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New York State Department of Environmental Conservation (NYSDEC)
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Remedial Action, Bureau A
625 Broadway
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ENVIRONMENT

Subject:
February 2009 Monthly Progress Report,
Northrop Grumman Systems Corporation,
Operable Unit 3, NYSDEC Site ID # 1-30-003A, Bethpage, New York

Date:
March 16, 2009

Dear Steve:

Contact:
David Stern

In accordance with Section III of Administrative Order on Consent (AOC) Index # W1-0018-04-01, this letter reports the activities for Operable Unit 3 (OU3) performed by Northrop Grumman Systems Corporation (Northrop Grumman) during the month of February 2009; activities planned for March 2009 are also discussed. This report is the 35th OU3 monthly progress report since the AOC between Northrop Grumman and the New York State Department of Environmental Conservation (NYSDEC) was signed on June 24, 2005.

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Our ref:
NY001464.0909.00007

OU3 Activities Conducted During February 2009

Activities performed this period include:

On- and Off-Site RI/FS

- Completed vertical profile boring (VPB) VP-117 drilling and groundwater sampling (final depth 780 feet below land surface [ft bls]). Validated analytical results are provided in Table 1.
- Completed development of Monitoring Well MW-117-5 (screen zone 737-757 ft bls). Performed planning for proposed Monitoring Well MW-109.
- Completed demobilization and investigation-derived waste (IDW) characterization from VP-117/ MW-117 location
- Preparation for dedicated sampling pump installation at Monitoring Well MW-111-4
- Performed planning for VPB VP-118

Imagine the result

- Continued evaluation of remedial investigation (RI) data and assessment of data gaps
- Continued updates to the regional groundwater model
- Continued preparation of draft Human Health Risk Assessment (HHRA)
- Continued preparation of the Site Area Focused Feasibility Study (FFS) Report
- Completed cost model for possible Site Area FFS alternatives to be used as a decision making tool
- Prepared for and attended monthly conference call with NYSDEC and New York State Department of Health (NYSDOH) on FFS

Soil Gas IRM

- Continued OM&M of the Soil Gas IRM; next scheduled monitoring event March 2009
- Submitted November 2008 monthly OM&M report to NYSDEC and completed December 2008 monthly OM&M report
- Initiated preparation of 2008 Annual OM&M Report

Groundwater IRM

- Performed additional re-development activities for Recovery Well RW-2. Determined Well RW-2 suitable for use in Groundwater IRM as is.
- Continued with selection and/or ordering of selected IRM system items (air stripper, emission control units (ECUs), major instrumentation, extraction well pumps, well vaults, pitless adapters, and pre-engineered building)
- Completed drilling and installation of water quality monitoring wells along Sycamore Avenue
- Continued remedial system construction

Other

- Prepared and submitted January 2009 AOC Monthly Progress Report

OU3 Activities Expected During March 2009

On- and Off-Site RI/FS

- Continue preparation of Site Area FFS Report
- Continue preparation of Site Area HHRA

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- Initiate drilling and sampling of VP-118
- Complete update to regional groundwater model
- Continue evaluation of RI data and assessment of data gaps
- Install dedicated sampling pump in Monitoring Well MW-111-4

Soil Gas IRM

- Continue OM&M of the Soil Gas IRM; next scheduled monitoring event March 2009
- Submit December 2008 monthly OM&M report to NYSDEC
- Complete 2008 Annual OM&M Report

Groundwater IRM

- Continue selection and/or ordering of selected system items
- Continue remedial system construction

Other

- Prepare and submit March 2009 AOC Monthly Progress Report.

Feel free to call us if you have any questions.

Sincerely,

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David E. Stern
Senior Scientist /Associate Project Manager

Enclosure

Copies:

C. San Giovanni, ARCADIS
M. Wolfert, ARCADIS
File, ARCADIS
J. Cofman, Northrop Grumman
K. Smith, Northrop Grumman
Bethpage Public Library – Public Repository

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Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Samples, Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

CONSTITUENT (ug/L)	Sample Location: VP-117					
	Sample Depth (ft bls):		VP-117	VP-117	VP-117	VP-117
	54	104	104	154	204	254
Sample Date: 12/9/2008 12/9/2008 12/9/2008 12/10/2008 12/10/2008 12/10/2008						
NYSDEC SCGs						
1,1,1-Trichloroethane	5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	1	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	0.6	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	1	< 5	< 5	< 5	< 5	< 5
2-Butanone	50	< 50	< 50	< 50	< 50	< 50
2-Hexanone	NE	< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone	NE	< 50	< 50	< 50	< 50	< 50
Acetone	50	< 50	< 50	< 50	< 50	< 50
Benzene	1	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane	NE	< 5	< 5	< 5	< 5	< 5
Bromoform	NE	< 5	< 5	< 5	< 5	< 5
Bromomethane	5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide	50	< 50	< 50	< 50	< 50	< 50
Carbon Tetrachloride	5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	5	< 5	< 5	< 5	< 5	< 5
Chlorodibromomethane	5	< 5	< 5	< 5	< 5	< 5
Chlorodifluoromethane (Freon 22)	NE	< 5	< 5	< 5	< 5	< 5
Chloroethane	5	< 5	< 5	< 5	< 5	< 5
Chloroform	5	< 7	< 7	< 7	< 7	< 7
Chloromethane	NE	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	0.4	< 5	< 5	< 5	< 5	< 5
Dichlorodifluoromethane (Freon 12)	5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	50	< 5	< 5	< 5	< 5	< 5
Styrene	5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	5	< 5	< 5	< 5	< 5	< 5
Toluene	5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5
Trans-1,3-Dichloropropene	NE	< 5	< 5	< 5	< 5	< 5
Trichloroethene	5	< 5	< 5	< 5	< 5	< 5
Trichlorotrifluoroethane (Freon 113)	5	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	2	< 2	< 2	< 2	< 2	< 2
Xylene- O	5	< 5	< 5	< 5	< 5	< 5
Xylene- M & P	5	< 5	< 5	< 5	< 5	< 5
TVOCs		0	0	0	0	0

see footnotes on last page

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Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Samples, Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

CONSTITUENT (ug/L)	Sample Location:	VP-117	VP-117	VP-117	VP-117	VP-117	VP-117
	Sample Depth (ft bls):	304	329	349	374	394	414
	Sample Date:	12/11/2008	12/11/2008	12/12/2008	12/12/2008	12/13/2008	12/15/2008
NYSDEC SCGs							
1,1,1-Trichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	1	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	0.6	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	1	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone	50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
Acetone	50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene	1	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide	50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon Tetrachloride	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodibromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodifluoromethane (Freon 22)	NE	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform	5	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	0.4	< 5	< 5	< 5	< 5	< 5	< 5
Dichlorodifluoromethane (Freon 12)	5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	50	< 5	< 5	< 5	< 5	< 5	< 5
Styrene	5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	5	< 5	5.4	5	< 5	< 5	< 5
Toluene	5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
Trans-1,3-Dichloropropene	NE	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethene	5	< 5	89	61	110	210 D	190 D
Trichlorotrifluoroethane (Freon 113)	5	< 5	< 5	< 5	< 5	7.4	7.9
Vinyl Chloride	2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene- O	5	< 5	< 5	< 5	< 5	< 5	< 5
Xylene- M & P	5	< 5	< 5	< 5	< 5	< 5	< 5
TVOCs	0	94.4	66	110	217.4	197.9	

see footnotes on last page

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Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Samples, Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

CONSTITUENT (ug/L)	Sample Location:	VP-117	VP-117	VP-117	VP-117	VP-117	VP-117
	Sample Depth (ft bls):	434	454	479	499	529	549
	Sample Date:	12/15/2008	12/16/2008	12/17/2008	12/17/2008	12/18/2008	12/19/2008
NYSDEC SCGs							
1,1,1-Trichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	1	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	0.6	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	1	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone	50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
Acetone	50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene	1	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide	50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon Tetrachloride	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodibromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodifluoromethane (Freon 22)	NE	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform	5	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	0.4	< 5	< 5	< 5	< 5	< 5	< 5
Dichlorodifluoromethane (Freon 12)	5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	50	< 5	< 5	< 5	< 5	< 5	< 5
Styrene	5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
Trans-1,3-Dichloropropene	NE	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethene	5	74	91	39	95	130	15
Trichlorotrifluoroethane (Freon 113)	5	5	6.2	6.8	9.8	6.3	< 5
Vinyl Chloride	2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene- O	5	< 5	< 5	< 5	< 5	< 5	< 5
Xylene- M & P	5	< 5	< 5	< 5	< 5	< 5	< 5
TVOCs		79	97.2	45.8	104.8	136.3	15

see footnotes on last page

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Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Samples, Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

CONSTITUENT (ug/L)	Sample Location: Sample Depth (ft bls)	VP-117	VP-117	VP-117	VP-117	VP-117	VP-117
		569	589	614	634	649	679
Sample Date:		12/19/2008	12/19/2008	12/22/2008	12/23/2008	12/23/2008	12/27/2008
NYSDEC SCGs							
1,1,1-Trichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	1	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	0.6	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	1	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone	50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone	NE	< 50	< 50	< 50	< 50	< 50	< 50
Acetone	50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene	1	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	NE	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide	50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon Tetrachloride	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodibromomethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorodifluoromethane (Freon 22)	NE	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform	5	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane	NE	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	0.4	< 5	< 5	< 5	< 5	< 5	< 5
Dichlorodifluoromethane (Freon 12)	5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	50	< 5	< 5	< 5	< 5	< 5	< 5
Styrene	5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	5	< 5	< 5	< 5	< 5	< 5	< 5
Trans-1,3-Dichloropropene	NE	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethene	5	36	9.4	< 5	< 5	< 5	< 5
Trichlorotrifluoroethane (Freon 113)	5	< 5	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene- O	5	< 5	< 5	< 5	< 5	< 5	< 5
Xylene- M & P	5	< 5	< 5	< 5	< 5	< 5	< 5
TVOCs		36	9.4	0	0	0	0

see footnotes on last page

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Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Samples, Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

CONSTITUENT (ug/L)	Sample Location: VP-117 VP-117 VP-117		
	Sample Depth (ft bls): 715	729	764
	Sample Date: 1/7/2009 1/8/2009 1/12/2009		
NYSDEC			
SCGs			
1,1,1-Trichloroethane	5	< 5	< 5
1,1,1,2-Tetrachloroethane	5	< 5	< 5
1,1,2-Trichloroethane	1	< 5	< 5
1,1-Dichloroethene	5	< 5	< 5
1,1-Dichloroethane	5	< 5	< 5
1,2-Dichloroethane	0.6	< 5	< 5
1,2-Dichloropropane	1	< 5	< 5
2-Butanone	50	< 50	< 50
2-Hexanone	NE	< 50	< 50
4-Methyl-2-pentanone	NE	< 50	< 50
Acetone	50	< 50	< 50
Benzene	1	< 0.7	< 0.7
Bromodichloromethane	NE	< 5	< 5
Bromoform	NE	< 5	< 5
Bromomethane	5	< 5	< 5
Carbon Disulfide	50	< 5	< 5
Carbon Tetrachloride	5	< 5	< 5
Chlorobenzene	5	< 5	< 5
Chlorodibromomethane	5	< 5	< 5
Chlorodifluoromethane (Freon 22)	NE	< 5	< 5
Chloroethane	5	< 5	< 5
Chloroform	5	< 5	< 5
Chloromethane	NE	< 5	< 5
cis-1,2-Dichloroethene	5	< 5	< 5
cis-1,3-Dichloropropene	0.4	< 5	< 5
Dichlorodifluoromethane (Freon 12)	5	< 5	< 5
Ethylbenzene	5	< 5	< 5
Methylene Chloride	50	< 5	< 5
Styrene	5	< 5	< 5
Tetrachloroethene	5	< 5	< 5
Toluene	5	< 5	< 5
trans-1,2-Dichloroethene	5	< 5	< 5
Trans-1,3-Dichloropropene	NE	< 5	< 5
Trichloroethene	5	< 5	< 5
Trichlorotrifluoroethane (Freon 113)	5	< 5	< 5
Vinyl Chloride	2	< 2	< 2
Xylene- O	5	< 5	< 5
Xylene- M & P	5	< 5	< 5
TVOCs	0	0	0

see footnotes on last page

Table 1. Concentrations of Volatile Organic Compounds in VP-117 Groundwater Collected Northrop Grumman Systems Corporation, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

Notes and Abbreviations:

1. Results validated following protocols specified in March 2006 RI/FS Work Plan (ARCADIS G&M, Inc. 2006).
2. Samples analyzed for the TCL VOCs using NYSDEC ASP 2000 Method OLM4.2.

Bold value indicates a detection

RI/FS	Remedial Investigation/Feasibility Study
TCL	Target compound list
VOC	Volatile organic compound
ASP	Analytical services protocol
ft bls	Feet below land surface
ug/L	Micrograms per liter
TVOC	Total volatile organic compounds