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Subject:

Results of Third Quarter 2008 Groundwater Monitoring, Operable Unit 2, Northrop Grumman Systems Corporation (Northrop Grumman) and Former Naval Weapons Industrial Reserve Plant (NWIRP) Sites, Bethpage, New York.
(NYSDEC Site #s 1-30-003A and B).

ENVIRONMENT

Dear Mr. Scharf:

Date:
January 7, 2009

On behalf of Northrop Grumman Systems Corporation (Northrop Grumman), ARCADIS is providing the New York State Department of Environmental Conservation (NYSDEC) with the validated results of groundwater monitoring performed in accordance with the approved groundwater monitoring plan and the public water supply contingency plan (ARCADIS G&M, Inc. 2006 and 2003, respectively) for the Third Quarter of 2008 for Operable Unit 2 (OU2). Table 1 provides OU2 remedial systems performance and operational data and water balance for the current period. Tables 2, 3, and 4 provide the results of monitoring for volatile organic compounds (VOCs) and metals in monitoring wells and for VOCs in outpost wells, for this period, respectively. Figure 1 shows the site plan with well locations.

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NY001464.0408.00004

Please contact us if you have any questions or comments.

Sincerely,

ARCADIS

David E. Stern
Senior Hydrogeologist/Associate Project Manager

Enclosures

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Table 1. Summary of Operational Data and Water Balance for the On-Site Portion of the OU2 Groundwater Remedy, Third Quarter 2008, Operable Unit 2, Northrop Grumman Corporation, Bethpage, New York.

Identification	Design	Current Actual	Design	Current Actual	Current	Current	Current	3rd Quarter 2008
	Pumping/ Recharge Rate ^(a) (gpm)	Average Pumping/Recharge Rate ^(b) (gpm)	Total Pumpage/Recharge (MG)	Total Pumpage/Recharge (MG)	Percent of Design Pumpage/ Recharge	TCE Concentration (ug/L)	TVOC Concentration ^(c) ug/L	Estimated VOC Mass Removed ^(d) (lbs)
Remedial Wells		Groundwater Removed from Aquifer						
Well 1	800	846	103.7	109.7	106%	310	420	384
Well 3	700	708	90.7	89.9	99%	2,400	2,610	1,954
Well 17	1,000	1,081	129.6	140.1	108%	210	234	273
Well 18	600	627	77.8	49.6	64%	91	101	42
Well 19	700	814	90.7	105.5	116%	180	209	184
Rounded Totals:	3,800	4,076	493	495	100%	--	--	2,837
Recharge Basins ^(a)		Treated Water Recharged to Aquifer						
West Recharge Basins	412	1,175	53	152.3	287%	--	--	--
South Recharge Basins	2,231	2,383	289.1	308.8	107%	--	--	--
Rounded Totals:	2,643	3,558	342	461.1	135%	--	--	--
Treated Water Sent to Calpine								
Calpine Demand	600-1000	379	78-130	48.6	--	--	--	--
Treatment Efficiencies		Average SPDES Outfall TVOC Concentrations (ug/L) ^(f)						
Tower 96 System Efficiency ^(e) :		>99.9%		0.7				
Tower 102 System Efficiency ^(e) :		99.8%		0.3				

see footnotes on last page

Table 1. Summary of Operational Data and Water Balance for the On-Site Portion of the OU2 Groundwater Remedy, Third Quarter 2008, Operable Unit 2, Northrop Grumman Corporation, Bethpage, New York.

- (a) - Remedial well pumping rates based on computer modeling (ARCADIS G& M, Inc. 2003c). Acceptable minimum recharge rates based on computer modeling (ARCADIS G&M, Inc. 2004b). Design pumping and recharge rates were modified in April, 2005 and will be shown herein when procured equipment is installed and the wells returned to service at NYSDEC-approved modified pumping rates. Recharge includes remedial well pumpage (minus pipe loss) and incidental runoff from precipitation. Current average recharge rates have been determined using the entire 90-day span of time as opposed to current average pumping rates, which account for varying amounts of downtime, as indicated below.
- b) - OU2 wells were operational during the Third Quarter 2008, at the following percentages: Well-1 (100%), Well-3 (98%); Well-17 (100%), Well-18 (61%), and Well-19 (100%). The Actual Average Pumping Rates and rate of treated water sent to Calpine are for when the wells are pumping.
- (c) - The TVOC concentration for each well was calculated based on Third Quarter 2008 groundwater monitoring data (Table 2).
- (d) - TVOC mass removed is based on the TVOC data given above and the following formula:

$$\text{(TVOC concentration in ug/L) X (gallons pumped) X (3.785 L/gal) X (1 x 10}^{-6}\text{ g/ug) X (2.2 x 10}^{-3}\text{ lb/g)}$$

- (e) Air Stripping Efficiency calculated from values above and in Table 2 using the following formula:

$$1 - \left[\left(\frac{\text{Average SPDES TVOC Concentration at Outfall}}{\frac{[(\text{TVOC}_{\text{Well 1}} \times \text{Q}_{\text{Well 1}}) + (\text{TVOC}_{\text{Well 2}} \times \text{Q}_{\text{Well 2}})]}{(\text{Q}_{\text{Well 1}} + \text{Q}_{\text{Well 2}})}} \right) \right]$$

When non-detectable levels of VOCs are found in the effluent, a value of zero is used to estimate the efficiency of the air stripper.

- (f) Towers 96 and 102 outfalls are identified as Outfalls 005 and 006, respectively (commonly known as the Plant 5 Recharge Basins and South Recharge Basins, respectively). Complete SPDES reporting provided to NYSDEC by Northrop Grumman under separate cover.

--	Not Available or Not Applicable	lb/g	pounds per gram
TVOC	Total Volatile Organic Compounds	lbs	pounds
g/ug	grams per microgram	MG	Million Gallons
gpm	gallons per minute	ug/L	micrograms per liter
L/gal	Liters per gallon	OU2	Operable Unit 2
SPDES	State Pollutant Discharge Elimination System	Q	Pumping Rate
Northrop Grumman	Northrop Grumman Systems Corporation	NYSDEC	New York State Department of Environmental Conservation

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: Sample ID: Date:	N-10627 N-10627 8/19/2008	N-10631 N-10631 8/19/2008	FW-03 FW-03 9/5/2008	GM-13D GM-13D 8/20/2008	GM-15S GM-15S 8/13/2008	GM-15I GM-15I 8/26/2008	GM-15D GM-15D 8/13/2008	GM-15D2 GM-15D2 8/13/2008	GM-17I GM-17I 8/11/2008	GM-17D GM-17D 8/11/2008
1,1,1-Trichloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene		< 5	< 5	< 5	12	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone		< 50	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone		< 50	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone		< 50	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 50	< 50	< 50	< 100	< 50	< 50	< 50	< 50	< 50	< 50
Carbon tetrachloride		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 7	< 7	< 7	< 14	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		< 5	< 5	< 5	22	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Freon 113		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 5	< 5	26	200	< 5	< 5	< 5	12	< 5	< 5
Toluene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		< 5	< 5	< 5	55	< 5	< 5	< 5	10	< 5	< 5
Vinyl Chloride		< 2	< 2	< 2	< 4	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5
Total VOCs		0	0	26	289	0	0	0	22	0	0

ug/L Micrograms per liter
D Constituent identified at a secondary dilution
Bold Constituent detected
VOCs Volatile Organic Compounds

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: Sample ID: Date:	GM-18I GM-18I 8/26/2008	GM-18D GM-18D 8/26/2008	GM-20I GM-20I 8/28/2008	GM-20D GM-20D 8/28/2008	GM-21S GM-21S 8/15/2008	GM-21I GM-21I 8/28/2008	GM-21D GM-21D 8/28/2008	GM-33D-2 GM-33D-2 8/19/2008	GM-34D GM-34D 8/21/2008	GM-34D2 GM-34D2 8/21/2008
1,1,1-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,1-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,1-Dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
2-Butanone		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 250	< 100
2-Hexanone		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 250	< 100
4-methyl-2-pentanone		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 250	< 100
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 250	< 100
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 3.5	< 1.4
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Carbon Disulfide		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 250	< 100
Carbon tetrachloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Chloroform		< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 35	< 14
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
cis-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Freon 113		< 5	< 5	< 5	< 5	< 5	< 5	< 5	33	< 25	< 10
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Tetrachloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	10	< 25	10
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Trichloroethylene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	71	840	340
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 4
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 10
Total VOCs		0	0	0	0	0	0	0	114	840	350

ug/L Micrograms per liter
D Constituent identified at a secondary dilution
Bold Constituent detected
VOCs Volatile Organic Compounds

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: Sample ID: Date:	GM-35D2 GM-35D2 8/25/2008	GM-38D GM-38D 8/25/2008	GM-38D2 GM-38D2 8/25/2008	GM-39D _A GM-39D 8/20/2008	GM-39D _B GM-39D-2 8/20/2008	GM-73D GM-73D 8/21/2008	GM-73D2 GM-73D2 8/21/2008	GM-74I GM-74I 8/18/2008	GM-74D GM-74D 8/18/2008	GM-74I GM-74I 8/18/2008
1,1,1-Trichloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone		< 100	< 500	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone		< 100	< 500	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone		< 100	< 500	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 100	< 500	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 1.4	< 7	< 3.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 100	< 500	< 250	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon tetrachloride		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 14	< 70	< 35	< 7	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-dichloropropene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Freon 113		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		210	1100	900	13	62	7.6	44	< 5	< 5	< 5
Vinyl Chloride		< 4	< 20	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 10	< 50	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Total VOCs		210	1100	900	13	62	7.6	44	0	0	0

ug/L Micrograms per liter
D Constituent identified at a secondary dilution
Bold Constituent detected
VOCs Volatile Organic Compounds

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: Sample ID: Date:	GM-74D GM-74D 8/18/2008	GM-74D-2 GM-74D-2 8/18/2008	GM-75D-2 GM-75D-2 8/19/2008	GM-78S GM-78S 8/14/2008	GM-78I GM-78I 8/14/2008	GM-79I GM-79I 8/22/2008	GM-79D GM-79D 8/22/2008	HN-24I HN-24I 9/5/2008	HN-40S HN-40S 8/12/2008	HN-40I HN-40I 8/12/2008
1,1,1-Trichloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5.2	< 5	< 5
1,2-Dichloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Carbon tetrachloride	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7
Chloromethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-dichloropropene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Freon 113	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	< 5	6.4	5	< 5	< 5	< 5	< 5	< 5	12	< 5	< 5
Toluene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene	< 5	6.4	190	< 5	< 5	< 5	< 5	46	19	< 5	< 5
Vinyl Chloride	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Total VOCs	0	12.8	195	0	0	0	46	36.2	0	0	0

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: Sample ID: Date:	HN-42S HN-42S 8/12/2008	HN-42I HN-42I 8/12/2008	GP-1 WELL 1 8/18/2008	GP-3 WELL 3 8/18/2008	T-96 EFF TOWER 96 EFF 8/18/2008	WELL 17 WELL 17 8/18/2008	WELL 18 WELL 18 8/18/2008	WELL 19 WELL 19 8/18/2008	T-102 EFF TOWER 102 EFF 8/18/2008
1,1,1-Trichloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,1-Dichloroethene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,2-Dichloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
2-Butanone		< 50	< 50	< 100	< 1000	< 50	< 100	< 50	< 50	< 50
2-Hexanone		< 50	< 50	< 100	< 1000	< 50	< 100	< 50	< 50	< 50
4-methyl-2-pentanone		< 50	< 50	< 100	< 1000	< 50	< 100	< 50	< 50	< 50
Acetone		< 50	< 50	< 100	< 1000	< 50	< 100	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 1.4	< 14	< 0.7	< 1.4	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Bromoform		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Carbon Disulfide		< 50	< 50	< 100	< 1000	< 50	< 100	< 50	< 50	< 50
Carbon tetrachloride		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Chloroform		< 7	< 7	< 14	< 140	< 7	< 14	< 7	< 7	< 7
Chloromethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
cis-1,2-dichloroethene		< 5	7.2	< 10	< 100	< 5	< 10	< 5	21	< 5
cis-1,3-dichloropropene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Freon 113		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Styrene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Tetrachloroethene		< 5	< 5	110	< 100	< 5	24	10	8	< 5
Toluene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Trichloroethylene		< 5	17	310	2400	< 5	210	91	180	< 5
Vinyl Chloride		< 2	< 2	< 4	210	< 2	< 4	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 10	< 100	< 5	< 10	< 5	< 5	< 5
Total VOCs		0	24.2	420	2610	0	234	101	209	0

ug/L Micrograms per liter
Bold Constituent detected
 VOCs Volatile Organic Compounds

Table 3. Concentrations of Total and Dissolved Cadmium and Chromium Detected in Monitoring Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in mg/L)	Well:	N-10631	GM-15S	GM-78I	GM-78S	MW-1GF	MW-2GF	MW-04	MW-05	MW-06
	Sample ID:	N-10631	GM-15S	GM-78I	GM-78S	MW-01GF	MW-02GF	PT1MW-04	PT1MW-05	PT1MW-06
	Date:	8/19/2008	8/13/2008	8/14/2008	8/14/2008	8/15/2008	8/14/2008	8/13/2008	8/13/2008	8/13/2008
Cadmium		< 0.005	-	< 0.005	< 0.005	< 0.005	< 0.005	-	-	-
Cadmium (Dissolved)		< 0.005	-	< 0.005	< 0.005	< 0.005	< 0.005	-	-	-
Chromium		0.0159	0.486	< 0.01	< 0.01	< 0.01	0.0214	< 0.01	0.276	0.208
Chromium (Dissolved)		< 0.01	0.5	< 0.01	< 0.01	< 0.01	0.0156	< 0.01	0.267	0.195

ug/L Micrograms per liter

Bold Constituent detected above IDL.

-- Not analyzed

ARCADIS

Table 4. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Wells, Third Quarter 2008, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well:	BPOW 1-1	BPOW 1-2	BPOW 1-3	BPOW 3-1	BPOW 3-1	BPOW 3-2	BPOW 4-1	BPOW 4-2
	Sample ID:	BPOW 1-1	BPOW 1-2	BPOW 1-3	BPOW 3-1	BPOW 3-1	BPOW 3-2	BPOW 4-1	BPOW 4-2
	Date:	8/5/2008	8/5/2008	8/5/2008	8/7/2008	8/7/2008	8/6/2008	8/6/2008	8/6/2008
1,1,1-Trichloroethane		1.1	< 0.5	4.2	< 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
1,1,2-Trichloroethane		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		0.67	< 0.5	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene		< 0.5	< 0.5	3.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane		< 0.5	< 0.5	< 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
Chlorobenzene		< 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
cis-1,2-dichloroethene		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Freon 113 ⁽⁴⁾		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene		< 0.5	< 0.5	< 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
Trichloroethylene		1.2	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Site-Related VOCs ⁽¹⁾:		2.97 ⁽³⁾	0	10 ⁽³⁾	0	0	0	0	0
TVOC Trigger Value ⁽²⁾:		0.6	0.6	0.6	1.5	1.5	1.5	1.5	1.5

Note: Outpost wells OW2-1 and OW2-2 were not sampled by Northrop Grumman this round, due to ongoing NYSDEC investigation of non-site related VOCs (benzene and methyl tertiary butyl ether) detected in these wells.

⁽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⁾ Freon 113 is also known as 1,1,2-Trichloro-1,2,2-Triifluoroethane

ug/L Micrograms per liter

Bold Constituent detected

TVOC Total Volatile Organic Compounds

Because we care

100% recycled paper produced by wind power energy

