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ENVIRONMENT

Mr. Steven M. Scharf, P.E.
Project Engineer
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, New York 12233-7015

Subject:
January to June 2014 Semi-Annual Progress Report
Northrop Grumman Systems Corporation
Operable Unit 3 (OU3), NYSDEC Site ID # 1-30-003A,
Bethpage, New York

Date:
July 11, 2014

Contact:
David Stern

Phone:
631-391-5284

Email:
David.Stern@arcadis-us.com

Our ref:
NY001496.0714.RPTA5

Dear Steve:

In accordance with Section III of Administrative Order on Consent (AOC) Index # W1-0018-04-01, and the May 2011 Work Plan for Modification of AOC Progress Report, this letter reports OU3 activities performed by Northrop Grumman Systems Corporation (Northrop Grumman) during the months from January to June 2014. Activities planned for July to December 2014 are also summarized. In accordance with our approved work plan, these reports will be submitted to the NYSDEC on a semi-annual basis until it is determined that the reports are no longer necessary.

OU3 Activities Conducted During January to June 2014

Bethpage Park Soil Gas Containment System (Formerly Soil Gas IRM)

- Continued Operation, Maintenance, and Monitoring (OM&M) of the Bethpage Park Soil Gas Containment System (BPSGCS)
- Submitted the BPSGCS 2013 Annual and First Quarter 2014 OM&M Reports (February and May 2014) to the NYSDEC

Bethpage Park Groundwater Containment System (Formerly Groundwater IRM)

- Continued OM&M of the Bethpage Park Groundwater Containment System (BPGWCS)
- Submitted the BPGWCS 2013 Annual and First Quarter 2014 OM&M Reports (March and May 2014) to the NYSDEC

Other

- Performed quarterly monitoring rounds for Monitoring Wells MW109-3 and MW111-4 and monthly monitoring rounds for Monitoring Well MW116-5 from January to June 2014. Validated data obtained from the January to June 2014 period are provided in Table 1.

OU3 Activities Scheduled During July to December 2014

Bethpage Park Soil Gas Containment System

- Continue OM&M of the BPSGCS
- Submit OU3 BPSGCS Second and Third Quarter 2014 Reports (August and November 2014) to the NYSDEC

Bethpage Park Groundwater Containment System

- Continue OM&M of the BPGWCS
- Submit OU3 BPGWCS Second and Third Quarter 2014 Reports (August and November 2014) to the NYSDEC

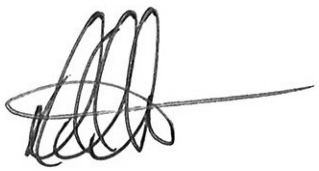
Other

- Perform quarterly monitoring rounds for Monitoring Wells MW109-3 and MW111-4 and monthly monitoring rounds for Monitoring Well MW116-5.

Feel free to call us if you have any questions.

Sincerely,

ARCADIS of New York, Inc.



David E. Stern
Senior Scientist/Associate Project Manager

Enclosures

Copies:
K. Smith, Northrop Grumman
E. Hannon, Northrop Grumman
F. Weber, Northrop Grumman
C. Henry, EMAGIN
C. Stein – USEPA
R. Alvey – USEPA
Bethpage Public Library – Public Repository
C. San Giovanni, ARCADIS
M. Wolfert, ARCADIS
File, ARCADIS

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Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Monitoring Wells, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York.

Sample Location:	MW-109-3	MW-109-3	MW-111-4	MW-111-4	MW-111-4 *
Sample Date:	2/21/2014	5/20/2014	2/28/2014	5/20/2014	5/20/2014
Constituent Name (units in ug/L)					
1,1,1-Trichloroethane	< 13	< 13	**5.0 J**	< 100	< 100
1,1,2,2-Tetrachloroethane	< 13	< 13	< 100	< 100	< 100
1,1,2-Trichloroethane	< 13	< 13	< 100	< 100	< 100
1,1-Dichloroethane	**4.6 J**	**4.6 J**	**17 J**	**17 J**	**17 J**
1,1-Dichloroethene	**1.2 J**	**1.5 J**	**14 J**	**14 J**	**11 J**
1,2-Dichloroethane	**1.4 J**	**1.3 J**	**7.2 J**	**9.2 J**	**8.0 J**
1,2-Dichloropropane	< 13	**0.58 J**	< 100	< 100	< 100
2-Butanone	< 130	< 130	< 1000	< 1000	< 1000
2-Hexanone	< 130	< 130	< 1000	< 1000	< 1000
4-methyl-2-pentanone	< 130	< 130	< 1000	< 1000	< 1000
Acetone	< 130	< 130	< 1000	< 1000	< 1000
Benzene	< 1.8	< 1.8	< 14	< 14	< 14
Bromodichloromethane	< 13	< 13	< 100	< 100	< 100
Bromoform	< 13	< 13	< 100	< 100	< 100
Bromomethane	< 13	< 13	< 100	< 100	< 100
Carbon Disulfide	< 13	< 13	< 100	< 100	< 100
Carbon tetrachloride	< 13	< 13	< 100	< 100	< 100
Chlorobenzene	< 13	< 13	< 100	< 100	< 100
Chlorodifluoromethane (Freon 22)	**1.4 J**	**1.8 J**	< 100	< 100	< 100
Chloroethane	< 13	< 13	< 100	< 100	< 100
Chloroform	**3.6 J**	**3.7 J**	**4.6 J**	< 100	**4.2 J**
Chloromethane	< 13	< 13	< 100	< 100	< 100
cis-1,2-dichloroethene	**330**	**330**	**1100**	**1300**	**1300**
cis-1,3-dichloropropene	< 13	< 13	< 100	< 100	< 100
Dibromochloromethane	< 13	< 13	< 100	< 100	< 100
Dichlorodifluoromethane (Freon 12)	**1.0 J**	**0.95 J**	< 100	< 100	< 100
Ethylbenzene	< 13	< 13	< 100	< 100	< 100
Methyl tert-Butyl Ether	< 13	--	< 100	--	--
Methylene Chloride	< 13	< 13	**8.4 J**	< 100	< 100
Styrene	< 13	< 13	< 100	< 100	< 100
Tetrachloroethene	**2.2 J**	**2.4 J**	**12 J**	**15 J**	**14 J**
Toluene	< 13	< 13	< 100	< 100	< 100
trans-1,2-dichloroethene	**1.1 J**	**0.98 J**	**4.6 J**	< 100	< 100
trans-1,3-dichloropropene	< 13	< 13	< 100	< 100	< 100
Trichloroethylene	**410**	**470**	**3500**	**3100**	**3000**
Trichlorofluoromethane (Freon 11)	< 13	--	< 100	--	--
Trichlorotrifluoroethane (Freon 113)	< 13	< 13	< 100	< 100	< 100
Vinyl Chloride	< 5.0	< 5.0	< 40	< 40	< 40
Xylene-o	< 13	< 13	< 100	< 100	< 100
Xylenes - m,p	< 13	< 13	< 100	< 100	< 100
TVOCs	**760**	**820**	**4700**	**4500**	**4400**

Notes and Abbreviations on last page.

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Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Monitoring Wells, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York.

Sample Location:	MW-116-5	MW-116-5	MW-116-5	MW-116-5	MW-116-5
Sample Date:	12/27/2013	1/23/2014	2/20/2014	3/19/2014	4/21/2014
Constituent Name (units in ug/L)					
1,1,1-Trichloroethane	< 100	< 100	< 100	< 100	< 100
1,1,2,2-Tetrachloroethane	< 100	< 100	< 100	< 100	< 100
1,1,2-Trichloroethane	**5.6 J**	**6.0 J**	**4.4 J**	**5.2 J**	**5.0 J**
1,1-Dichloroethane	< 100	< 100	< 100	< 100	< 100
1,1-Dichloroethene	**7.6 J**	**5.8 J**	**4.2 J**	**5.8 J**	**4.2 J**
1,2-Dichloroethane	**20 J**	**21 J**	**18 J**	**18 J**	**17 J**
1,2-Dichloropropane	**8.4 J**	**7.6 J**	**7.8 J**	**6.6 J**	**5.4 J**
2-Butanone	< 1000	< 1000	< 1000	< 1000	< 1000
2-Hexanone	< 1000	< 1000	< 1000	< 1000	< 1000
4-methyl-2-pentanone	< 1000	< 1000	< 1000	< 1000	< 1000
Acetone	< 1000	< 1000	< 1000	< 1000	< 1000
Benzene	< 14	< 14	< 14	< 14	< 14
Bromodichloromethane	< 100	< 100	< 100	< 100	< 100
Bromoform	< 100	< 100	< 100	< 100	< 100
Bromomethane	< 100	< 100	< 100	< 100	< 100
Carbon Disulfide	< 100	< 100	< 100	< 100	< 100
Carbon tetrachloride	< 100	< 100	< 100	< 100	< 100
Chlorobenzene	< 100	< 100	< 100	< 100	< 100
Chlorodifluoromethane (Freon 22)	< 100	< 100	< 100	< 100	< 100
Chloroethane	< 100	< 100	< 100	< 100	< 100
Chloroform	**30 J**	**28 J**	**25 J**	**25 J**	**25 J**
Chloromethane	< 100	< 100	< 100	< 100	< 100
cis-1,2-dichloroethene	**460**	**430**	**450**	**440**	**390**
cis-1,3-dichloropropene	< 100	< 100	< 100	< 100	< 100
Dibromochloromethane	< 100	< 100	< 100	< 100	< 100
Dichlorodifluoromethane (Freon 12)	< 100	< 100	< 100	< 100	< 100
Ethylbenzene	< 100	< 100	< 100	< 100	< 100
Methyl tert-Butyl Ether	< 100	< 100	< 100	--	--
Methylene Chloride	< 100	< 100	< 100	< 100	**7.0 J**
Styrene	< 100	< 100	< 100	< 100	< 100
Tetrachloroethene	< 100	< 100	< 100	**5.4 J**	< 100
Toluene	< 100	< 100	< 100	< 100	< 100
trans-1,2-dichloroethene	< 100	< 100	**4.6 J**	< 100	< 100
trans-1,3-dichloropropene	< 100	< 100	< 100	< 100	< 100
Trichloroethylene	**2700**	**2800**	**2700**	**2800**	**2700**
Trichlorofluoromethane (Freon 11)	< 100	< 100	< 100	--	--
Trichlorotrifluoroethane (Freon 113)	< 100	< 100	< 100	< 100	< 100
Vinyl Chloride	< 40	< 40	< 40	< 40	< 40
Xylene-o	< 100	< 100	< 100	< 100	< 100
Xylenes - m,p	< 100	< 100	< 100	< 100	< 100
TVOCs	**3200**	**3300**	**3200**	**3300**	**3200**

Notes and Abbreviations on last page.

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Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Monitoring Wells, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York.

Notes:

Results validated following protocols specified in March 2006 RI/FS Work Plan (ARCADIS G&M, Inc. 2006).

Samples analyzed for the TCL VOCs using NYSDEC ASP Method 2000 OLM4.3.

Acronyms:

Bold value indicates a detection.

RI/FS	Remedial Investigation/Feasibility Study
NYSDEC	New York State Department of Environmental Conservation
TCL	Target compound list
VOCs	Volatile Organic Compounds
TVOCs	Total Volatile Organic Compounds
ASP	Analytical services protocol
ug/L	Micrograms per liter
J	Value is estimated
D	Constituent identified from secondary dilution.
*	Quality Assurance and Quality Control (QA/QC) duplicate sample