



Infrastructure, environment, buildings

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Mr. Steven Scharf, P.E.
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7015

ENVIRONMENT

Subject:
Second Quarter 2005 Groundwater Monitoring Data,
Operable Unit 2 Monitoring Network,
Northrop Grumman Corporation, Bethpage, New York.

Dear Mr. Scharf:

Date:
5 October 2005

On behalf of Northrop Grumman Corporation (NGC), ARCADIS is providing the
NYSDEC with the validated results of groundwater monitoring performed in the
Second 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.

Contact:
David E. Stern

Phone:
(631) 391-5284

Please contact us if you have any questions or comments.

Email:
dstern@arcadis-us.com

Sincerely,

Our ref:
NY001348.0405.00004

ARCADIS G&M, Inc.

David E. Stern
Senior Scientist

Carlo San Giovanni
Project Manager

Enclosures

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Steven Scharf, P.E.
5 October 2005

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Table 1. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and OU2 Groundwater Remedial Wells, Second 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	GM-17I
	SAMPLE ID:	MW-3R	N-10631	GM-15S	GM-15I	GM-15D	GM-15D2	GM-17SR	GM-17I
	DATE:	6/3/2005	6/8/2005	5/31/2005	6/10/2005	5/31/2005	5/31/2005	6/3/2005	6/7/2005
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	1 J	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	1 J	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	0.8 J	0.6 J	2 J	5	3 J	13	<5	<5	<5
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<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	<0.7
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	<5	<5	<5	<5	3 J	18	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylene (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Freon 113	<5	<5	<5	<5	<5	1 J	<5	<5	<5
Total VOCs	0.8	0.6	2	5	8	32	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, Second Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE: SAMPLE ID: DATE:	GM-17D GM-17D 6/7/2005	GM-18I GM-18I 6/8/2005	GM-18D GM-18D 6/7/2005	GM-20I GM-20I 6/10/2005	GM-20D GM-20D 6/10/2005	GM-21S GM-21S 6/6/2005	GM-21I GM-21I 6/10/2005	GM-21D GM-21D 6/6/2005
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	0.7 J	<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	9	0.6 J	<5	<5	<5	2 J
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	0.7	9	0.6	0	0	0	2

(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

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

CONSTITUENT (Units in ug/L)	SITE:	GM-33D2	GM-34D	GM-34D2	GM-35D2	GM-39D _A ⁽¹⁾	GM-39D _B ⁽¹⁾	GM-73D	GM-73D2
	SAMPLE ID:	GM-33D2	GM-34D	GM-34D2	GM-35D2	GM-39D	GM-39D2	GM-73D	GM-742D2
	DATE:	6/8/2005	6/9/2005	6/9/2005	6/13/2005	6/3/2005	6/7/2005	6/2/2005	6/3/2005
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	5	8	1 J	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	<5	9	8	3 J	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	4 J	7	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	44	590 D	370 D	320 D	7	23	74	260 D	
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<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	<0.7
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethene	6	8	9	9	<5	<5	<5	0.9 J	
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylene (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5
Freon 113	3 J	28	13	9	<5	<5	<5	<5	<5
Total VOCs	53	644	415	342	7	23	74	260.9	

(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

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

CONSTITUENT (Units in ug/L)	SITE: SAMPLE ID: DATE:	GM-74I GM-74I 6/2/2005	GM-74D GM-74D 6/2/2005	GM-74D2 GM-74D2 6/2/2005	GM-75D2 GM-75D2 6/9/2005	GM-78S GM-78S 6/1/2005	GM-78I GM-78I 6/1/2005	GM-79I GM-79I 6/7/2005	GM-79D GM-79D 6/7/2005
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	6	<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	0.8 J
trans-1,2-Dichloroethene		<5	<5	<5	5 J	<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	4 J	9	320 D J	1 J	2 J	<5	79
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	8	6	<5	<5	<5	2 J
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	3 J	<5	<5	<5	1 J
Total VOCs		0	4	17	341	1	2	0	82.8

(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, Second Quarter 2005, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	SITE:	GP-1	ONCT-1	ONCT-2	ONCT-3
	SAMPLE ID:	GP-1	ONCT-1	ONCT-2	ONCT-3
	DATE:	6/15/2005	6/15/2005	6/15/2005	6/15/2005
Chloromethane		<5	<5	<5	<5
Bromomethane		<5	<5	<5	<5
Vinyl chloride		<2	<2	<2	<2
Chloroethane		<5	<5	<5	<5
Methylene chloride		<5	<5	<5	<5
Acetone		<10	<10	<10	<10
Carbon disulfide		<5	<5	<5	<5
1,1-Dichloroethene		5 J	2 J	3 J	1 J
1,1-Dichloroethane		<5	<5	<5	<5
cis-1,2-Dichloroethene		8	2 J	1 J	19
trans-1,2-Dichloroethene		<5	<5	<5	1 J
Chloroform		<5	<5	<5	1 J
1,2-Dichloroethane		<5	<5	<5	<5
2-Butanone		<10	<10	<10	<10
1,1,1-Trichloroethane		<5	<5	<5	<5
Carbon tetrachloride		<5	<5	<5	<5
Bromodichloromethane		<5	<5	<5	<5
1,2-Dichloropropane		<5	<5	<5	<5
cis-1,3-Dichloropropene		<5	<5	<5	<5
Trichloroethene		540 D	450 D	140	96
Dibromochloromethane		<5	<5	<5	<5
1,1,2-Trichloroethane		<5	<5	<5	<5
Benzene		<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene		<5	<5	<5	<5
Bromoform		<5	<5	<5	<5
4-Methyl-2-pentanone		<10	<10	<10	<10
2-Hexanone		<10	<10	<10	<10
Tetrachloroethene		130	14	8	8
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5
Toluene		<5	<5	<5	<5
Chlorobenzene		<5	<5	<5	<5
Ethylbenzene		<5	<5	<5	<5
Styrene		<5	<5	<5	<5
Xylene (total)		<5	<5	<5	<5
Vinyl Acetate		<5	<5	<5	<5
Freon 113		8	7	1 J	0.7 J
Total VOCs		691	475	153	126.7

(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

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

CONSTITUENT (Units in ug/L)	SITE: MW-03R		MW-04		MW-05		MW-06		10631		GM-15S		GM-17S		GM-78S		GM-78I		
	PLT1	DATE	PLT1	DATE	PLT1	DATE	PLT1	DATE	N-10631	DATE	GM-15S	DATE	GM-17SR	DATE	GM-78S	DATE	GM-78I	DATE	
Cadmium																			
Cadmium (Dissolved)		23.7		--		--		--		1.8 B		--		<10		<10		<10	
		23.4		--		--		--		1.4 B		--		<10		--		--	
Chromium		44.6		2.2 B		1270		272		23.4		404		<10		<10		1.9 B	
Chromium (Dissolved)		44.6		--		--		--		18.5		--		<10		--		--	

ug/L
 B Detected between the IDL and the CRDL
 IDL Instrument Detection Limit
 CRDL Contract-required detection limit
 Bold Constituent detected above IDL
 -- Not analyzed