



Infrastructure, environment, facilities

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Subject:
Addendum to August 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

ENVIRONMENT

Dear Mr. Scharf:

Date,
September 19, 2006

In accordance with Section III of Administrative Order on Consent (AOC) Index # W1-0018-04-01, this letter addendum has been prepared to report additional data collected for Operable Unit 3 (OU3) by Northrop Grumman Systems Corporation (NGC). This report supplements the sixth AOC monthly progress report, submitted September 11, 2006, per the June 24, 2005 AOC between NGC and the New York State Department of Environmental Conservation (NYSDEC).

Contact:
Carlo San Giovanni

Extension:
631-391-5259

Attached, please find Table 1 that provides the results of soil gas samples collected on NGC and Bethpage Community Park properties.

Please contact us if you have any questions.

Sincerely,

ARCADIS G&M, Inc.

Carlo San Giovanni
Project Manager

Enclosure

Copies:
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Imagine the result

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

Constituent	Sample ID:	SGP5-(7-7.5)	SGP5-(34-34.5)	SGP5-(49-49.5)			
	Depth (ft bls):	7-7.5	34-34.5	49-49.5			
	Date:	5/5/2006	5/5/2006	5/5/2006			
	Units:	µg/m ³	µg/m ³	µg/m ³			
Acetone		59	360	U	4,300		
Benzene		5.4	19	U	96		
Bromodichloromethane		2	U	41	U	66	U
Bromoform		3.1	U	63	U	100	U
Bromomethane		1.2	U	24	U	38	U
1,3-Butadiene		13		71		150	
Carbon Disulfide		11		47	U	78	U
Carbon Tetrachloride		8.2		88		63	
Chlorobenzene		1.4	U	28	U	46	U
Chloroethane		2	U	40	U	66	U
Chloroform		1.5	U	68		73	
Chloromethane		1.5	U	31	U	52	U
Dibromochloromethane		2.6	U	52	U	84	U
Dichlorodifluoromethane		3.7	U	74	U	120	U
1,1-Dichloroethane		1.2	U	25	U	40	U
1,2-Dichloroethane		1.2	U	25	U	40	U
1,1-Dichloroethene		1.5		26		52	
cis-1,2-Dichloroethene		1.2	U	24	U	39	U
trans-1,2-Dichloroethene		1.2	U	24	U	39	U
1,2-Dichloroethene (total)		1.2	U	24	U	39	U
1,2-Dichloropropane		1.4	U	28	U	46	U
cis-1,3-Dichloropropene		1.4	U	28	U	45	U
trans-1,3-Dichloropropene		1.4	U	28	U	45	U
1,3-Dichloropropene (total) (a)		1.4	U	28	U	45	U
Ethylbenzene		2.5		26	U	43	U
Freon 22		5		53	U	88	U
Freon TF		2.5		47	U	76	U
Methyl Butyl Ketone		3.1	U	61	U	100	U
Methylene Chloride		2.6	U	52	U	87	U
Methyl Ethyl Ketone		12		44	U	590	
Methyl Isobutyl Ketone		3.1	U	61	U	100	U
Styrene		1.3	U	26	U	42	U
1,1,2,2-Tetrachloroethane		2.1	U	42	U	68	U
Tetrachloroethene		18		140		100	
Toluene		21		23	U	75	
1,1,1-Trichloroethane		10		110		130	
1,1,2-Trichloroethane		1.6	U	33	U	54	U
Trichloroethene		230		4,600		3,700	
Vinyl Chloride		0.77	U	16	U	25	U
Xylene (m,p)		4.3		65	U	110	U
Xylene (o)		2.2		26	U	43	U
Xylene (total)		6.5		26	U	43	U

Notes:

- U Constituent not detected
- 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 On-Site Soil Gas Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP6-(8-8.5)		SGP6-(34-34.5)		SGP6-(49-49.5)	
	Depth (ft bls):	8-8.5		34-34.5		49-49.5	
	Date:	5/2/2006		5/2/2006		5/2/2006	
	Units:	µg/m ³		µg/m ³		µg/m ³	
Acetone		500	U	480	U	1,900	
Benzene		26	U	26	U	61	
Bromodichloromethane		55	U	54	U	110	U
Bromoform		85	U	83	U	170	U
Bromomethane		32	U	31	U	62	U
1,3-Butadiene		82		44	U	350	
Carbon Disulfide		65	U	75		130	U
Carbon Tetrachloride		52	U	50	U	100	U
Chlorobenzene		38	U	37	U	74	U
Chloroethane		22	U	21	U	42	U
Chloroform		40	U	39	U	78	U
Chloromethane		43	U	41	U	85	U
Dibromochloromethane		70	U	68	U	140	U
Dichlorodifluoromethane		100	U	99	U	200	U
1,1-Dichloroethane		33	U	300		400	
1,2-Dichloroethane		33	U	32	U	65	U
1,1-Dichloroethene		33	U	32	U	520	
cis-1,2-Dichloroethene		520		480		3,100	
trans-1,2-Dichloroethene		83		32	U	130	
1,2-Dichloroethene (total)		590		480		3,300	
1,2-Dichloropropane		38	U	37	U	74	U
cis-1,3-Dichloropropene		37	U	36	U	73	U
trans-1,3-Dichloropropene		37	U	36	U	73	U
1,3-Dichloropropene (total) (a)		37	U	36	U	73	U
Ethylbenzene		36	U	35	U	69	U
Freon 22		74	U	71	U	150	U
Freon TF		63	U	61	U	120	U
Methyl Butyl Ketone		86	U	82	U	170	U
Methylene Chloride		73	U	69	U	140	U
Methyl Ethyl Ketone		62		59	U	560	
Methyl Isobutyl Ketone		86	U	82	U	170	U
Styrene		35	U	34	U	68	U
1,1,2,2-Tetrachloroethane		56	U	55	U	110	U
Tetrachloroethene		170		110		110	U
Toluene		31	U	30	U	60	U
1,1,1-Trichloroethane		320		470		1,000	
1,1,2-Trichloroethane		45	U	44	U	87	U
Trichloroethene		7,500		4,200		16,000	
Vinyl Chloride		21	U	20	U	150	
Xylene (m,p)		91	U	87	U	180	U
Xylene (o)		36	U	35	U	69	U
Xylene (total)		36	U	35	U	69	U

Notes:

- U Constituent not detected
- 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 On-Site Soil Gas Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP7-(7-7.5)		SGP7-(34-34.5)		SGP7-(49-49.5)		SGP7-(99-99.5)	
	Depth (ft bls):	7-7.5		34-34.5		49-49.5		Dup. of SGP7(34-34.5)	
	Date:	5/3/2006		5/3/2006		5/3/2006		5/3/2006	
	Units:	µg/m ³		µg/m ³		µg/m ³		µg/m ³	
Acetone		1,200	U	950,000	U	5,900	U	590,000	U
Benzene		64	U	51,000	U	320	U	32,000	U
Bromodichloromethane		130	U	110,000	U	670	U	67,000	U
Bromoform		210	U	170,000	U	1,000	U	100,000	U
Bromomethane		78	U	62,000	U	390	U	39,000	U
1,3-Butadiene		110	U	88,000	U	550	U	55,000	U
Carbon Disulfide		160		240,000		780	U	97,000	
Carbon Tetrachloride		130	U	100,000	U	630	U	63,000	U
Chlorobenzene		92	U	74,000	U	460	U	46,000	U
Chloroethane		130	U	42,000	U	260	U	26,000	U
Chloroform		98	U	78,000	U	490	U	49,000	U
Chloromethane		100	U	83,000	U	520	U	52,000	U
Dibromochloromethane		170	U	140,000	U	850	U	85,000	U
Dichlorodifluoromethane		250	U	200,000	U	1,200	U	120,000	U
1,1-Dichloroethane		9,300		65,000	U	400	U	40,000	U
1,2-Dichloroethane		81	U	65,000	U	400	U	40,000	U
1,1-Dichloroethene		79	U	63,000	U	400	U	40,000	U
cis-1,2-Dichloroethene		400		63,000	U	30,000		40,000	U
trans-1,2-Dichloroethene		79	U	63,000	U	400	U	40,000	U
1,2-Dichloroethene (total)		400		63,000	U	30,000		40,000	U
1,2-Dichloropropane		92	U	74,000	U	460	U	46,000	U
cis-1,3-Dichloropropene		91	U	73,000	U	450	U	45,000	U
trans-1,3-Dichloropropene		91	U	73,000	U	450	U	45,000	U
1,3-Dichloropropene (total) (a)		91	U	73,000	U	450	U	45,000	U
Ethylbenzene		87	U	220,000		1,200		110,000	
Freon 22		180	U	140,000	U	880	U	88,000	U
Freon TF		150	U	120,000	U	770	U	77,000	U
Methyl Butyl Ketone		200	U	160,000	U	1,000	U	100,000	U
Methylene Chloride		170	U	140,000	U	870	U	87,000	U
Methyl Ethyl Ketone		150	U	120,000	U	2,200		74,000	U
Methyl Isobutyl Ketone		200	U	160,000	U	1,000	U	100,000	U
Styrene		85	U	68,000	U	430	U	43,000	U
1,1,2,2-Tetrachloroethane		140	U	110,000	U	690	U	69,000	U
Tetrachloroethene		140	U	110,000	U	680	U	68,000	U
Toluene		530		6,400,000		57,000		3,800,000	
1,1,1-Trichloroethane		2,600		87,000	U	550	U	55,000	U
1,1,2-Trichloroethane		110	U	87,000	U	550	U	55,000	U
Trichloroethene		2,100		86,000	U	14,000		54,000	U
Vinyl Chloride		51	U	230,000		3,800		150,000	
Xylene (m,p)		220	U	560,000		2,800		270,000	
Xylene (o)		110		170,000		1,000		83,000	
Xylene (total)		110		740,000		4,000		360,000	

Notes:

- U Constituent not detected
- 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 On-Site Soil Gas Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP8-(7-7.5)	SGP8-(34-34.5)	SGP8-(49-49.5)			
	Depth (ft bls):	7-7.5	34-34.5	49-49.5			
	Date:	5/4/2006	5/4/2006	5/4/2006			
	Units:	µg/m ³	µg/m ³	µg/m ³			
Acetone		290	1,200	U	120,000	U	
Benzene		380	64	U	6,400	U	
Bromodichloromethane		27	U	130	U	13,000	U
Bromoform		41	U	210	U	21,000	U
Bromomethane		16	U	78	U	7,800	U
1,3-Butadiene		110		110	U	11,000	U
Carbon Disulfide		78		170		16,000	U
Carbon Tetrachloride		25	U	130	U	13,000	U
Chlorobenzene		18	U	92	U	9,200	U
Chloroethane		26	U	130	U	13,000	U
Chloroform		20	U	98	U	9,800	U
Chloromethane		21	U	100	U	10,000	U
Dibromochloromethane		34	U	170	U	17,000	U
Dichlorodifluoromethane		49	U	250	U	25,000	U
1,1-Dichloroethane		280		2,500		8,100	U
1,2-Dichloroethane		16	U	81	U	8,100	U
1,1-Dichloroethene		16	U	79	U	28,000	
cis-1,2-Dichloroethene		950		79	U	590,000	
trans-1,2-Dichloroethene		120		79	U	7,900	U
1,2-Dichloroethene (total)		1,100		79	U	590,000	
1,2-Dichloropropane		18	U	92	U	9,200	U
cis-1,3-Dichloropropene		18	U	91	U	9,100	U
trans-1,3-Dichloropropene		18	U	91	U	9,100	U
1,3-Dichloropropene (total) (a)		18	U	91	U	9,100	U
Ethylbenzene		43		17,000		8,700	U
Freon 22		35	U	180	U	18,000	U
Freon TF		31	U	150	U	15,000	U
Methyl Butyl Ketone		41	U	200	U	20,000	U
Methylene Chloride		35	U	170	U	17,000	U
Methyl Ethyl Ketone		59		150	U	15,000	U
Methyl Isobutyl Ketone		41	U	200	U	20,000	U
Styrene		17	U	220		8,500	U
1,1,2,2-Tetrachloroethane		27	U	140	U	14,000	U
Tetrachloroethene		27	U	140	U	14,000	U
Toluene		450		900		45,000	
1,1,1-Trichloroethane		600		110	U	11,000	U
1,1,2-Trichloroethane		22	U	110	U	11,000	U
Trichloroethene		2,800		110	U	1,200,000	
Vinyl Chloride		10	U	10,000		890,000	
Xylene (m,p)		110		20,000		22,000	U
Xylene (o)		61		6,900		8,700	U
Xylene (total)		180		29,000		8,700	U

Notes:

- U Constituent not detected
- 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 On-Site Soil Gas Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP-9(8.5-9)		SGP9-(34-34.5)		SGP9-(49-49.5)	
	Depth (ft bls):	8.5-9		34-34.5		49-49.5	
	Date:	4/28/2006		5/1/2006		5/1/2006	
	Units:	µg/m ³		µg/m ³		µg/m ³	
Acetone		120	U	31,000	U	48,000	U
Benzene		11		1,600	U	2,600	U
Bromodichloromethane		13	U	3,400	U	5,400	U
Bromoform		21	U	5,200	U	8,300	U
Bromomethane		8	U	1,900	U	3,100	U
1,3-Butadiene		13		2,900	U	4,400	U
Carbon Disulfide		16	U	4,000	U	6,200	U
Carbon Tetrachloride		13	U	3,100	U	5,000	U
Chlorobenzene		9	U	2,300	U	3,700	U
Chloroethane		5	U	1,300	U	2,100	U
Chloroform		10	U	2,400	U	3,900	U
Chloromethane		10	U	2,700	U	4,100	U
Dibromochloromethane		17	U	4,300	U	6,800	U
Dichlorodifluoromethane		25	U	6,400	U	9,900	U
1,1-Dichloroethane		1,100		2,000	U	3,200	U
1,2-Dichloroethane		8	U	2,000	U	3,200	U
1,1-Dichloroethene		8	U	2,000	U	3,200	U
cis-1,2-Dichloroethene		630		220,000		440,000	
trans-1,2-Dichloroethene		71		2,000	U	3,200	U
1,2-Dichloroethene (total)		710		220,000		440,000	
1,2-Dichloropropane		9	U	2,300	U	3,700	U
cis-1,3-Dichloropropene		9	U	2,300	U	3,600	U
trans-1,3-Dichloropropene		9	U	2,300	U	3,600	U
1,3-Dichloropropene (total) (a)		9	U	2,300	U	3,600	U
Ethylbenzene		9	U	2,200	U	3,500	U
Freon 22		18	U	4,600	U	7,100	U
Freon TF		15	U	3,800	U	6,100	U
Methyl Butyl Ketone		20	U	5,300	U	8,200	U
Methylene Chloride		17	U	4,500	U	6,900	U
Methyl Ethyl Ketone		50		3,800	U	5,900	U
Methyl Isobutyl Ketone		20	U	5,300	U	8,200	U
Styrene		9	U	2,100	U	3,400	U
1,1,2,2-Tetrachloroethane		14	U	3,400	U	5,500	U
Tetrachloroethene		100		3,400	U	5,400	U
Toluene		23		1,900	U	3,000	U
1,1,1-Trichloroethane		45		2,700	U	4,400	U
1,1,2-Trichloroethane		11	U	2,700	U	4,400	U
Trichloroethene		480		13,000		86,000	
Vinyl Chloride		280		1,300	U	2,000	U
Xylene (m,p)		22	U	5,600	U	8,700	U
Xylene (o)		9	U	2,200	U	3,500	U
Xylene (total)		9	U	2,200	U	3,500	U

Notes:

- U Constituent not detected
- 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 On-Site Soil Gas Samples, Former Grumman Settling Ponds (Operable Unit 3 - Bethpage Community Park), Bethpage, New York.

Constituent	Sample ID:	SGP10-(7.5-8)		SGP10-(34-34.5)		SGP10-(49-49.5)		SGP11-(7-7.5)	
	Depth (ft bls):	7.5-8		34-34.5		49-49.5		7-7.5	
	Date:	4/27/2006		4/27/2006		4/27/2006		5/5/2006	
	Units:	µg/m ³		µg/m ³		µg/m ³		µg/m ³	
Acetone		31,000	U	24,000	U	95,000	U	950	U
Benzene		1,700	U	1,300	U	5,100	U	51	U
Bromodichloromethane		3,600	U	2,700	U	11,000	U	110	U
Bromoform		5,500	U	4,100	U	17,000	U	170	U
Bromomethane		2,100	U	1,600	U	6,200	U	62	U
1,3-Butadiene		2,900	U	2,200	U	8,800	U	88	U
Carbon Disulfide		5,000		3,100	U	12,000	U	180	
Carbon Tetrachloride		3,300	U	2,500	U	10,000	U	100	U
Chlorobenzene		2,400	U	1,800	U	7,400	U	74	U
Chloroethane		1,400	U	1,100	U	4,200	U	110	U
Chloroform		2,600	U	2,000	U	7,800	U	78	U
Chloromethane		2,700	U	2,100	U	8,300	U	83	U
Dibromochloromethane		4,500	U	3,400	U	14,000	U	140	U
Dichlorodifluoromethane		16,000		22,000		46,000		200	U
1,1-Dichloroethane		2,100	U	1,600	U	6,500	U	65	U
1,2-Dichloroethane		2,100	U	1,600	U	6,500	U	65	U
1,1-Dichloroethene		2,100	U	1,600	U	6,300	U	63	U
cis-1,2-Dichloroethene		2,100	U	1,600	U	6,300	U	370	
trans-1,2-Dichloroethene		2,100	U	1,600	U	6,300	U	63	U
1,2-Dichloroethene (total)		2,100	U	1,600	U	6,300	U	370	
1,2-Dichloropropane		2,400	U	1,800	U	7,400	U	74	U
cis-1,3-Dichloropropene		2,400	U	1,800	U	7,300	U	73	U
trans-1,3-Dichloropropene		2,400	U	1,800	U	7,300	U	73	U
1,3-Dichloropropene (total) (a)		2,400	U	1,800	U	7,300	U	73	U
Ethylbenzene		2,300	U	1,700	U	6,900	U	69	U
Freon 22		160,000		240,000		600,000		140	U
Freon TF		4,100	U	3,100	U	12,000	U	120	U
Methyl Butyl Ketone		5,300	U	4,100	U	16,000	U	160	U
Methylene Chloride		4,500	U	3,500	U	14,000	U	140	U
Methyl Ethyl Ketone		3,800	U	2,900	U	12,000	U	120	U
Methyl Isobutyl Ketone		5,300	U	4,100	U	16,000	U	160	U
Styrene		2,300	U	1,700	U	6,800	U	68	U
1,1,2,2-Tetrachloroethane		3,600	U	2,700	U	11,000	U	110	U
Tetrachloroethene		3,600	U	2,700	U	11,000	U	110	U
Toluene		2,000	U	1,500	U	6,000	U	60	U
1,1,1-Trichloroethane		2,900	U	2,200	U	8,700	U	980	
1,1,2-Trichloroethane		2,900	U	2,200	U	8,700	U	87	U
Trichloroethene		2,800	U	2,100	U	8,600	U	11,000	
Vinyl Chloride		1,400	U	1,000	U	4,100	U	41	U
Xylene (m,p)		5,600	U	4,300	U	17,000	U	170	U
Xylene (o)		2,300	U	1,700	U	6,900	U	69	U
Xylene (total)		2,300	U	1,700	U	6,900	U	69	U

Notes:

- U Constituent not detected
- 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