ARCADIS
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

Subject:
Results of First Quarter 2012 Groundwater Monitoring,
Operable Unit 2, Northrop Grumman Systems Corporation and Naval Weapons Industrial Reserve Plant (NWIRP) Sites, Bethpage, New York.
(NYSDEC Site #s 1-30-003A and B)

ENVIRONMENT

Date:
May 9, 2012

Contact:
David Stern

Phone:
631-391-5284

Email:
david.stern@arcadis-us.com

Our ref:
NY001496.0312.GWMI4

Dear Mr. Scharf:

On behalf of Northrop Grumman Systems Corporation (Northrop Grumman), ARCADIS is providing the NYSDEC with the validated results of Operable Unit 2 (OU2) groundwater monitoring, performed in accordance with the approved groundwater monitoring plan (ARCADIS G&M, Inc. 2006) and the Public Water Supply Contingency Plan (PWSCP) (ARCADIS G&M, Inc. 2003), plus additional wells installed by the Navy that Northrop Grumman agreed to monitor on a voluntary basis. Table 1 provides OU2 remedial system performance operational data and water balance. Tables 2 through 4 provide the validated analytical results of monitoring for this period. Figure 1 shows the site plan with well locations.

Please contact us if you have any questions or comments.

Sincerely,

ARCADIS of New York, Inc.

David E. Stern
Senior Hydrogeologist

Carlo San Giovanni
Project Manager

Enclosures

Imagine the result

Copies:
John Cofman – Northrop Grumman
Kent Smith – Northrop Grumman
Ed Hannon – Northrop Grumman
Carol Henry, EMAGIN
Walter Parish – NYSDEC Region 1
Bill Spitz - NYSDEC Region 1
Steven Karpinski – New York State Department of Health
Michael Alarcon – Nassau County Department of Health
Joseph DeFranco – Nassau County Department of Health
Lora Fly – NAVFAC Midlant Environmental
David Brayack – TetraTech NUS, Inc.
Rick Passmore – Glenn Springs Holdings, Inc.
Kevin Lumpe – Steel Equities
Thomas Taccone – USEPA
Matthew Russo – Town of Oyster Bay
Frank Flood – Massapequa Water District
Matthew Snyder – Aqua New York
Charles Prucha – South Farmingdale Water District
John Reinhardt – Town of Hempstead Water District
Michael Boufis – Bethpage Water District
Anthony J. Sabino Esq. – Bethpage Water District
Lois Lovisolo – Bethpage Public Library (Public Repository)
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Table 1. Operational Summary for the On-Site Portion of the Operable Unit 2 Groundwater Remedy, First Quarter 2012, Northrop Grumman Systems Corporation, Bethpage, New York.[1]

Identification	Flow Rates (gpm)		Quarterly Flow Volumes (MG)			VOC Concentrations (ug/L)		VOC Mass Removed [7]
	Design [2]	Average [3,4]	Design [2]	Actual [3,4]	% of Design	TCE [5]	TVOC [5,6]	Quarterly
Influent Groundwater								
Well 1 [10]	800	844	96.8	39.8	41%	450	519	172
Well 3 [11]	700	686	84.7	73.1	86%	1,700	1,934	1,156
Well 17	1,000	1,032	121.0	118.6	98%	230	278	270
Well 18	600	634	72.6	73.7	102%	69	92	55
Well 19	700	715	84.7	84.0	99%	200	238	163
Total	3,800	3,911	460	389	85%	--	--	1,816
Effluent Groundwater [8]								
Calpine	100 - 400	23.1	--	3.0	--	--	--	--
OXY Biosparge	14 - 54	3.8	--	0.5	--	--	--	--
West Recharge Basins	1,112 - 1,455	701	--	84.8	--	--	0.17	--
South Recharge Basins[12]	2,231	2,488	269.9	300.9	111%	--	1.05	--
Total	--	3,216	--	389	--	--	--	--
Treatment Efficiencies [9]								
Tower 96 System Efficiency:	99.93%							
Tower 102 System Efficiency:	100%							

see footnotes on last page

Table 1. Operational Summary for the On-Site Portion of the Operable Unit 2 Groundwater Remedy, First Quarter 2012, Northrop Grumman Systems Corporation, Bethpage, New York.(1)

(1) Quarterly reporting period: January 9, 2012 through April 2, 2012.

(2) "Design" flow rates were determined for the five remedial wells and for the South Recharge Basins based on computer modeling (ARCADIS G&M, Inc. 2003c, modified in April 2005). Flow rates for Calpine, OXY Biosparge and West Recharge Basins are typical flow rates and are provided for reader information. "Design" flow volumes represent the volume of water that should be pumped/discharged during the reporting period and is calculated by multiplying the design rate by the reporting period duration.

(3) ''Average'' flow rates for the remedial wells represent the average actual pumping rates when the pumps are operational and do not take into account the time that a well not is operational. During this reporting period, the remedial wells operated for the following percentage of the time: Well 1 (39%), Well 3 (88%), Well 17 (95%), Well 18 (96%), and Well 19 (97%). ''Actual'' volumes are determined via totalizing flow meters.

(4) "Average" flow rates for the system discharges represent the average flow rate during the entire reporting period and are determined by dividing the total flow during the reporting period by the reporting period duration. The Calpine, OXY Biosparge, and South Recharge Basins flow volumes are determined via totalizing flow meters. The West Recharge Basin flow is calculated by subtracting the cumulative flow to the other discharges from the total influent flow. Actual flow to the recharge basins are greater than shown because storm water combines with the plant effluents prior to discharge to the recharge basins.

(5) The TCE and TVOC concentrations for the remedial wells are from the quarterly sampling event performed during this reporting period (Table 2).

(6) The TVOC concentration for the two sets of recharge basins are their respective average monthly SPDES concentration for the current quarter.

(7) TVOC mass removed for the reporting period is calculated by multiplying the TVOC concentration from the quarterly sampling event and the quantity of water pumped during the reporting period.

(8) There are five discharges for the effluent groundwater: South Recharge Basins, West Recharge Basins, Calpine, OXY Biosparge system, and pipe loss. Treated water is continuously discharged to the south and west recharge basins, and is available "on-demand" to both the Calpine Power Plant (Calpine) for use as make-up water, and the biosparge remediation system operated by Occidental Chemical (OXY Biosparge).

(9) Treatment System Efficiencies are calculated by dividing the difference between the influent and effluent TVOC concentrations by the influent concentration.

(10) Well 1 was not in operation prior to January 9, 2012 through February 12, 2012 due to continuing activities to retrofit the recovery well with a new well screen. Starting February 12, 2012, the recovery well was operated intermittently as part of a pump test and as of February 21, 2012 the recovery well was placed back into continuous operation. In addition, Well 1 did not operarte from March 6, 2012 through March 14, 2012 to allow for duct repairs at Tower 96.

(11) Well 3 operated at a reduced flow rate from February 9, 2012 through February 21, 2012 to accommodate extra flow to Tower 96 during the performance of a pump test at Well 1 during the same period. In addition, Well 3 did not operate from March 6, 2012 through March 14, 2012 to allow for duct repairs at Tower 96.

(12) The discharge flow rate and flow volume to the south basin (T102 weir overflow) were estimated throughout the duration of this reporting period due to an apparent need for re-calibration of the ultrasonic level indicator associated with the water level over the weir. Estimated values were calculated using historic data associated with the total clear well water elevation and weir overflow rates.

Acronyms:

--	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
NG	Northrop Grumman Systems Corporation	NYSDEC	New York State Department of Environmental Conservation
TCE	Trichloroethene		

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	N-10624 N-10624 3/9/2012	N-10627 N-10627 3/9/2012	N-10631 N-10631 3/9/2012	HN-24I HN-24I 2/17/2012	HN-40S HN-40S 2/7/2012	HN-40I HN-40I 2/7/2012	HN-42S HN-42S 2/7/2012
1,1,1-Trichloroethane		< 5	< 5	< 5	**3 J**	< 5	**1.7 J**	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	**0.33 J**	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	< 5	**4.2 J**	< 5	< 5	< 5
1,1-Dichloroethene		< 5	< 5	< 5	**15**	< 5	**0.29 J**	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	**0.74 J**	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 5	< 5	< 5	**2.9 J**	< 5	**1 J**	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		< 5	< 5	< 5	**1.8 J**	< 5	**0.26 J**	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 5	< 5	< 5	**56**	< 5	**1 J**	< 5
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		< 5	**0.64 J**	**0.46 J**	**27**	< 5	**11**	< 5
Trichlorotrifluoroethane (Freon 113)		< 5	< 5	< 5	**1.7 J**	< 5	< 5	< 5
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	0	**0.64**	**0.46**	**140**	0	**15**	0

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	HN-42I / HN-42I / 2/6/2012	FW-03 / FW-03 / 2/17/2012	GM-13D / GM-13D / 3/5/2012	GM-15SR / GM-15SR / 2/9/2012	GM-15I / GM-15I / 3/13/2012	GM-15D / GM-15D / 2/8/2012	GM-15D2 / GM-15D / 2/8/2012	GM-17I / GM-17I / 2/15/2012
1,1,1-Trichloroethane		< 5	**0.33 J**	**2.9 J**	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	**6**	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene		< 5	< 5	**12**	< 5	< 5	**0.2 J**	**1 J**	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50 B	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 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
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 5	< 5	**0.36 J**	**0.27 J**	< 5	**0.34 J**	**0.29 J**	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		**1.6 J**	**0.39 J**	**24**	< 5	< 5	< 5	**0.42 J**	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 5	**60**	**190**	< 5	**0.73 J**	**0.39 J**	**8.1**	< 5
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		**3.9 J**	**3.4 J**	**74**	**2.3 J**	< 5	**0.51 J**	**10**	< 5
Trichlorotrifluoroethane (Freon 113)		< 5	**0.23 J**	**2.9 J**	< 5	< 5	< 5	**1.1 J**	< 5
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	**5.5**	**64**	**310**	**2.6**	**0.73**	**1.4**	**21**	0

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-17D / GM-17D / 2/9/2012	GM-18I / GM-18I / 2/23/2012	GM-18D / GM-18D / 2/17/2012	GM-18D / REP021712 / 2/17/2012	GM-20I / GM-20I / 2/23/2012	GM-20D / GM-20D / 2/23/2012	GM-21S / GM-21S / 2/14/2012
1,1,1-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 5	< 5	**0.28 J**	**0.25 J**	< 5	< 5	< 5
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		**0.33 J**	**0.39 J**	**1.1 J**	**1.1 J**	< 5	< 5	< 5
Trichlorotrifluoroethane (Freon 113)		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	**0.33**	**0.39**	**1.4**	**1.4**	0	0	0

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-21I GM-21I 3/19/2012	GM-21I REP 3-19-12 3/19/2012	GM-21D GM-21D 2/14/2012	GM-33D2 GM-33D2 3/19/2012	GM-34D GM-34D 2/15/2012	GM-34D2 GM-34D2 2/15/2012	GM-35D2 GM-35D2 3/6/2012
1,1,1-Trichloroethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
1,1-Dichloroethane		< 5	< 5	< 5	< 5	**1.1 J**	**0.42 J**	< 5
1,1-Dichloroethene		< 5	< 5	< 5	< 5	**5.4 J**	**1.6 J**	**0.33 J**
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 130	< 100	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 130	< 100	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 130	< 100	< 50
Acetone		< 50	< 50	< 50	< 50	< 130	< 100	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 1.8	< 1.4	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Bromoform		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Chloroform		< 5	< 5	< 5	< 5	< 13	**0.46 J**	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
cis-1,2-dichloroethene		< 5	< 5	< 5	**0.5 J**	**8.6 J**	**4.3 J**	**0.69 J**
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Styrene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Tetrachloroethene		< 5	< 5	< 5	**5.8**	**6.3 J**	**12**	**7.8**
Toluene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Trichloroethylene		< 5	< 5	**0.36 J**	**46**	**390**	**260**	**120**
Trichlorotrifluoroethane (Freon 113)		< 5	< 5	< 5	**7.4**	**8.6 J**	**2.4 J**	**1.8 J**
Vinyl Chloride		< 2	< 2	< 2	< 2	< 5	< 4	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 13	< 10	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 13	< 10	< 5
	Total VOCs	0	0	**0.36**	**60**	**420**	**280**	**130**

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-36D / GM-36D / 3/14/2012	GM-36D2 / GM-36D2 / 3/14/2012	GM-37D / GM-37D / 3/15/2012	GM-37D2 / GM-37D2 / 3/16/2012	GM-38D / GM-38D / 3/18/2012	GM-38D2 / GM-38D2 / 3/18/2012	GM-39DA / GM-39DA / 3/6/2012
1,1,1-Trichloroethane		< 5	**0.32 J**	< 5	**0.63 J**	**1.6 J**	**0.46 J**	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	**0.58 J**	< 5	< 5
1,1-Dichloroethane		< 5	**0.34 J**	**0.54 J**	**1.6 J**	**2 J**	**0.95 J**	< 5
1,1-Dichloroethene		< 5	**0.51 J**	**0.3 J**	**0.49 J**	**3.4 J**	**0.41 J**	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	**2.6 J**	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	**0.3 J**	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 5	< 5	< 5	**0.22 J**	**0.62 J**	**0.41 J**	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		< 5	< 5	< 5	< 5	**2 J**	**0.7 J**	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	**0.33 J**	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		< 5	< 5	**0.39 J**	**0.38 J**	**14**	< 5	< 5
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		< 5	**1.4 J**	< 5	**0.58 J**	**410 D**	**38**	**0.74 J**
Trichlorotrifluoroethane (Freon 113)		< 5	< 5	< 5	< 5	**2.6 J**	**1 J**	< 5
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	0	**2.6**	**1.2**	**3.9**	**440**	**42**	**0.74**

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-39DB GM-39DB 3/5/2012	GM-70D2 GM-70D2 3/17/2012	GM-71D2 GM-71D2 3/16/2012	GM-73D GM-73D 2/10/2012	GM-73D2 GM-73D2 2/10/2012	GM-74I GM-74I 2/10/2012	GM-74D GM-74D 2/10/2012
1,1,1-Trichloroethane		< 5	< 5	**1.6 J**	< 5	**0.56 J**	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		< 5	< 5	**5.8**	< 5	**1.1 J**	< 5	< 5
1,1-Dichloroethene		< 5	< 5	**2.1 J**	< 5	**2.6 J**	< 5	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		< 5	< 5	**0.68 J**	< 5	< 5	< 5	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		**0.32 J**	< 5	**0.82 J**	**0.3 J**	**1.2 J**	< 5	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		**0.48 J**	**3.8 J**	< 5	**0.2 J**	**2.2 J**	< 5	**0.29 J**
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		**64**	**16**	**8.3**	**68**	**93**	< 5	**1.7 J**
Trichlorotrifluoroethane (Freon 113)		**0.31 J**	**0.39 J**	< 5	< 5	**0.52 J**	< 5	**0.22 J**
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	**65**	**20**	**19**	**69**	**100**	0	**2.2**

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-74D2 GM-74D2 2/10/2012	REP-2-10-12 GM-74D2 2/10/2012	GM-75D2 GM-75D2 3/9/2012	GM-78S GM-78S 2/16/2012	GM-78I GM-78I 2/16/2012	GM-79I GM-79I 2/14/2012	GM-79D GM-79D 2/14/2012
1,1,1-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane		**0.49 J**	**0.47 J**	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene		**0.77 J**	**0.58 J**	**0.24 J**	< 5	< 5	< 5	< 5
1,2-Dichloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone (MBK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Acetone		< 50	< 50	< 50	< 50	< 50	< 50	< 50
Benzene		< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Disulfide		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroform		**0.22 J**	**0.24 J**	< 5	< 5	< 5	< 5	< 5
Chloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-dichloroethene		**0.25 J**	< 5	< 5	< 5	< 5	**0.43 J**	< 5
cis-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Styrene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene		**4.4 J**	**4.3 J**	**1.9 J**	< 5	< 5	**0.54 J**	< 5
Toluene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-dichloroethene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-dichloropropene		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethylene		**6.4**	**6.9**	**35**	< 5	< 5	**30**	< 5
Trichlorotrifluoroethane (Freon 113)		**0.63 J**	**0.62 J**	**0.54 J**	< 5	< 5	**0.39 J**	< 5
Vinyl Chloride		< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylene-o		< 5	< 5	< 5	< 5	< 5	< 5	< 5
Xylenes - m,p		< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Total VOCs	**13**	**13**	**38**	0	0	**31**	0

See last page notes and abbreviations.

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	WELL 1 WELL 1 2/27/2012	WELL 3 WELL 3 2/27/2012	96 EFFLUENT 96 EFFLUENT 2/27/2012	WELL 17 WELL 17 2/27/2012	WELL 17 REP022712 2/27/2012	WELL 18 WELL 18 2/27/2012	WELL 19 WELL 19 2/27/2012	102 EFFLUENT 102 EFFLUENT 2/27/2012
1,1,1-Trichloroethane		< 13	**2.3 J**	< 5	**0.68 J**	**0.74 J**	**1.1 J**	**0.63 J**	< 5
1,1,2,2-Tetrachloroethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
1,1,2-Trichloroethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
1,1-Dichloroethane		**0.78 J**	< 50	< 5	**1.3 J**	**1.3 J**	**1.2 J**	**0.95 J**	< 5
1,1-Dichloroethene		**2.4 J**	**9.8 J**	< 5	**3 J**	**3.3 J**	**4.1 J**	**1.6 J**	< 5
1,2-Dichloroethane		< 13	< 50	< 5	< 10	< 10	< 5	**0.57 J**	< 5
1,2-Dichloropropane		**6 J**	< 50	< 5	< 10	< 10	< 5	< 5	< 5
2-Butanone (MEK)		< 130	< 500	< 50	< 100	< 100	< 50	< 50	< 50
2-Hexanone (MBK)		< 130	< 500	< 50	< 100	< 100	< 50	< 50	< 50
4-methyl-2-pentanone (MIK)		< 130	< 500	< 50	< 100	< 100	< 50	< 50	< 50
Acetone		< 130	**8 J**	< 50	< 100	< 100	< 50	< 50	< 50
Benzene		< 1.8	< 7	< 0.7	< 1.4	< 1.4	< 0.7	< 0.7	< 0.7
Bromodichloromethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Bromoform		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Bromomethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Carbon Disulfide		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Carbon Tetrachloride		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Chlorobenzene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Chloroethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Chloroform		< 13	< 50	< 5	< 10	< 10	**0.26 J**	**0.58 J**	< 5
Chloromethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
cis-1,2-dichloroethene		**3.8 J**	**12 J**	< 5	**5.4 J**	**5.1 J**	**2.1 J**	**24**	< 5
cis-1,3-dichloropropene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Dibromochloromethane		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Ethylbenzene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Methylene Chloride		< 13	**2.6 J**	< 5	< 10	< 10	< 5	< 5	< 5
Styrene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Tetrachloroethene		**51**	**61**	< 5	**32**	**34**	**12**	**7.4**	< 5
Toluene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
trans-1,2-dichloroethene		< 13	< 50	< 5	< 10	< 10	< 5	**0.2 J**	< 5
trans-1,3-dichloropropene		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Trichloroethylene		**450**	**1700**	**0.79 J**	**230**	**240**	**69**	**200**	< 5
Trichlorotrifluoroethane (Freon 113)		**3.9 J**	**7.9 J**	< 5	**5.7 J**	**6.3 J**	**1.4 J**	**0.82 J**	< 5
Vinyl Chloride		< 5	**130**	< 2	< 4	< 4	< 2	< 2	< 2
Xylene-o		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
Xylenes - m,p		< 13	< 50	< 5	< 10	< 10	< 5	< 5	< 5
	Total VOCs	**518**	**1900**	**0.79**	**280**	**290**	**91**	**240**	0

Note: Results rounded to two significant figures.

Bold	Constituent detected
VOCs	Volatile Organic Compounds
ug/L	Micrograms per liter
J	Constituent value is estimated
REP	Replicate Sample

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Table 3. Concentrations of Total and Dissolved Cadmium and Chromium Detected in Monitoring Wells, First Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	GM-15SR GM-15SR 2/9/2012	GM-78S GM-78S 2/16/2012	GM-78I GM-78I 2/16/2012	MW-01GF MW-01GF 2/16/2012	MW-02GF MW-02GF 2/16/2012	N-10631 N-10631 3/9/2012	PT1 MW-04 PT1 MW-04 2/9/2012	PT1 MW-05 PT1 MW-05 2/9/2012	PT1 MW-06 PT1 MW-06 2/9/2012
Cadmium		--	< 5	< 5	< 5	< 5	< 5	**--**	--	--
Cadmium (Dissolved)		--	< 5	< 5	< 5	< 5	< 5	--	--	--
Chromium		**633**	< 10	< 10	< 10	**173**	**34**	< 10	**430**	**209**
Chromium (Dissolved)		**615**	< 10	< 10	< 10	**170**	**19**	< 10	**428**	**204**

ug/L Micrograms per liter
Bold Constituent detected above IDL.
-- Not analyzed

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Table 4. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Wells, 1st Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	Well: / Sample ID: / Date:	BPOW 1-1 / BPOW 1-1 / 2/21/2012	BPOW 1-2 / BPOW 1-2 / 2/20/2012	BPOW 1-3 / BPOW 1-3 / 2/21/2012	BPOW 1-4[4] / BPOW 1-4 / 3/2/2012	BPOW 1-5[4] / BPOW 1-5 / 3/2/2012	BPOW 1-6[4] / BPOW 1-6 / 3/7/2012	BPOW 2-1 / BPOW 2-1 / 2/27/2012	BPOW 2-3[4] / BPOW 2-3 / 3/1/2012	BPOW 3-1 / BPOW 3-1 / 2/24/2012	BPOW 3-2 / BPOW 3-2 / 2/24/2012
1,1,1-Trichloroethane		**0.45 J**	**0.28 J**	< 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
1,1,2-Trichloroethane		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene		**0.28 J**	< 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	< 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	< 0.5	< 0.5
Chlorobenzene		< 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
cis-1,2-dichloroethene		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorotrifluoroethane (Freon 113)		< 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	< 0.5	< 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	< 0.5	< 0.5
Trichloroethylene		**1.1**	**0.33 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Site-Related VOCs [1] :		**1.8[3]**	**0.61[3]**	0	0	0	0	0	0	0	0
TVOC Trigger Value [2]:		**0.6**	**0.6**	**0.6**	NE	NE	NE	NE	NE	**1.5**	**1.5**

See last page for notes and abbreviations.

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Table 4. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Wells, 1st Quarter 2012, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

	Well:	BPOW 3-3[4]	REP-38-12	BPOW 3-4[4]	BPOW 4-1	BPOW 4-2	REP 2-28-12
CONSTITUENT	**Sample ID:**	BPOW 3-3	BPOW 3-3	BPOW 3-4	BPOW 4-1	BPOW 4-2	BPOW 4-2
(Units in ug/L)	**Date:**	3/8/2012	3/8/2012	3/8/2012	3/1/2012	2/28/2012	2/28/2012
1,1,1-Trichloroethane		< 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
1,1,2-Trichloroethane		< 0.5	< 0.5	**0.42 J**	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene		< 0.5	< 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
Carbon tetrachloride		< 0.5	< 0.5	**0.73**	< 0.5	< 0.5	< 0.5
Chlorobenzene		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		< 0.5	< 0.5	**0.86**	< 0.5	< 0.5	< 0.5
cis-1,2-dichloroethene		< 0.5	< 0.5	**0.52**	< 0.5	< 0.5	< 0.5
Trichlorotrifloroethane (Freon 113)		< 0.5	< 0.5	< 0.5	**1.5**	**0.7**	**0.69**
Tetrachloroethene		< 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
Trichloroethylene		< 0.5	< 0.5	**45 D**	< 0.5	< 0.5	< 0.5
Total Site-Related VOCs [1] :		0	0	**48**	**1.5**	**0.7**	**0.69**
TVOC Trigger Value [2]:		NE	NE	NE	**1.5**	**1.5**	**1.5**

Note: Outpost wells OW2-2 was not sampled by Northrop Grumman this round, due to significant drawdown during purging indicating possible well fouling.

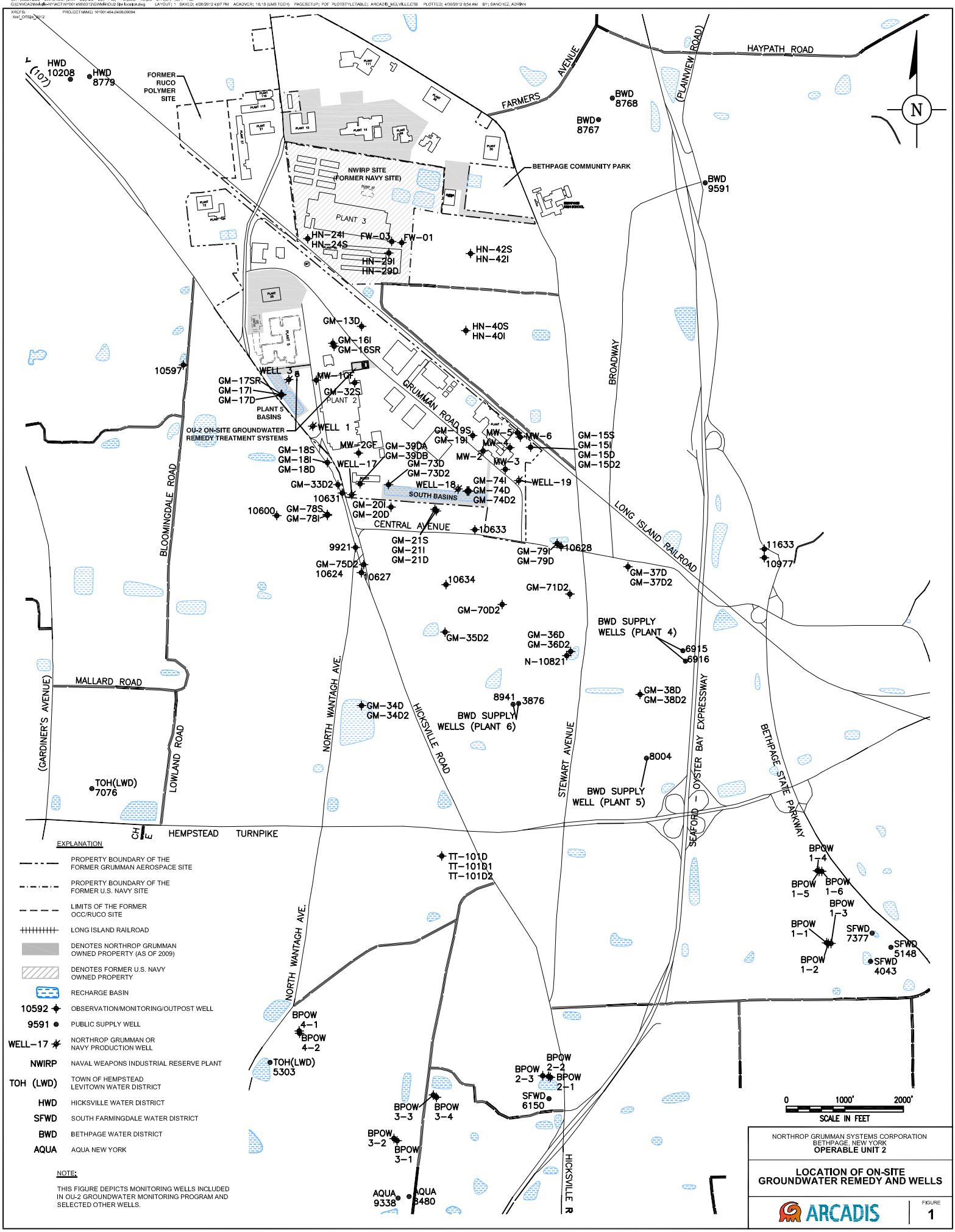
(1) Site-related VOCs were established for the wells identified above in the Public Water Supply Contingency Plan (PWSCP) (ARCADIS G&M, Inc. 2003).

(2) TVOC Trigger Values were established for Wells BPOW1-1, BPOW1-2, BPOW1-3, BPOW3-1, BPOW3-2, BPOW4-1, and BPOW4-2 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) Wells BPOW1-4, BPOW1-5, BPOW1-6, BPOW3-3, and BPOW3-4 screen intervals were selected by the Navy based on data obtained from vertical profile borings VP-127 (BPOW-1 cluster) and VP-128 (BPOW-3 cluster).

Bold Constituent detected
TVOC Total Volatile Organic Compounds
NE Trigger Value Not Established
J Value is estimated
D Concentration from a dilution
REP Field replicate sample


HWD 10208
HWD 8779
(107)
FORMER RUCO POLYMER SITE
NWIRP SITE (FORMER NAVY SITE)
PLANT 3
PLANT 2
PLANT 5 BASINS
OU-2 ON-SITE GROUNDWATER REMEDY TREATMENT SYSTEMS
SOUTH BASINS
BETHPAGE COMMUNITY PARK
FARMERS AVENUE
HAYPATH ROAD
PLAINVIEW ROAD
BROADWAY
GRUMMAN ROAD
LONG ISLAND RAILROAD
BLOOMINGDALE ROAD
CENTRAL AVENUE
MALLARD ROAD
(GARDINER'S AVENUE)
LOWLAND ROAD
NORTH WANTAGH AVE.
HICKSVILLE ROAD
STEWART AVENUE
SEAFORD - OYSTER BAY EXPRESSWAY
BETHPAGE STATE PARKWAY
HEMPSTEAD TURNPIKE
BWD 8768
BWD 8767
BWD 9591
HN-24I
HN-24S
FW-03
FW-01
HN-29I
HN-29D
HN-42S
HN-42I
HN-40S
HN-40I
GM-13D
GM-16I
GM-16SR
GM-17SR
GM-17I
GM-17D
GM-32S
GM-18S
GM-18I
GM-18D
GM-33D2
GM-78S
GM-78I
GM-20I
GM-20D
GM-21S
GM-21I
GM-21D
GM-75D2
GM-19S
GM-19I
GM-39DA
GM-39DB
GM-73D
GM-73D2
GM-74I
GM-74D
GM-74D2
GM-79I
GM-79D
GM-15S
GM-15I
GM-15D
GM-15D2
GM-37D
GM-37D2
GM-71D2
GM-70D2
GM-35D2
GM-36D
GM-36D2
GM-38D
GM-38D2
GM-34D
GM-34D2
WELL 1
WELL 3
WELL-17
WELL-18
WELL-19
MW-1GE
MW-2GE
MW-2
MW-3
MW-4
MW-5
MW-6
10597
10600
10631
10633
9921
10624
10627
10634
10628
11633
10977
N-10821
6915
6916
8941
3876
8004
7076
BWD SUPPLY WELLS (PLANT 4)
BWD SUPPLY WELLS (PLANT 6)
BWD SUPPLY WELL (PLANT 5)
TOH(LWD) 7076
TOH(LWD) 5303
TT-101D
TT-101D1
TT-101D2
BPOW 1-4
BPOW 1-5
BPOW 1-6
BPOW 1-3
BPOW 1-1
BPOW 1-2
BPOW 4-1
BPOW 4-2
BPOW 2-2
BPOW 2-3
BPOW 2-1
BPOW 3-3
BPOW 3-4
BPOW 3-2
BPOW 3-1
SFWD 7377
SFWD 5148
SFWD 4043
SFWD 6150
AQUA 9338
AQUA 8480
N
EXPLANATION
PROPERTY BOUNDARY OF THE FORMER GRUMMAN AEROSPACE SITE
PROPERTY BOUNDARY OF THE FORMER U.S. NAVY SITE
LIMITS OF THE FORMER OCC/RUCO SITE
LONG ISLAND RAILROAD
DENOTES NORTHROP GRUMMAN OWNED PROPERTY (AS OF 2009)
DENOTES FORMER U.S. NAVY OWNED PROPERTY
RECHARGE BASIN
10592 OBSERVATION/MONITORING/OUTPOST WELL
9591 PUBLIC SUPPLY WELL
WELL-17 NORTHROP GRUMMAN OR NAVY PRODUCTION WELL
NWIRP NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
TOH (LWD) TOWN OF HEMPSTEAD LEVITOWN WATER DISTRICT
HWD HICKSVILLE WATER DISTRICT
SFWD SOUTH FARMINGDALE WATER DISTRICT
BWD BETHPAGE WATER DISTRICT
AQUA AQUA NEW YORK
NOTE:
THIS FIGURE DEPICTS MONITORING WELLS INCLUDED IN OU-2 GROUNDWATER MONITORING PROGRAM AND SELECTED OTHER WELLS.
0 1000' 2000'
SCALE IN FEET
NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK
OPERABLE UNIT 2
LOCATION OF ON-SITE GROUNDWATER REMEDY AND WELLS
ARCADIS
FIGURE 1