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ENVIRONMENT

Subject:
December 2006 Monthly Progress Report
Northrop Grumman Systems Corporation
Operable Unit 3
NYSDEC Site ID # 1-30-003A
Bethpage, New York
ARCADIS Project No. NY001348.0906.00003

Date,
January 10, 2007

Contact:
Carlo San Giovanni

Extension:
631-391-5259

Dear Mr. Scharf:

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 (NGC) during the month of December 2006; activities planned for January 2007 are also discussed. This report is the ninth OU3 monthly progress report since the AOC between NGC and the New York State Department of Environmental Conservation (NYSDEC) was signed on June 24, 2005. Attached, please find Table 1 providing recent validated soil gas data that was collected off-site as part of the Phase 2 Remedial Investigation (RI). Sample locations are shown on Figure 1.

OU3 Activities Conducted During December 2006

- Prepared and submitted the November 2006 Monthly Progress Report.
- Continued coordination and planning for Phase 2 RI, including:
  - Prepared and submitted Work Plan Addendum No.8 to NYSDEC for additional soil gas points and ambient air study.
  - Continued evaluations data, screening of technologies, and updates to schedule for IRM.
  - Attended Town of Oyster Bay weekly meetings for remediation/redevelopment project.

- Prepared for and conducted interactive RI/FS project status meetings/conference calls at the request of NYSDEC.

- Phase 2 RI activities, including:

  - Initiated and completed test pits within the Bethpage Community Park, per Work Plan Addendum No. 6.

  - Completed installation and development of Monitoring Well MW-5-1.

  - Performed monthly groundwater monitoring of selected on-site monitoring wells and piezometers.

  - Characterization and disposal of containerized soil cuttings from OU3 RI.

- RI data review/evaluation, including:

  - Continued preparation of soil boring logs for completed borings.

  - Continued review and validation of analytical results for samples collected.

  - Continued analysis and evaluation (via EVS software and other) of soil (including grab samples and CPT/MIP data), soil gas, and groundwater data toward development of a revised CSM, and to and support need for additional sampling requests (i.e., work plan addenda) to address data gaps.

  - Additional analysis of data toward preliminary selection of remedial technologies and development of IRM Work Plan.

OU3 Activities Expected During January 2007

- Prepare and submit December 2006 Monthly Progress Report.

- Conduct in-house data analyses, meetings, and initial determination of IRM strategy.

- Phase 2 RI planning/coordination activities, including:

  - Finalize and submit outline of IRM pre-design investigation to NYSDEC for review and approval.

- Develop specifications for IRM pre-design field activities
- Submit modified specifications for deep off-site vertical profile borings to NYSDEC.

- Phase 2 RI activities, including:
  - Initiate soil gas portion of field work for Work Plan Addendum No. 8, assuming approval is granted by NYSDEC.
  - Initiate/sampling of deep off-site VPBs VP-109 and VP-110.
  - Continue weekly groundwater/perched water monitoring in on-site piezometers and selected wells. Characterize groundwater quality as part of IRM evaluations.

- RI data review/evaluation, as follows:
  - Review and analyze findings from on-site test pits.
  - Determine scope of additional soil borings and sampling within the park.
  - Continue evaluation (via EVS software) of soil, soil-gas, and groundwater data toward development of Phase 2 RI soil boring program, a revised CSM, assess data gaps, and support planning for IRM.
  - Continue to validate and tabulate analytical data received from laboratory toward preparation of RI Report.
  - Continue to prepare selected figures of analytical results and interpretations toward preparation of RI Report.

- Conduct planning for on-site IRMs
  - Continue to conduct data analysis in support of IRM strategy development.
  - Initiate data collection for IRM pre-design investigation, in accordance with IRM outline, assuming NYSDEC grants approval.
  - Initiate analysis of IRM pre-design data

Please contact us if you have any questions.

Sincerely,

ARCADIS G&M, Inc.

Carlo San Giovanni

Carlo San Giovanni
Project Manager

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Table 1. Concentrations of Volatile Organic Compounds in Off-Site Soil Gas and Ambient Air Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP100	SGP101	SGP101	SGP101
	Depth (ft bls):	7-7.9	7-7.5	34-34.5	49-49.5
	Date:	6/29/2006	6/29/2006	6/29/2006	6/29/2006
	Units:	µg/m³	µg/m³	µg/m³	µg/m³
Acetone		**190**	**120**	**130**	**5000**
Benzene		**10**	**3.8**	**4.2**	<64
Bromodichloromethane		<2.7	<2	<2	<130
Bromoform		<4.1	<3.1	<3.1	<210
Bromomethane		<1.6	<1.2	<1.2	<78
1,3-Butadiene		**17**	**12**	**8.2**	**190**
Carbon Disulfide		**8.7**	**5**	**40**	**190**
Carbon Tetrachloride		<2.5	<1.9	<1.9	<130
Chlorobenzene		<1.8	<1.4	<1.4	<92
Chloroethane		<2.6	<2	<2	<130
Chloroform		<2	**1.9**	<1.5	<98
Chloromethane		<2.1	<1.5	<1.5	<100
Dibromochloromethane		<3.4	<2.6	<2.6	<170
Dichlorodifluoromethane		<4.9	**4.9**	**6.4**	<250
1,1-Dichloroethane		<1.6	<1.2	<1.2	<81
1,2-Dichloroethane		<1.6	<1.2	<1.2	<81
1,1-Dichloroethene		<1.6	<1.2	<1.2	<79
cis-1,2-Dichloroethene		<1.6	<1.2	<1.2	<79
trans-1,2-Dichloroethene		<1.6	<1.2	<1.2	<79
1,2-Dichloroethene (total)		<1.6	<1.2	<1.2	<79
1,2-Dichloropropane		<1.8	<1.4	<1.4	<92
cis-1,3-Dichloropropene		<1.8	<1.4	<1.4	<91
trans-1,3-Dichloropropene		<1.8	<1.4	<1.4	<91
1,3-Dichloropropene (total) (a)		<1.8	<1.4	<1.4	<91
Ethylbenzene		**2.9**	<1.3	**1.9**	<87
Freon 22		<3.5	<2.7	<2.7	<180
Freon TF		<3.1	**10**	**18**	<150
Methyl Butyl Ketone		**5.3**	<3.1	**10**	<200
Methylene Chloride		<3.5	<2.6	<2.6	<170
Methyl Ethyl Ketone		**44**	**20**	**44**	**710**
Methyl Isobutyl Ketone		<4.1	<3.1	<3.1	<200
Styrene		**2**	<1.3	**1.8**	<85
1,1,2,2-Tetrachloroethane		<2.7	<2.1	<2.1	<140
Tetrachloroethene		**24**	**20**	**20**	<140
Toluene		**14**	**4.1**	**6.4**	**75**
1,1,1-Trichloroethane		**3.9**	**9.8**	**18**	<110
1,1,2-Trichloroethane		<2.2	<1.6	<1.6	<110
Trichloroethene		<2.1	**4.2**	**26**	<110
Vinyl Chloride		<1	<0.77	<0.77	<51
Xylene (m,p)		<4.3	<3.3	<3.3	<220
Xylene (o)		**2.5**	<1.3	**1.9**	<87
Xylene (total)		**2.5**	<1.3	**1.9**	<87

Notes:

ft bls	Feet below land surface
µg/m³	Micrograms per cubic meter
(a)	Total represents sum of cis and trans isomers

Bold indicates a detection

Table 1. Concentrations of Volatile Organic Compounds in Off-Site Soil Gas and Ambient Air Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP102	SGP103	SGP103	SGP103
	Depth (ft bls):	7-7.5	7-7.5	34-34.5	49-49.5
	Date:	6/29/2006	06/28/2006	06/28/2006	6/29/2006
	Units:	µg/m³	µg/m³	µg/m³	µg/m³
Acetone		**130**	**110**	**4000**	**45**
Benzene		**11**	**6.7**	**180**	**5.4**
Bromodichloromethane		<2.7	<2	<110	<1.1
Bromoform		<4.1	<3.1	<170	<1.7
Bromomethane		<1.6	<1.2	<62	<0.62
1,3-Butadiene		**17**	<1.7	**120**	**13**
Carbon Disulfide		**16**	**14**	**140**	**1.4**
Carbon Tetrachloride		**3.1**	<1.9	<100	<1
Chlorobenzene		<1.8	<1.4	<74	<0.74
Chloroethane		<2.6	<2	<110	<1.1
Chloroform		<2	<1.5	<78	**13**
Chloromethane		<2.1	<1.5	<83	<0.83
Dibromochloromethane		<3.4	<2.6	<140	<1.4
Dichlorodifluoromethane		<4.9	<3.7	<200	**6.9**
1,1-Dichloroethane		<1.6	<1.2	<65	<0.65
1,2-Dichloroethane		<1.6	<1.2	<65	<0.65
1,1-Dichloroethene		<1.6	<1.2	<63	<0.63
cis-1,2-Dichloroethene		<1.6	<1.2	<63	<0.63
trans-1,2-Dichloroethene		<1.6	<1.2	<63	<0.63
1,2-Dichloroethene (total)		<1.6	<1.2	<63	<0.63
1,2-Dichloropropane		<1.8	<1.4	<74	<0.74
cis-1,3-Dichloropropene		<1.8	<1.4	<73	<0.73
trans-1,3-Dichloropropene		<1.8	<1.4	<73	<0.73
1,3-Dichloropropene (total) (a)		<1.8	<1.4	<73	<0.73
Ethylbenzene		**4.3**	<1.3	<69	**1.8**
Freon 22		<3.5	<2.7	<140	<1.4
Freon TF		**12**	<2.3	<120	**5**
Methyl Butyl Ketone		**4.1**	<3.1	<160	<1.6
Methylene Chloride		<3.5	<2.6	<140	<1.4
Methyl Ethyl Ketone		**29**	**22**	710	**15**
Methyl Isobutyl Ketone		<4.1	<3.1	<160	<1.6
Styrene		<1.7	<1.3	<68	**1.2**
1,1,2,2-Tetrachloroethane		<2.7	<2.1	<110	<1.1
Tetrachloroethene		**25**	**15**	<110	**75**
Toluene		**12**	**3.7**	**280**	**7.9**
1,1,1-Trichloroethane		**8.7**	**2.1**	<87	**38**
1,1,2-Trichloroethane		<2.2	<1.6	<87	<0.87
Trichloroethene		**11**	<1.6	<86	**54**
Vinyl Chloride		<1	<0.77	<41	<0.41
Xylene (m,p)		**19**	<3.3	<170	**1.8**
Xylene (o)		**8.7**	<1.3	<69	**1.5**
Xylene (total)		**29**	<1.3	<69	**3.4**

Notes:

ft bls	Feet below land surface
µg/m³	Micrograms per cubic meter
(a)	Total represents sum of cis and trans isomers

Bold indicates a detection

Table 1. Concentrations of Volatile Organic Compounds in Off-Site Soil Gas and Ambient Air Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP103	SGP104	SGP105	SGP106
	Depth (ft bls):	DUP of 49-49.5	7-7.5	7-7.5	7-7.5
	Date:	06/28/2006	06/26/2006	06/26/2006	06/26/2006
	Units:	µg/m³	µg/m³	µg/m³	µg/m³
Acetone		**48**	**200**	**120**	**210**
Benzene		**5.4**	**14**	**5.8**	**14**
Bromodichloromethane		<1.3	<13	<2.7	<4
Bromoform		<2.1	<21	<4.1	<6.2
Bromomethane		<0.78	<7.8	<1.6	<2.3
1,3-Butadiene		<1.1	**49**	**12**	**19**
Carbon Disulfide		<1.6	**17**	**9**	**14**
Carbon Tetrachloride		<1.3	<13	<2.5	<3.8
Chlorobenzene		<0.92	<9.2	<1.8	<2.8
Chloroethane		<1.3	<13	<2.6	<4
Chloroform		**14**	<9.8	**2.7**	**3.2**
Chloromethane		<1	<10	<2.1	<3.1
Dibromochloromethane		<1.7	<17	<3.4	<5.1
Dichlorodifluoromethane		**7.4**	<25	**5.4**	<7.4
1,1-Dichloroethane		<0.81	**530**	<1.6	<2.4
1,2-Dichloroethane		<0.81	<8.1	<1.6	<2.4
1,1-Dichloroethene		<0.79	<7.9	<1.6	<2.4
cis-1,2-Dichloroethene		<0.79	<7.9	<1.6	<2.4
trans-1,2-Dichloroethene		<0.79	<7.9	<1.6	<2.4
1,2-Dichloroethene (total)		<0.79	<7.9	<1.6	<2.4
1,2-Dichloropropane		<0.92	<9.2	<1.8	<2.8
cis-1,3-Dichloropropene		<0.91	<9.1	<1.8	<2.7
trans-1,3-Dichloropropene		<0.91	<9.1	<1.8	<2.7
1,3-Dichloropropene (total) (a)		<0.91	<9.1	<1.8	<2.7
Ethylbenzene		**2**	<8.7	<1.7	**4.3**
Freon 22		<1.8	<18	<3.5	<5.3
Freon TF		**5.3**	<15	<3.1	<4.6
Methyl Butyl Ketone		<2	<20	<4.1	<6.1
Methylene Chloride		<1.7	<17	<3.5	**14**
Methyl Ethyl Ketone		**16**	**38**	**21**	**50**
Methyl Isobutyl Ketone		<2	<20	<4.1	<6.1
Styrene		**1.2**	<8.5	<1.7	**3.7**
1,1,2,2-Tetrachloroethane		<1.4	<14	<2.7	<4.1
Tetrachloroethene		**67**	**24**	**15**	**26**
Toluene		**7.9**	**18**	**6**	**53**
1,1,1-Trichloroethane		**39**	**2100**	**2.4**	<3.3
1,1,2-Trichloroethane		<1.1	<11	<2.2	<3.3
Trichloroethene		**54**	<11	<2.1	**120**
Vinyl Chloride		<0.51	<5.1	<1	<1.5
Xylene (m,p)		<2.2	<22	<4.3	**8.7**
Xylene (o)		**1.7**	<8.7	<1.7	**3.8**
Xylene (total)		**1.7**	<8.7	<1.7	**13**

Notes:

ft bls	Feet below land surface	Feet below land surface
µg/m³	Micrograms per cubic meter	Micrograms per cubic meter
(a)	Total represents sum of cis and trans is	Total represents sum of cis and trans isomers

Bold indicates a detection

Table 1. Concentrations of Volatile Organic Compounds in Off-Site Soil Gas and Ambient Air Samples,
Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP107	AA062806	AA062906
	Depth (ft bls):	7-7.5	AA062806	AA062906
	Date:	06/26/2006	06/28/2006	6/29/2006
	Units:	µg/m³	µg/m³	µg/m³
Acetone		**150**	<12	**13**
Benzene		<1.3	**0.86**	**1.5**
Bromodichloromethane		<2.7	<1.3	<1.1
Bromoform		<4.1	<2.1	<1.7
Bromomethane		<1.6	<0.78	<0.62
1,3-Butadiene		**7.1**	<1.1	<0.88
Carbon Disulfide		**6.5**	<1.6	<1.2
Carbon Tetrachloride		<2.5	<1.3	<1
Chlorobenzene		<1.8	<0.92	<0.74
Chloroethane		<2.6	<1.3	<1.1
Chloroform		<2	<0.98	<0.78
Chloromethane		<2.1	**1.3**	**1.3**
Dibromochloromethane		<3.4	<1.7	<1.4
Dichlorodifluoromethane		**25**	**3.4**	**3**
1,1-Dichloroethane		<1.6	<0.81	<0.65
1,2-Dichloroethane		<1.6	<0.81	<0.65
1,1-Dichloroethene		<1.6	<0.79	<0.63
cis-1,2-Dichloroethene		<1.6	<0.79	<0.63
trans-1,2-Dichloroethene		<1.6	<0.79	<0.63
1,2-Dichloroethene (total)		<1.6	<0.79	<0.63
1,2-Dichloropropane		<1.8	<0.92	<0.74
cis-1,3-Dichloropropene		<1.8	<0.91	<0.73
trans-1,3-Dichloropropene		<1.8	<0.91	<0.73
1,3-Dichloropropene (total) (a)		<1.8	<0.91	<0.73
Ethylbenzene		<1.7	<0.87	**1.1**
Freon 22		**81**	<1.8	**1.8**
Freon TF		<3.1	<1.5	<1.2
Methyl Butyl Ketone		<4.1	<2	<1.6
Methylene Chloride		<3.5	<1.7	<1.4
Methyl Ethyl Ketone		**25**	<1.5	**2.4**
Methyl Isobutyl Ketone		<4.1	<2	<1.6
Styrene		<1.7	<0.85	<0.68
1,1,2,2-Tetrachloroethane		<2.7	<1.4	<1.1
Tetrachloroethene		**10**	<1.4	<1.1
Toluene		**4.1**	**2.4**	**5.7**
1,1,1-Trichloroethane		<2.2	<1.1	<0.87
1,1,2-Trichloroethane		<2.2	<1.1	<0.87
Trichloroethene		**9.7**	<1.1	<0.86
Vinyl Chloride		<1	<0.51	<0.41
Xylene (m,p)		<4.3	<2.2	**2.6**
Xylene (o)		<1.7	<0.87	**1**
Xylene (total)		<1.7	<0.87	**3.8**

Notes:

ft bls	Feet below land surface
µg/m³	Micrograms per cubic meter
(a)	Total represents sum of cis and trans isomers

Bold indicates a detection