--	--	<1.1 U	--
Benzo(b)fluoranthene		--	--	<1.1 U	--
Benzo(g,h,i)perylene		--	--	<1.1 U	--
Benzo(k)fluoranthene		--	--	<1.1 U	--
Benzyl Alcohol		--	--	<2.2 U	--
bis(2-Chloroethoxy)methane		--	--	<2.2 U	--
bis(2-Chloroethyl)ether		--	--	<2.2 U	--
bis(2-Ethylhexyl)phthalate		--	--	<2.2 U	--
Butyl benzyl phthalate		--	--	<2.2 U	--
Caprolactam		--	--	**8.5**	--
Carbazole		--	--	<1.1 U	--
Chrysene		--	--	<1.1 U	--
Dibenzo(a,h)anthracene		--	--	<1.1 U	--
Dibenzofuran		--	--	<5.5 U	--
Diethyl phthalate		--	--	<2.2 U	--
Dimethyl phthalate		--	--	<2.2 U	--
Di-n-butyl phthalate		--	--	<2.2 U	--
Di-n-octyl phthalate		--	--	<2.2 U	--
Fluoranthene		--	--	<1.1 U	--
Fluorene		--	--	<1.1 U	--
Hexachloro-1,3-butadiene		--	--	<1.1 U	--
Hexachlorobenzene		--	--	<1.1 U	--
Hexachlorocyclopentadiene		--	--	<11 U	--
Hexachloroethane		--	--	<2.2 U	--
Indeno(1,2,3-cd)pyrene		--	--	<1.1 U	--
Isophorone		--	--	<2.2 U	--
Naphthalene		--	--	<1.1 U	--
Nitrobenzene		--	--	<2.2 U	--
N-Nitrosodimethylamine		--	--	<2.2 U	--
n-Nitrosodi-n-propylamine		--	--	<2.2 U	--
N-nitrosodiphenylamine		--	--	<5.5 U	--
p-Chloroaniline		--	--	<5.5 U	--
Pentachlorophenol		--	--	<5.5 U	--
Phenanthrene		--	--	<1.1 U	--
Phenol		--	--	<2.2 U	--
Pyrene		--	--	<1.1 U	--
1,4-Dioxane[5]		**3.8**	**2.8**	--	--

Notes & abbreviations on last page

Table 1. Concentrations of Constituents Sampled at Tower 96 Influent, Tower 102 Influent & Well 1 Decon Water Validated in September and October 2015, Operable Unit 2, Bethpage, New York.

Notes and Abbreviations:

1. Sample Analysis by Method 8260C.
2. Sample Anaylsis by 6010C and 7470D.
3. Sample Anaylsis 1311/6010C and 1311/7470D.
4. Sample Analysis by Method 8270D.
5. Sample Analysis by Method 8270D-SIM.

Results validated following protocols specified in OU2 Groundwater Monitoring Plan (ARCADIS 2014).

Bold	Constituent detected
--	Not analyzed
µg/L	Micrograms per liter
U	Compound not detected
TB	Trip Blank