



Mr. Steven Scharf, P.E.
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
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Subject:
Fourth Quarter 2005 Groundwater Monitoring Data,
Operable Unit 2 Monitoring Network,
Northrop Grumman Corporation, Bethpage, New York.
(NYSDEC Site # 1-30-003A)

ENVIRONMENT

Dear Mr. Scharf:

Date:
5 April 2006

On behalf of Northrop Grumman Corporation (NGC), ARCADIS is providing the
NYSDEC with the validated results of groundwater monitoring performed in
accordance with the approved groundwater monitoring plan (ARCADIS Geraghty &
Miller, 2001; ARCADIS G&M, Inc. 2004) for the Fourth Quarter 2005 for Operable
Unit 2. Tables 1 and 2 provide the complete results of monitoring for volatile organic
compounds (VOCs) and cadmium and chromium (Cd/Cr), respectively, for this
period.

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Please contact us if you have any questions or comments.

Our ref:
NY001348.0406.00004

Sincerely,

ARCADIS G&M, Inc.

David E. Stern
Senior Scientist

Carlo San Giovanni
Project Manager

Enclosures

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Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE:	MW-03R	10631	GM-15S	GM-15I	GM-15D	GM-15D2	GM-17S
	SAMPLE ID:	MW-3R	N-10631	GM-15S	GM-15I	GM-15D	GM-15D2	GM-17SR
	DATE:	12/23/2005	1/12/2006	12/22/2005	1/9/2006	12/22/2005	12/22/2005	1/23/2006
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	<5	<5	<5	1 J	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	0.7 J	3 J	4J	1 J	12	<5	<5
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	<5	<5	<5	<5	<5	1 J	14	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5
Xylene (total)	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5	<5
Freon 113	<5	<5	<5	<5	<5	<5	<5	<5
Total VOCs	0	0.7	3	5	2	26	0	

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE:	GM-17I	GM-17D	GM-18S	GM-18I	GM-18D	GM-20I	GM-20D
	SAMPLE ID:	GM-17I	GM-17D	GM-18S	GM-18I	GM-18D	GM-20I	GM-20D
	DATE:	12/20/2005	12/20/2005	01/12/06	1/10/2006	1/6/2006	1/9/2006	1/10/2006
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	1 J	<5	9	<5	<5	<5
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5
Xylene (total)	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5	<5
Freon 113	<5	<5	<5	<5	<5	<5	<5	<5
Total VOCs	0	0	1	0	9	0	0	0

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE:	GM-21S	GM-21I	GM-21D	GM-33D2	GM-34D	GM-34D2	GM-35D2
	SAMPLE ID:	GM-21S	GM-21I	GM-21D	GM-33D2	GM-34D	GM-34D2	GM-35D2
	DATE:	1/23/2006	1/9/2006	1/3/2006	1/12/2006	1/11/2006	1/11/2006	1/10/2006
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	9	5	2 J	
1,1-Dichloroethane	<5	<5	<5	<5	2 J	0.8 J	0.6 J	
cis-1,2-Dichloroethene	<5	<5	<5	<5	10	10	5 J	
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	
Chloroform	<5	<5	<5	<5	<5	<5	<5	
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	
2-Butanone	<10	<10	<10	<10	<10	<10	<10	
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5	
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5	
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	
Trichloroethene	<5	<5	2 J	35	500 D	240 D	300 D	
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	
Benzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	
Bromoform	<5	<5	<5	<5	<5	<5	<5	
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10	
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	
Tetrachloroethene	<5	<5	<5	8	8	11	10	
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	
Toluene	<5	<5	<5	<5	<5	<5	<5	
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	
Styrene	<5	<5	<5	<5	<5	<5	<5	
Xylene (total)	<5	<5	<5	<5	<5	<5	<5	
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5	
Freon 113	<5	<5	<5	36	27	13	7	
Total VOCs	0	0	2	79	556	275.8	324.6	

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE: GM-39D _A ⁽¹⁾	GM-39D _B ⁽¹⁾	GM-73D	GM-73D2	GM-74I	GM-74D	GM-74D2
	SAMPLE ID: GM-39D	GM-39D2	GM-73D	GM-73D2	GM-74I	GM-74D	GM-74D2
	DATE: 1/3/2006	1/6/2006	12/21/2005	12/21/05	12/21/2005	12/21/2005	12/21/05
Chloromethane	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<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
cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	10	50	23	140	<5	2 J	9
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5
Benzene	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	<5	<5	<5	<5	<5	<5	9
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5
Xylene (total)	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5
Freon 113	<5	<5	<5	<5	<5	<5	<5
Total VOCs	10	50	23	140	0	2	18

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

	SITE:	GM-75D2	GM-78S	GM-78I	GM-79I	GM-79D	GP-1	GP-3
CONSTITUENT	SAMPLE ID:	GM-75D2	GM-78S	GM-78I	GM-79I	GM-79D	GP-1	GP-3
(Units in ug/L)	DATE:	1/12/2006	12/23/2005	12/23/2005	1/6/2006	1/6/2006	2/7/2006	02/07/06
Chloromethane		<5	<5	<5	<5	<5	<5	<5
Bromomethane		<5	<5	<5	<5	<5	<5	<5
Vinyl chloride		<2	<2	<2	<2	<2	<2	140
Chloroethane		<5	<5	<5	<5	<5	<5	3 J
Methylene chloride		<5	<5	<5	<5	<5	<5	<5
Acetone		<10	<10	<10	<10	<10	<10	<10
Carbon disulfide		<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene		4 J	<5	<5	<5	<5	5	23
1,1-Dichloroethane		0.5 J	<5	<5	<5	<5	<5	4 J
cis-1,2-Dichloroethene		2J	<5	<5	<5	0.8 J	9	14
trans-1,2-Dichloroethene		<5	<5	<5	<5	<5	<5	<5
Chloroform		<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane		<5	<5	<5	<5	<5	<5	<5
2-Butanone		<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane		<5	<5	<5	<5	<5	<5	6
Carbon tetrachloride		<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane		<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane		<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene		<5	<5	<5	<5	<5	<5	<5
Trichloroethene		190 D	<5	0.7 J	<5	58	770 D	4200 D
Dibromochloromethane		<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane		<5	<5	<5	<5	<5	<5	<5
Benzene		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene		<5	<5	<5	<5	<5	<5	<5
Bromoform		<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone		<10	<10	<10	<10	<10	<10	<10
2-Hexanone		<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene		7	<5	<5	<5	0.9 J	110	48
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5	<5	<5	<5
Toluene		<5	<5	<5	<5	<5	<5	<5
Chlorobenzene		<5	<5	<5	<5	<5	<5	<5
Ethylbenzene		<5	<5	<5	<5	<5	<5	<5
Styrene		<5	<5	<5	<5	<5	<5	<5
Xylene (total)		<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate		<5	<5	<5	<5	<5	<5	<5
Freon 113		3 J	<5	<5	<5	<5	8	22
Total VOCs		206.5	0	0.7	0	58.9	902	4460

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE:	ONCT-1	ONCT-2	ONCT-3
	SAMPLE ID:	ONCT-1	ONCT-2	ONCT-3
	DATE:	2/7/2006	2/7/2006	02/07/06
Chloromethane	<5	<5	<5	
Bromomethane	<5	<5	<5	
Vinyl chloride	<2	<2	<2	
Chloroethane	<5	<5	<5	
Methylene chloride	<5	<5	<5	
Acetone	<10	<10	<10	
Carbon disulfide	<5	<5	<5	
1,1-Dichloroethene	2 J	4 J	<5	
1,1-Dichloroethane	<5	<5	<5	
cis-1,2-Dichloroethene	3 J	1 J	17	
trans-1,2-Dichloroethene	<5	<5	0.5 J	
Chloroform	<5	<5	0.6 J	
1,2-Dichloroethane	<5	<5	<5	
2-Butanone	<10	<10	<10	
1,1,1-Trichloroethane	<5	<5	<5	
Carbon tetrachloride	<5	<5	<5	
Bromodichloromethane	<5	<5	<5	
1,2-Dichloropropane	<5	<5	<5	
cis-1,3-Dichloropropene	<5	<5	<5	
Trichloroethene	450 D	140	120	
Dibromochloromethane	<5	<5	<5	
1,1,2-Trichloroethane	<5	<5	<5	
Benzene	<0.7	<0.7	<0.7	
trans-1,3-Dichloropropene	<5	<5	<5	
Bromoform	<5	<5	<5	
4-Methyl-2-pentanone	<10	<10	<10	
2-Hexanone	<10	<10	<10	
Tetrachloroethene	16	7	7	
1,1,2,2-Tetrachloroethane	<5	<5	<5	
Toluene	<5	<5	<5	
Chlorobenzene	<5	<5	<5	
Ethylbenzene	<5	<5	<5	
Styrene	<5	<5	<5	
Xylene (total)	<5	<5	<5	
Vinyl Acetate	<5	<5	<5	
Freon 113	9	<5	<5	
Total VOCs	480	152	145.1	

(1) Wells GM-39D_A and GM-39D_B are screened in the upper and basal portions of the Deep zone, respectively.
 ug/L Micrograms per liter
 J Estimated Value
 D Constituent Identified at a Secondary Dilution
Bold Constituent detected

Table 2. Concentrations of Total and Dissolved Cadmium and Chromium Detected in Groundwater and Blank Samples, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	NYSDEC SCGs ⁽¹⁾	WELL: SAMPLE ID: DATE:	GM-15S GM-15S 12/22/05	GM-17SR GM-17SR 01/23/06	GM-18S GM-18S 01/12/06	GM-78S GM-78S 12/23/05	GM-78I GM-78I 12/23/05	MW-03R MW-3R 12/23/05	MW-04 PLT 1-MW4 12/22/05	MW-05 PLT 1-MW5 12/22/05	MW-06 PLT 1-MW6 12/22/05
Cadmium	5	1.8 B	--	<1.1	<1.1	<1.1	<1.1	31.1	--	--	--
Cadmium (Dissolved)	5	<1.1	--	<1.1	<1.1	--	--	28.6	--	--	--
Chromium	50	13.8	557	1.5 B	4.3 B	<1.3	<1.3	41.2	<1.3	1150	229
Chromium (Dissolved)	50	4.8 B	--	<1.3	<1.3	--	--	38	--	--	--

(1) Standards, Criteria, and Guidance (SCG) values based on documents referenced in the Groundwater Feasibility Study Report (ARCADIS Geraghty & Miller 2000) that are based on the NYSDEC TOGSs (NYSDEC 1998); most stringent value listed.

NYSDEC New York State Department of Environmental Conservation

ug/L Micrograms per liter

B Detected between the IDL and CRDL

IDL Instrument detection limit

CRDL Contract-required detection limit

Value exceeds associated SCG value.

TOGS Technical and Operational Guidance Series memorandum.

Bold Constituent detected above IDL.

-- Not analyzed

Table 2. Concentrations of Total and Dissolved Cadmium and Chromium Detected in Groundwater and Blank Samples, Fourth Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	NYSDEC SCGs ⁽¹⁾	WELL: SAMPLE ID: DATE:	FIELD BLANK FB122205 12/22/05	FIELD BLANK FB122305 12/23/05	FIELD BLANK FB011206 01/12/06	FIELD BLANK FB012306 01/23/06
Cadmium	5	--	<1.1	<1.1	<1.1	<1.1
Cadmium (Dissolved)	5	--	--	--	--	--
Chromium	50	3.9 B	<1.3	<1.3	<1.3	<1.3
Chromium (Dissolved)	50	--	--	--	--	--

(1) Standards, Criteria, and Guidance (SCG) values based on documents referenced in the Groundwater Feasibility Study Report (ARCADIS Geraghty & Miller 2000) that are based on the NYSDEC TOGSs (NYSDEC 1998); most stringent value listed.

NYSDEC
ug/L
B
IDL
CRDL
TOGS
Bold
--

Micrograms per liter
Detected between the IDL and CRDL
Instrument detection limit
Contract-required detection limit
Value exceeds associated SCG value.
Technical and Operational Guidance Series memorandum.
Constituent detected above IDL.
Not analyzed



Mr. Steven Scharf, P.E.
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Division of Environmental Remediation
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Fax 631 249 7610
www.arcadis-us.com

Subject:
Results of Fourth Quarter 2005 Outpost Well Groundwater Monitoring, Operable Unit 2, Northrop Grumman Corporation and Naval Weapons Industrial Reserve Plant Sites, Bethpage, New York. (NYSDEC Site #s 1-30-003A and B)

ENVIRONMENT

Dear Mr. Scharf:

Date:
5 April 2006

Pursuant to the July 2003 Public Water Supply Contingency Plan (PWSCP) (ARCADIS G&M, Inc. 2003), ARCADIS is providing the NYSDEC with the validated results of groundwater monitoring performed for the Outpost Wells for the Fourth Quarter 2005. Table 1 summarizes the analytical results of monitoring for site-related volatile organic compounds (VOCs), as outlined in the PWSCP, for this period.

Contact:
David E. Stern

Phone:
(631) 391-5284

From January 16 through January 18, 2006, samples were collected from the nine Outpost Wells using the sampling methodology described in the PWSCP. Based on the trigger values for site-related TVOC concentrations established in the PWSCP, there are no new exceedences of trigger values. Wells in Clusters OW-1 and OW-2 continue to exhibit site-related TVOC concentrations above their respective trigger values, which were initially detected in samples collected during the First and Second Quarters of 2004.

Email:
dstern@arcadis-us.com

Our ref:
NY001348.0406.00004

Please contact us if you have any questions or comments.

Sincerely,

ARCADIS G&M, Inc.

David E. Stern
Senior Scientist

Carlo San Giovanni
Project Manager

Enclosures

Copies:
See Attached Distribution List

Imagine the result

Copies:

Water Parrish - New York State Department of Environmental Conservation
John Cofman - Northrop Grumman Corporation
Larry Leskovjan - Northrop Grumman Corporation
James Colter - U.S. Navy Northern Division
John Lovejoy - Nassau County Department of Health
Trevor Wescott - New York State Department of Health
Frank Flood - Massapequa Water District
Matt Snyder - New York Water Service
Anthony J. Sabino - Town of Oyster Bay
William Bier - South Farmingdale Water District
David Brayack - TetraTech NUS, Inc.
Arnold Palleschi - Town of Hempstead Water District
Kevin Lumpe - Steel Equities
Lois Lovisolo - Bethpage Public Library (Public Repository)
Andrew Musgrave - Bethpage Water District

ARCADIS

Table 1. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Wells, Fourth Quarter 2005, Northrop Grumman Corporation and Naval Weapons Industrial Reserve Plant Site, Bethpage, New York. ⁽¹⁾

CONSTITUENT (Units in ug/L)	SITE:		OW 1-2 BPOW 1-2 1/16/2006	OW 1-3 BPOW 1-3 1/16/2006	OW 2-1 ⁽⁵⁾ BPOW 2-1 1/17/2006		OW 2-2 BPOW 2-2 1/17/2006	OW 3-1 BPOW 3-1 1/18/2006		OW 3-2 ⁽⁶⁾ BPOW 3-2 1/18/2006		OW 4-1 BPOW 4-1 1/19/2006	OW 4-2 BPOW 4-2 1/19/2006
	SAMPLE ID:	DATE:			OW 2-1 ⁽⁵⁾ BPOW 2-1 1/17/2006	OW 3-1 BPOW 3-1 1/18/2006		OW 3-2 ⁽⁶⁾ BPOW 3-2 1/18/2006					
Chlorobenzene			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene			2.3	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane			1.5	0.95	1.1	0.78	0.78	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane			<0.5	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane			4.7	3.9	0.7	0.64	0.64	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene			2.5	0.82	1.3	1.2	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene			<0.5	<0.5	0.65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Freon-113			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Site-Related VOCs⁽¹⁾:			11⁽³⁾	7.57⁽³⁾	5.45⁽⁴⁾	2.62⁽⁴⁾	2.62⁽⁴⁾	0	0	0	0	0	0
TVOC Trigger Value⁽²⁾:			0.6	0.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

(1) Site-related VOCs were established in the Public Water Supply Contingency Plan (PWSCP) (ARCADIS G&M, Inc. 2003).
 (2) TVOC Trigger Values were established in the PWSCP (ARCADIS G&M, Inc. 2003).
 (3) The TVOC Trigger Value for Cluster 1 was initially exceeded on April 23, 2004; confirmatory sampling and reporting was conducted as per the PWSCP (ARCADIS G&M, Inc. 2003).
 (4) The TVOC Trigger Value for Cluster 2 was initially exceeded on May 3, 2004; confirmatory sampling and reporting was conducted as per the PWSCP (ARCADIS G&M, Inc. 2003).
 (5) Benzene and Methyl tert-butyl ether (MTBE), which are not site-related VOCs, were detected in Outpost Well OW 2-1 on 1/17/06 at 80 ug/L and 7.5 ug/L, respectively.
 ug/L
 Micrograms per liter
 Constituent detected