Steven Scharf - NG OU3 - January 2007 AOC Report

From: "Stern, David" <David.Stern@arcadis-us.com>
To: "Steven Scharf" <sxscharf@gw.dec.state.ny.us>
Date: 2/13/2007 1:26 PM
Subject: NG OU3 - January 2007 AOC Report
CC: "Cofman, John" <john.cofman@ngc.com>, "Leskovjan, Larry" <larry.leskovja...
Attachments: 0213_0001.pdf; ON-SITE_Locations.pdf; Off-Site VPB locations-121106.pdf

Steve:

Attached is the January 2007 AOC Report for OU3. Feel free to call if you have questions.

<<0213_0001.pdf>> <<ON-SITE_Locations.pdf>> <<Off-Site VPB locations-121106.pdf>>

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EXPLANATION

- PROPERTY BOUNDARY OF THE FORMER GRUMMAN AEROSPACE SITE
- PROPERTY BOUNDARY OF U.S. NAVY SITE
- LONG ISLAND RAILROAD
- DENOTES NORTHROP GRUMMAN OWNED PROPERTY (AS OF 2003)
- DENOTES U.S. NAVY OWNED PROPERTY (AS OF 2003)
- RECHARGE BASIN
- LAND SURFACE PROJECTION OF THE CAPTURE ZONE OF WELL ONCT 3 (WELL 19) PUMPING AT ITS NORMAL RATE OF 700 GPM (BASED ON MODELING)
- CURRENT DIRECTION OF GROUNDWATER FLOW
- LIMITS OF BETHPAGE HIGH SCHOOL MAIN BUILDING
- 10592 OBSERVATION, MONITORING WELL (GRAY – SHOWN FOR REFERENCE) (BLACK – PROPOSED TO BE SAMPLED IN PHASE 2 RI)
- 6781 INDUSTRIAL WELL
- 9591 PUBLIC SUPPLY WELL
- 4175 IRRIGATION WELL
- WELL-11A NORTHROP GRUMMAN OR NAVY PRODUCTION WELL
- GP-11 ABANDONED PRODUCTION WELL
- VP-49 COMPLETED OU2 VERTICAL PROFILE BORING
- VP-100 COMPLETED OU3 VERTICAL PROFILE BORING
- BWD BETHPAGE WATER DISTRICT
- VPB VERTICAL PROFILE BORING
- RI REMEDIAL INVESTIGATION
- OU2 OPERABLE UNIT 2
- OU3 OPERABLE UNIT 3

GENERAL NOTES:

1. THIS FIGURE INCLUDES LOCATIONS OF PUBLIC SUPPLY WELLS BASED ON INFORMATION RECEIVED BY ARCADIS IN RESPONSE TO A SEPTEMBER 2001 LETTER TO WATER DISTRICTS.
2. BASIN LOCATIONS OBTAINED FROM USGS TOPOGRAPHIC MAPS (HUNTINGTON, HICKSVILLE, FREEPORT AND AMITYVILLE QUADRANGLES) AND INFORMATION PROVIDED BY NORTHROP GRUMMAN.
3. NORTHROP GRUMMAN PROPERTY HOLDINGS BASED ON DATA PROVIDED IN JUNE 2003.
4. LOCATIONS OF MONITORING WELLS INSTALLED BY DVIRKA & BARTILUCCI (D&B) AT PLANT 1 (i.e., MW-1 TO MW-6) ARE APPROXIMATE BASED ON D&B SITE PLAN, PROVIDED ON DECEMBER 19, 2002.
5. LOCATIONS OF MONITORING WELLS INSTALLED BY DVIRKA & BARTILUCCI (D&B) AT BETHPAGE COMMUNITY PARK ARE APPROXIMATE BASED ON DATA PROVIDED BY D&B SITE PLAN, DATED DECEMBER 2003.
6. LOCATIONS OF BETHPAGE PARK MONITORING WELLS INSTALLED BY THE TOWN OF OYSTER BAY ARE APPROXIMATE, BASED ON THE 2005 H2M REPORTS. (H2M 2005a;b).

BETHPAGE COMMUNITY PARK EXTENTS AND FEATURES DVIRKA AND BARTILUCCI CONSULTING ENGINEERS 2003

ALL COORDINATES REFERENCED TO NORTH AMERICAN DATUM 1929

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD
1	11/10/06	WORK PLAN ADDENDUM #7	DES
0	11/9/06	LETTER REPORT TO DEC	DES

KEYPLAN

PROJECT TITLE

OPERABLE UNIT 3
NORTHROP GRUMMAN
SYSTEMS CORPORATION
BETHPAGE, NEW YORK

SHEET TITLE

SITE PLAN
SHOWING PROPOSED AND
COMPLETED VERTICAL
PROFILE BORINGS

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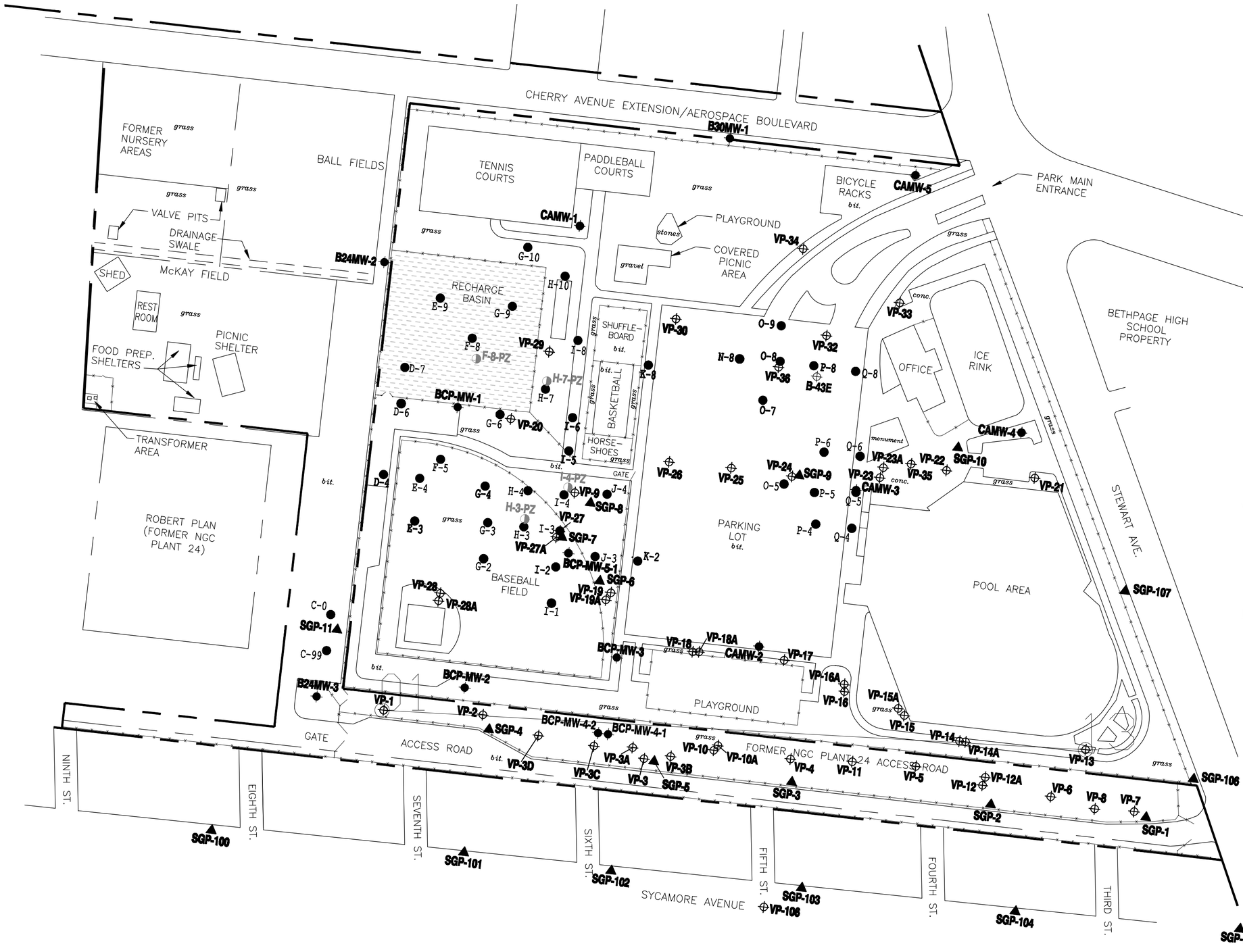
SEAL	SEAL

PROJECT MANAGER	DEPARTMENT MANAGER
C. SAN GIOVANNI	M. WOLFERT
LEAD DESIGN PROF.	CHECKED BY
	M. REINDL
TASK/PHASE NUMBER	DRAWN BY
00003	A. SANCHEZ
PROJECT NUMBER	DRAWING NUMBER
NY001348.0806	2

Acad Version : R17.0s (LMS Tech) Date\Time : Mon, 11 Dec 2006 – 5:39pm Current Plotstyle : ByColor
User Name : alsanchez Path\Name : G:\APROJECT\Northrop Grumman\Cadd\OU3\20062005 Dec mgt\off-Site VPB locations.dwg Layout Tab: OU3



EXPLANATION

- NORTHROP GRUMMAN CORPORATION PROPERTY LINE
- FENCE
- LIMITS OF BETHPAGE HIGH SCHOOL MAIN BUILDING
- BASIN
- bit. — BITUMINOUS PAVEMENT
- J-3 — COMPLETED CPT BORING LOCATION AND DESIGNATION (BY ARCADIS)
- BCP-MW-3 — EXISTING MONITORING WELL
- VP-1 — COMPLETED VERTICAL PROFILE BORING (BY ARCADIS)
- SGP-1 — COMPLETED SOIL GASPOINT (BY ARCADIS)
- F-8-PZ — COMPLETED PIEZOMETER (BY ARCADIS)
- CPT, SGP AND SGPs, VP AND VPBs — CONE PENETROMETER TEST UNIT, SOIL GAS POINTS, VERTICAL PROFILE BORINGS

NOTES:

1. CPT BORINGS AND VPBs VP-1 TO VP-20 SURVEYED TO NAD 27. VPBs VP-21 TO VP-36 ARE APPROXIMATE. LAND SURFACE ELEVATIONS APPROXIMATED FOR VP-25, VP-26, VP-27 AND VP-29 USING VALUE FROM NEREST SURVEYED VPB.
2. LOCATIONS OF WELLS INSTALLED BY THE TOWN OF OYSTER BAY ARE BASED ON THE 2005 REPORTS, LOCATIONS ARE APPROXIMATE (H2M 2005a;b).

PRELIMINARY DRAFT

BASE MAP REFERENCE:
DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS 2003

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

SEAL

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PROJECT TITLE

OPERABLE UNIT 3
FORMER GRUMMAN
SETTLING PONDS
BETHPAGE, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. SAN GIOVANNI	M. WOLFERT		M. REINDL
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
SITE PLAN ON-SITE SAMPLE LOCATIONS			A. SANCHEZ
		PROJECT NUMBER	DRAWING NUMBER
		NY00	1

Current Plotstyle : ByColor
Layout Tab: ON-SITE
Date\Time : Wed, 24 Jan 2007 - 6:03pm
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Acad Version : R17.0s (LMS Tech)
User Name : alsanchez

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ENVIRONMENT

Steven M. Scharf, P.E.
Project Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, New York 12233-7015

Subject:
January 2007 Monthly Progress Report
Northrop Grumman Systems Corporation
Operable Unit 3
NYSDEC Site ID # 1-30-003A
Bethpage, New York.

Date:
13 February 2007

Contact:
David Stern

Phone:
631-391-5284

Email:
dstern@arcadis-us.com

Our ref:
NY001464.0907.00003

Dear Steve:

In accordance with Section III of Administrative Order on Consent (AOC) Index # W1-0018-04-01, this letter reports the activities for Operable Unit 3 (OU3) performed by Northrop Grumman Systems Corporation (NG) during the month of January 2007; activities planned for February 2007 are also discussed. This report is the tenth OU3 monthly progress report since the AOC between NG and the New York State Department of Environmental Conservation (NYSDEC) was signed on June 24, 2005. Attached, please find Tables 1A to 1C providing recent validated data that was collected as part of the Phase 2 Remedial Investigation (RI). Sample locations are shown on Figures 1 and 2.

OU3 Activities Conducted During January 2007

- Prepared and submitted the December 2006 AOC Monthly Progress Report.
- Continued coordination and planning for Phase 2 RI and anticipated IRMs, including:
    - Submitted modified locations and specifications for deep off-site vertical profile borings (VPBs) to NYSDEC.
    - Prepared and submitted the Phase 3 RI Work Plan to NYSDEC outlining the conceptual approach for activities anticipated to complete the OU3 RI.

- Attended Town of Oyster Bay (Town) bi-weekly meetings for soil IRM/redevelopment project. Reviewed available Town information toward overall RI and IRM planning.
- Scope/specification development for soil borings, monitoring wells, piezometers, and Cone Penetrometer (CPT) borings, per Phase 3 RI Work Plan.

- Continued coordination and planning for OU3 IRMs, including:
  - Conducted in-house data analyses, meetings, and initial determination of IRM strategy.
  - Continued evaluations data, screening of technologies, and updates to schedule for VCS IRM.
  - Prepared and submitted the IRM Pre-Design Work Plan to NYSDEC outlining the pre-design investigation toward design of Soil Gas IRM and on-site groundwater IRM.
  - NG retracted Work Plan Addendum No. 8, pending its inclusion in the Soil Gas IRM Work Plan.
- Conducted Phase 2 RI field activities, including:
  - Performed monthly groundwater monitoring of selected on-site monitoring wells and perched water piezometers. Collect additional parameters to assist in IRM planning.
  - Characterization and disposal of containerized soil cuttings from OU3 RI.
  - Initiated drilling and groundwater sampling of off-site vertical profile borings VP-109 and VP-110 using hollow-stem auger/temporary well methodology.
  - Conducted and completed CPT borings in the Park and on the Plant 24 Access Road for assessment of soil types and perched water.
- Continue RI data review/evaluation, including:
  - Continued review and validation of analytical results for samples collected.
  - Continued analysis and evaluation (via EVS software and other) of soil (including grab samples and CPT/MIP data), soil gas, and groundwater data toward development of a revised CSM, and to and support need for

additional sampling requests (i.e., work plan addenda) to address data gaps.

- Reviewed test pit findings and results of samples.
- Continued to review RI data and determine the location of data gaps.
- Initiated determination of additional soil boring sampling requirements.
- Continued to update figures and cross sections with latest data
- Continued analysis of data toward development of Soil Gas IRM Work Plan.

OU3 Activities Expected During February 2007

- Prepare and submit January 2007 Monthly Progress Report.
- Continue Phase 2 RI planning/coordination activities, including:
  - Submit modified specifications for deep off-site monitoring wells, piezometers, and soil borings to NYSDEC for informational purposes.
  - Continue to attend Town IRM progress meetings to work towards coordination of the NG OU3 RI and Town IRM activities.
- Continue Phase 2 RI field activities, including:
  - Complete sampling of deep off-site VPBs VP-109 and VP-110.
  - Continue monthly groundwater/perched water monitoring in on-site piezometers and selected wells.
  - Initiate drilling of perched water piezometers and shallow on-site monitoring wells, per Phase 3 RI Work Plan.
  - Initiate drilling and sampling of on-site soil borings, per Phase 3 RI Work Plan.
- RI data review/evaluation, as follows:
  - Review and analyze findings from on-site test pits.
  - Determine scope of additional soil borings and sampling within the park.
  - Continue evaluation (via EVS software) of soil, soil-gas, and groundwater data toward development of Phase 2 RI soil boring program, a revised CSM, assess data gaps, and support planning for IRM.

- Continue to validate and tabulate analytical data received from laboratory toward preparation of RI Report.
- Continue to prepare selected figures of analytical results and interpretations toward preparation of RI Report.

- Conduct planning for on-site IRMs:
  - Continue to evaluate RI data toward design of the Soil Gas and on-site groundwater IRMs.
  - Prepare and submit Draft Soil Gas Work Plan to NG for review and comment, with NG approval Soil Gas IRM Work Plan will be submitted to NYSDEC.
  - Initiate development of preliminary design for Soil Gas IRM.

Feel free to call us if you have any questions.

Sincerely,

ARCADIS of New York, Inc.

/for

Carlo San Giovanni
Project Manager

Enclosures

Copies:
M. Wolfert, ARCADIS
D. Stern, ARCADIS
File, ARCADIS
L. Leskovjan, NGC
J. Cofman, NGC

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Table 1A. Validated Monitoring Well and Perched Water Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT (ug/l)	Site ID: / Sample ID: / Sample Date:	BCPMW-3 BCPMW-3 11/10/2006		BCPMW-3 BCPMW-3 12/11/2006		BCPMW-4-1 MW 4-1 8/29/2006		BCPMW-4-1 BCP-MW-4-1 11/9/2006		BCPMW-4-1 BPMW-4-1 12/11/2006		BCPMW-4-2 MW 4-2 8/29/2006	
Volatile Organic Compounds													
Chloromethane		<5		<5		<5		<5		<5		<5	
Bromomethane		<5		<5		<5		<5		<5		<5	
Vinyl Choride		6.1		170		13		230	D	54		1900	D
Chloroethane		<5		<5		<5		<5		<5		<5	
Methylene chloride		<5		<5		<5		<5		<5		<5	
Acetone		<10		<10		<10		<10		<10		<10	
Carbon disulfide		<5		<5		<5		<5		<5		<5	
1,1-Dichloroethene		0.4J	J	9.6		1	J	4	J	1.8	J	6	
1,1-Dichloroethane		<5		<5		2	J	5.6		2.6	J	10	
Chloroform		<5		1.8	J	<5		<5		<5		3	J
1,2-Dichloroethane		<5		<5		<5		<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		<5		<5	
Carbon tetrachloride		<5		<5		<5		<5		<5		<5	
Bromodichloromethane		<5		<5		<5		<5		<5		<5	
1,2-Dichloropropane		<5		<5		<5		<5		<5		2	J
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5		<5	
Trichloroethene		7.4		58		15		21		14		3	J
Dibromochloromethane		<5		<5		<5		<5		<5		<5	
1,1,2-Trichloroethane		<5		<5		<5		<5		<5		<5	
Benzene		<0.7		<0.7		<0.7		<0.7		<0.7		0.5	J
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5		<5	
Bromoform		<5		<5		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		<5		<5		<5		<5	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5		<5	
Toluene		<5		0.31	J	<5		<5		<5		<5	
Chlorobenzene		<5		<5		<5		<5		<5		<5	
Ethylbenzene		<5		<5		<5		<5		<5		<5	
Styrene		<5		<5		<5		<5		<5		<5	
Xylene (total)		<5		<5		<5		<5		<5		6	
Vinyl Acetate		<5		<5		<5		<5		<5		<5	
Freon 113		<5		<5		<5		<5		<5		<5	
Chlorodifluoromethane		<5		<5		--		<5		<5		--	
cis-1,2-Dichloroethylene		37		180		520	D	1800	D	790	D	4300	D
Dichlorodifluoromethane		<5		<5		--		<5		<5		--	
trans-1,2-Dichloroethene		<5		0.28	J	1	J	1.8	J	2	J	4	J
Total :		50.50		419.99		552.00		2,062.40		864.40		6,234.50	

Notes:

ug/L	Micrograms per liter.
--	Not Analyzed.
J	Estimated value.
D	Constituent quantified at a secondary dilution.

Table 1A. Validated Monitoring Well and Perched Water Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT (ug/l)	Site ID: / Sample ID: / Sample Date:	BCPMW-4-2 BCP-MW-4-2 11/9/2006		BCPMW-4-2 BPMW-4-2 12/11/2006		F-8-PZ PZ-1 6/13/2006		F8 F-8PZ 12/11/2006		H3 H-3PZ 12/11/2006		H7 H-7PZ 12/11/2006	
Volatile Organic Compounds													
Chloromethane		<5		<5		<5		<5		<5J		<5	
Bromomethane		<5		<5		<5		<5		<5J		<5	
Vinyl Choride		1200	D	1200	D	<2		<2		76	J	130	
Chloroethane		<5		<5		<5		<5		3		<5	
Methylene chloride		<5		<5		<5		<5		<5J		<5	
Acetone		<10		<10		<10		<10		<10J		<10	
Carbon disulfide		<5		<5		<5		<5		<5J		<5	
1,1-Dichloroethene		12		10		<5		<5		<5J		<5	
1,1-Dichloroethane		14		15		<5		<5		91	J	3.6	J
Chloroform		1.9	J	1.7	J	<5		<5		<5J		0.25	J
1,2-Dichloroethane		1.7	J	1.6	J	<5		<5		<5J		<5	
2-Butanone		<10		<10		<10		<10		<10J		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		8.7	J	<5	
Carbon tetrachloride		<5		<5		<5		<5		<5J		<5	
Bromodichloromethane		<5		<5		<5		<5		<5J		<5	
1,2-Dichloropropane		2.5	J	2.6	J	<5		<5		9.5	J	1	J
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5J		<5	
Trichloroethene		19		12		37		23		13	J	1300	D
Dibromochloromethane		<5		<5		<5		<5		<5J		<5	
1,1,2-Trichloroethane		0.73	J	0.76	J	<5		<5		2.1	J	<5	
Benzene		0.86		0.82		<0.7		<0.7		1.2	J	0.3	J
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5J		<5	
Bromoform		<5		<5		<5		<5		<5J		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10J		2.5	J
2-Hexanone		<10		<10		<10		<10		<10J		<10	
Tetrachloroethene		<5		0.74	J	<5		<5		0.35	J	0.59	J
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5J		<5	
Toluene		0.73	J	0.43	J	1	J	<5		180	J	20	
Chlorobenzene		<5		<5		<5		<5		<5J		<5	
Ethylbenzene		0.59	J	<5		<5		<5		<5J		0.62	J
Styrene		<5		0.59	J	<5		<5		<5J		<5	
Xylene (total)		22		23		<5		<5		7300	D	4.3	J
Vinyl Acetate		<5		<5		<5		<5		<5J		<5	
Freon 113		<5		<5		<5		<5		<5J		<5	
Chlorodifluoromethane		<5		<5		<5		<5		<5J		<5	
cis-1,2-Dichloroethylene		6500	D	7100	D	<5		0.87	J	8.3	J	52	
Dichlorodifluoromethane		<5		<5		<5		<5		<5J		<5	
trans-1,2-Dichloroethene		5.1		3.6	J	<5		<5		<5J		0.64	J
Total :		7,781.11		8,372.84		38.00		23.87		7,693.15		1,515.80	

Notes:

ug/L	Micrograms per lit
--	Not Analyzed.
J	Estimated value.
D	Constituent quant

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Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT	Site ID: / Sample ID: / Sample Date:	VP-102 VP-102 (45-50) 10/13/2006		VP-102 VP-102 (65-70) 10/13/2006		VP-102 VP-102 (85-90) 10/13/2006		VP-102 VP-102 (105-110) 10/12/2006		VP-102 VP-102 (125-130) 10/12/2006	
Volatile Organic Compounds											
Chloromethane		<5		<5		<5		<5		<5	
Bromomethane		<5		<5		<5		<5		<5	
Vinyl Choride		<2		<2		<2		<2		<2	
Chloroethane		<5		<5		<5		<5		<5	
Methylene chloride		<5		<5		<5		<5		<5	
Acetone		<18		<10		<10		<10		<10	
Carbon disulfide		<5		<5		<5		<5		<5	
1,1-Dichloroethene		<5		<5		<5		<5		<5	
1,1-Dichloroethane		<5		<5		<5		<5		<5	
		<5		<5		<5		<5		<5	
1,2-Dichloroethane		<5		<5		<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		<5	
Carbon tetrachloride		<5		<5		<5		<5		<5	
Bromodichloromethane		<5		<5		<5		<5		<5	
1,2-Dichloropropane		<5		<5		<5		<5		<5	
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Trichloroethene		14		33		13		34		16	
Dibromochloromethane		<5		<5		<5		<5		<5	
1,1,2-Trichloroethane		<5		<5		<5		<5		<5	
Benzene		<0.7		0.32	J	<0.7		<0.7		<0.7	
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Bromoform		<5		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		<5		<5		<5	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5	
Toluene		1.6	J	4.2	J	4.4	J	7.2		1.6 J	J
Chlorobenzene		<5		<5		<5		<5		<5	
Ethylbenzene		<5		<5		<5		<5		<5	
Styrene		<5		<5		<5		<5		<5	
Xylene (total)		<5		<5		<5		<5		<5	
Vinyl Acetate		<5		<5		<5		<5		<5	
Freon 113		<5		<5		<5		<5		<5	
cis-1,2-Dichloroethylene		<5		<5		<5		<5		<5	
trans-1,2-Dichloroethylene		<5		<5		<5		<5		<5	
Chlorodifluoromethane		<5		<5		<5		<5		<5	
Dichlorodifluoromethane		<5		<5		<5		<5		<5	
Total :		15.6		37.52		17.4		41.2		16	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary dilution.

ARCADIS

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-102		VP-102		VP-102		VP-102		VP-102	
	Sample ID:	VP-102 (135-140)		VP-102 (150-155)		VP-102 (160-165)		VP-102 (170-175)		VP-102 (180-185)	
CONSTITUENT	Sample Date:	10/11/2006		10/11/2006		10/11/2006		10/10/2006		10/10/2006	
Volatile Organic Compounds											
Chloromethane		<5		<5		<5		<5		<5	
Bromomethane		<5		<5		<5		<5		<5	
Vinyl Choride		<2		<2		<2		<2		<2	
Chloroethane		<5		<5		<5		<5		<5	
Methylene chloride		<5		<5		<5		<5		<5	
Acetone		<10		<10		<10		<10		<10	
Carbon disulfide		<5		<5		<5		<5		<5	
1,1-Dichloroethene		<5		0.61	J	0.77	J	1.1	J	1.9	J
1,1-Dichloroethane		<5		<5		<5		<5		6.2	
		<5		<5		<5		<5		<5	
1,2-Dichloroethane		<5		<5		<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		2	J
Carbon tetrachloride		<5		<5		<5		<5		<5	
Bromodichloromethane		<5		<5		<5		<5		<5	
1,2-Dichloropropane		<5		<5		<5		<5		<5	
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Trichloroethene		83		86		140		150		78	
Dibromochloromethane		<5		<5		<5		<5		<5	
1,1,2-Trichloroethane		<5		<5		<5		<5		<5	
Benzene		<0.7		<0.7		<0.7		<0.7		<0.7	
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Bromoform		<5		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		<5		0.74	J	<5	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5	
Toluene		4.3	J	5.1		3.5	J	0.64	J	<5	
Chlorobenzene		<5		<5		<5		<5		<5	
Ethylbenzene		<5		<5		<5		<5		<5	
Styrene		<5		<5		<5		<5		<5	
Xylene (total)		<5		<5		<5		<5		<5	
Vinyl Acetate		<5		<5		<5		<5		<5	
Freon 113		<5		1	J	2.1	J	4.1	J	1.8	J
cis-1,2-Dichloroethylene		0.98	J	1.2	J	2.5	J	4.1	J	2.2	J
trans-1,2-Dichloroethylene		<5		<5		<5		<5		<5	
Chlorodifluoromethane		<5		<5		<5		<5		<5	
Dichlorodifluoromethane		<5		<5		<5		<5		<5	
Total :		88.28		93.91		148.87		160.68		92.1	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT	Site ID: / Sample ID: / Sample Date:	VP-102 VP-102 (190-195) 10/6/2006		VP-102 VP-102 (200-205) 10/6/2006		VP-102 VP-102 (220-225) 10/5/2006		VP-102 VP-102 (240-245) 10/5/2006		VP-102 VP-102 (250-255) 10/4/2006	
Volatile Organic Compounds											
Chloromethane		<5		<5		<5		<5		<10	
Bromomethane		<5		<5		<5		<5		<10	
Vinyl Choride		<2		<2		<2		<2		1.2	J
Chloroethane		<5		<5		<5		<5		<10	
Methylene chloride		<5		<5		<5		<5		<10	
Acetone		<10		<10		<10		<10		<10	
Carbon disulfide		<5		<5		<5		<5		<10	
1,1-Dichloroethene		3.3	J	<5		<5		1.5	J	2.2	J
1,1-Dichloroethane		12		3.6	J	<5		7.8		6.6	J
		0.85	J	<5		<5		<5		<10	
1,2-Dichloroethane		<5		<5		<5		<5		<10	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		<10	
Carbon tetrachloride		<5		<5		<5		<5		<10	
Bromodichloromethane		<5		<5		<5		<5		<10	
1,2-Dichloropropane		<5		<5		<5		<5		<10	
cis-1,3-Dichloropropene		<5		<5		<5		<5		<10	
Trichloroethene		110		62		190		180		340	D
Dibromochloromethane		<5		<5		<5		<5		<10	
1,1,2-Trichloroethane		<5		<5		<5		<5		<10	
Benzene		<0.7		<0.7		<0.7		<0.7		<10	
trans-1,3-Dichloropropene		<5		<5		<5		<5		<10	
Bromoform		<5		<5		<5		<5		<10	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		<5		<5		<10	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<10	
Toluene		0.9	J	1.1	J	<5		<5		<10	
Chlorobenzene		<5		<5		<5		<5		<10	
Ethylbenzene		<5		<5		<5		<5		<10	
Styrene		<5		<5		<5		<5		<10	
Xylene (total)		<5		<5		<5		<5		<10	
Vinyl Acetate		<5		<5		<5		<5		<10	
Freon 113		<5		<5		<5		<5		<10	
cis-1,2-Dichloroethylene		3	J	1.7	J	6.2		4.7	J	34	J
trans-1,2-Dichloroethylene		2.6	J	<5		<5		<5		<10	
Chlorodifluoromethane		<5		<5		<5		<5		<10	
Dichlorodifluoromethane		<5		<5		<5		<5		<10	
Total :		132.65		68.4		196.2		194		384	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT	Site ID: / Sample ID: / Sample Date:	VP-102 VP-102 (260-265) 10/4/2006		VP-102 VP-102 (290-295) 10/2/2006		VP-102 VP-102 (300-305) 9/29/2006		VP-102 VP-102 (310-315) 9/29/2006		VP-102 VP-102 (330-325) 9/28/2006	
Volatile Organic Compounds											
Chloromethane		<10		<5		<5		<5		<5	
Bromomethane		<10		<5		<5		<5		<5	
Vinyl Choride		2.2	J	1.7	J	3.2		1.9	J	<2	
Chloroethane		<10		<5		<5		<5		<5	
Methylene chloride		<10		<5.7		<9.9		<9.3		<5	
Acetone		<10		<10		<10		<10		<10	
Carbon disulfide		<10		<5		<5		<5		<5	
1,1-Dichloroethene		3.3	J	3.7	J	4.9	J	1.4	J	1.9	J
1,1-Dichloroethane		8.7	J	9.3		17		12		2.4	J
		<10		0.75	J	0.56	J	<5		<5	
1,2-Dichloroethane		<10		<5		<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<10		<5		<5		<5		<5	
Carbon tetrachloride		<10		<5		<5		<5		<5	
Bromodichloromethane		<10		<5		<5		<5		<5	
1,2-Dichloropropane		<10		<5		<5		<5		<5	
cis-1,3-Dichloropropene		<10		<5		<5		<5		<5	
Trichloroethene		440	D	1100	D	460	D	100		310	D
Dibromochloromethane		<10		<5		<5		<5		<5	
1,1,2-Trichloroethane		<10		<5		<5		<5		<5	
Benzene		<10		<0.7		<0.7		<0.7		<0.7	
trans-1,3-Dichloropropene		<10		<5		<5		<5		<5	
Bromoform		<10		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<10		0.55	J	<5		<5		<5	
1,1,2,2-Tetrachloroethane		<10		<5		<5		<5		<5	
Toluene		8	J	5.9		<5		0.33	J	0.61	J
Chlorobenzene		<10		<5		<5		<5		<5	
Ethylbenzene		<10		<5		<5		<5		<5	
Styrene		<10		<5		<5		<5		<5	
Xylene (total)		<10		<5		<5		<5		<5	
Vinyl Acetate		<10		<5		<5		<5		<5	
Freon 113		<10		<5		<5		<5		<5	
cis-1,2-Dichloroethylene		47		71		79		18		21	
trans-1,2-Dichloroethylene		<10		0.61	J	<5		<5		<5	
Chlorodifluoromethane		<10		<5		0.38	J	<5		<5	
Dichlorodifluoromethane		<10		<5		<5		<5		<5	
Total :		509.2		1193.51		565.04		133.63		335.91	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-102		VP-102		VP-102		VP-102		VP-103
	Sample ID:	VP-102 (345-350)		VP-102 (365-370)		VP-102 (370-375)		VP-102 (380-385)		VP-103 (60)
CONSTITUENT	Sample Date:	9/28/2006		9/27/2006		10/3/2006		10/3/2006		10/10/2006
Volatile Organic Compounds										
Chloromethane		<5		<5		<10		<10		<5
Bromomethane		<5		<5		<10		<10		<5
Vinyl Choride		0.13	J	<2		3.3	J	0.34	J	<2
Chloroethane		<5		<5		<10		<10		<5
Methylene chloride		<5		<5		<10		<10		<5
Acetone		<10		<10		<10		<10		<10
Carbon disulfide		<5		<5		<10		<10		<5
1,1-Dichloroethene		1.2	J	<5		5.6	J	1.5	J	<5
1,1-Dichloroethane		2.7	J	<5		11		<10		<5
		<5		<5		<10		0.44	J	<5
1,2-Dichloroethane		<5		<5		<10		<10		<5
2-Butanone		<10		<10		<10		<10		<10
1,1,1-Trichloroethane		<5		<5		<10		<10		<5
Carbon tetrachloride		<5		<5		<10		<10		<5
Bromodichloromethane		<5		<5		<10		<10		<5
1,2-Dichloropropane		<5		<5		<10		<10		<5
cis-1,3-Dichloropropene		<5		<5		<10		<10		<5
Trichloroethene		200		1.7	J	1000	D	1100	D	<5
Dibromochloromethane		<5		<5		<10		<10		<5
1,1,2-Trichloroethane		<5		<5		<10		<10		<5
Benzene		<0.7		<0.7		<10		<10		<0.7
trans-1,3-Dichloropropene		<5		<5		<10		<10		<5
Bromoform		<5		<5		<10		<10		<5
4-Methyl-2-pentanone		<10		<10		<10		<10		<10
2-Hexanone		<10		<10		<10		<10		<10
Tetrachloroethene		<5		<5		<10		1.7	J	<5
1,1,2,2-Tetrachloroethane		<5		<5		<10		<10		<5
Toluene		<5		<5		5.4	J	4.6	J	<5
Chlorobenzene		<5		<5		<10		<10		<5
Ethylbenzene		<5		<5		<10		<10		<5
Styrene		<5		<5		<10		<10		<5
Xylene (total)		<5		<5		<10		<10		<5
Vinyl Acetate		<5		<5		<10		<10		<5
Freon 113		<5		<5		<10		2.4	J	<5
cis-1,2-Dichloroethylene		15		<5		78		23		<5
trans-1,2-Dichloroethylene		<5		<5		<10		<10		<5
Chlorodifluoromethane		0.82	J	<5		<10		<10		<5
Dichlorodifluoromethane		<5		<5		<10		<10		<5
Total :		219.85		1.7		1103.3		1133.98		0

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-103	VP-103	VP-103	VP-103	VP-103
	Sample ID:	VP-103 (80)	VP-103 (100)	VP-103 (120)	VP-103 (140)	VP-103 (165)
CONSTITUENT	Sample Date:	10/10/2006	10/10/2006	10/10/2006	10/11/2006	10/11/2006
Volatile Organic Compounds						
Chloromethane		<5	<5	<5	<5	<5
Bromomethane		<5	<5	<5	<5	<5
Vinyl Choride		<2	<2	<2	<2	<2
Chloroethane		<5	<5	<5	<5	<5
Methylene chloride		<5	<5	<5	<5	<5
Acetone		<10	<10	<10	<10	<10
Carbon disulfide		<5	<5	<5	<5	<5
1,1-Dichloroethene		<5	<5	<5	<5	<5
1,1-Dichloroethane		<5	<5	<5	<5	<5
		<5	<5	0.43 J	<5	<5
1,2-Dichloroethane		<5	<5	<5	<5	<5
2-Butanone		<10	<10	<10	<10	<10
1,1,1-Trichloroethane		<5	<5	<5	<5	<5
Carbon tetrachloride		<5	<5	<5	<5	<5
Bromodichloromethane		<5	<5	<5	<5	<5
1,2-Dichloropropane		<5	<5	<5	<5	<5
cis-1,3-Dichloropropene		<5	<5	<5	<5	<5
Trichloroethene		<5	<5	<5	<5	<5
Dibromochloromethane		<5	<5	<5	<5	<5
1,1,2-Trichloroethane		<5	<5	<5	<5	<5
Benzene		<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene		<5	<5	<5	<5	<5
Bromoform		<5	<5	<5	<5	<5
4-Methyl-2-pentanone		<10	<10	<10	<10	<10
2-Hexanone		<10	<10	<10	<10	<10
Tetrachloroethene		<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5	<5
Toluene		<5	<5	<5	<5	<5
Chlorobenzene		<5	<5	<5	<5	<5
Ethylbenzene		<5	<5	<5	<5	<5
Styrene		<5	<5	<5	<5	<5
Xylene (total)		<5	<5	<5	<5	<5
Vinyl Acetate		<5	<5	<5	<5	<5
Freon 113		<5	<5	<5	<5	<5
cis-1,2-Dichloroethylene		<5	<5	<5	<5	<5
trans-1,2-Dichloroethylene		<5	<5	<5	<5	<5
Chlorodifluoromethane		<5	<5	<5	<5	<5
Dichlorodifluoromethane		<5	<5	<5	<5	<5
Total :		0	0	0.43	0	0

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT	Site ID: / Sample ID: / Sample Date:	VP-103 VP-103 (180) 10/11/2006	VP-103 VP-103 (200) 10/12/2006	VP-103 VP-103 (220) 10/12/2006	VP-103 VP-103 (240) 10/12/2006	VP-103 VP-103 (260) 10/12/2006	
Volatile Organic Compounds							
Chloromethane		<5	<5	<5	<5	<5	
Bromomethane		<5	<5	<5	<5	<5	
Vinyl Choride		<2	<2	<2	<2	<2	
Chloroethane		<5	<5	<5	<5	<5	
Methylene chloride		<5	<5	<5	<5	<5	
Acetone		<10	<10	<10	<10	<10	
Carbon disulfide		<5	<5	<5	<5	<5	
1,1-Dichloroethene		<5	<5	<5	<5	9.3	
1,1-Dichloroethane		<5	<5	<5	<5	19	
		<5	<5	<5	<5	1.4	J
1,2-Dichloroethane		<5	<5	<5	<5	<5	
2-Butanone		<10	<10	<10	<10	<10	
1,1,1-Trichloroethane		<5	<5	<5	<5	10	
Carbon tetrachloride		<5	<5	<5	<5	<5	
Bromodichloromethane		<5	<5	<5	<5	<5	
1,2-Dichloropropane		<5	<5	<5	<5	<5	
cis-1,3-Dichloropropene		<5	<5	<5	<5	<5	
Trichloroethene		<5	<5	<5	43	280	D
Dibromochloromethane		<5	<5	<5	<5	<5	
1,1,2-Trichloroethane		<5	<5	<5	<5	<5	
Benzene		<0.7	<0.7	<0.7	<0.7	<0.7	
trans-1,3-Dichloropropene		<5	<5	<5	<5	<5	
Bromoform		<5	<5	<5	<5	<5	
4-Methyl-2-pentanone		<10	<10	<10	<10	<10	
2-Hexanone		<10	<10	<10	<10	<10	
Tetrachloroethene		<5	<5	<5	<5	<5	
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5	<5	
Toluene		<5	<5	<5	<5	<5	
Chlorobenzene		<5	<5	<5	<5	<5	
Ethylbenzene		<5	<5	<5	<5	<5	
Styrene		<5	<5	<5	<5	<5	
Xylene (total)		<5	<5	<5	<5	<5	
Vinyl Acetate		<5	<5	<5	<5	<5	
Freon 113		<5	<5	<5	<5	<5	
cis-1,2-Dichloroethylene		<5	<5	<5	55	110	
trans-1,2-Dichloroethylene		<5	<5	<5	<5	0.37	J
Chlorodifluoromethane		<5	<5	<5	<5	<5	
Dichlorodifluoromethane		<5	<5	<5	<5	<5	
Total :		0	0	0	98	430.07	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT	Site ID:	VP-103		VP-103		VP-103		VP-103		VP-103	
	Sample ID:	VP-103 (285)		VP-103 (320)		VP-103 (345)		VP-103 (360)		VP-103 (380)	
	Sample Date:	10/13/2006		10/16/2006		10/16/2006		10/17/2006		10/17/2006	
Volatile Organic Compounds											
Chloromethane		<5		<5		<5		<5		<5	
Bromomethane		<5		<5		<5		<5		<5	
Vinyl Choride		<2		<2		<2		<2		<2	
Chloroethane		<5		<5		<5		<5		<5	
Methylene chloride		<5		<5		<5		<5		<5	
Acetone		<10		<10		<10		<10		<10	
Carbon disulfide		<5		<5		<5		<5		<5	
1,1-Dichloroethene		<5		30		2.8	J	5.3		<5	
1,1-Dichloroethane		<5		17		10		<5		<5	
		<5		4	J	1.7	J	<5		<5	
1,2-Dichloroethane		<5		4.3	J	<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		16		2.9	J	4.1	J	<5	
Carbon tetrachloride		<5		2	J	<5		<5		<5	
Bromodichloromethane		<5		<5		<5		<5		<5	
1,2-Dichloropropane		<5		<5		<5		<5		<5	
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Trichloroethene		25		1900	D	450	DJ	380	D	3.4	J
Dibromochloromethane		<5		<5		<5		<5		<5	
1,1,2-Trichloroethane		<5		<5		<5		<5		<5	
Benzene		<0.7		<0.7		<0.7		<0.7		<0.7	
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Bromoform		<5		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		0.65	J	<5		<5	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5	
Toluene		<5		<5		<5		<5		<5	
Chlorobenzene		<5		<5		<5		<5		<5	
Ethylbenzene		<5		<5		<5		<5		<5	
Styrene		<5		<5		<5		<5		<5	
Xylene (total)		<5		<5		<5		<5		<5	
Vinyl Acetate		<5		<5		<5		<5		<5	
Freon 113		<5		<5		<5		<5		<5	
cis-1,2-Dichloroethylene		13		270		190	J	14		<5	
trans-1,2-Dichloroethylene		<5		1.1	J	1.2	J	<5		<5	
Chlorodifluoromethane		<5		<5		<5		<5		<5	
Dichlorodifluoromethane		<5		<5		<5		<5		<5	
Total :		38		2244.4		659.25		403.4		3.4	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-103		VP-103	VP-103	VP-103	VP-103
	Sample ID:	VP-103 (400)		VP-103 (420)	VP-103 (440)	VP-103 (460)	VP-103 (480)
CONSTITUENT	Sample Date:	10/17/2006		10/18/2006	10/18/2006	10/18/2006	10/18/2006
Volatile Organic Compounds							
Chloromethane		<5		<5	<5	<5	<5
Bromomethane		<5		<5	<5	<5	<5
Vinyl Choride		<2		<2	<2	<2	<2
Chloroethane		<5		<5	<5	<5	<5
Methylene chloride		<5		<5	<5	<5	<5
Acetone		<10		<10	<10	<10	<10
Carbon disulfide		<5		<5	<5	<5	<5
1,1-Dichloroethene		<5		<5	<5	<5	<5
1,1-Dichloroethane		<5		<5	<5	<5	<5
		<5		<5	<5	<5	<5
1,2-Dichloroethane		<5		<5	<5	<5	<5
2-Butanone		<10		<10	<10	<10	<10
1,1,1-Trichloroethane		<5		<5	<5	<5	<5
Carbon tetrachloride		<5		<5	<5	<5	<5
Bromodichloromethane		<5		<5	<5	<5	<5
1,2-Dichloropropane		<5		<5	<5	<5	<5
cis-1,3-Dichloropropene		<5		<5	<5	<5	<5
Trichloroethene		0.51	J	<5	<5	<5	<5
Dibromochloromethane		<5		<5	<5	<5	<5
1,1,2-Trichloroethane		<5		<5	<5	<5	<5
Benzene		<0.7		<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene		<5		<5	<5	<5	<5
Bromoform		<5		<5	<5	<5	<5
4-Methyl-2-pentanone		<10		<10	<10	<10	<10
2-Hexanone		<10		<10	<10	<10	<10
Tetrachloroethene		<5		<5	<5	<5	<5
1,1,2,2-Tetrachloroethane		<5		<5	<5	<5	<5
Toluene		<5		<5	<5	<5	<5
Chlorobenzene		<5		<5	<5	<5	<5
Ethylbenzene		<5		<5	<5	<5	<5
Styrene		<5		<5	<5	<5	<5
Xylene (total)		<5		<5	<5	<5	<5
Vinyl Acetate		<5		<5	<5	<5	<5
Freon 113		<5		<5	<5	<5	<5
cis-1,2-Dichloroethylene		<5		<5	<5	<5	<5
trans-1,2-Dichloroethylene		<5		<5	<5	<5	<5
Chlorodifluoromethane		<5		<5	<5	<5	<5
Dichlorodifluoromethane		<5		<5	<5	<5	<5
Total :		0.51		0	0	0	0

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-103	VP-103	VP-103	VP-103	VP-103
	Sample ID:	VP-103 (500)	VP-103 (525)	VP-103 (545)	VP-103 (560)	VP-103 (580)
CONSTITUENT	Sample Date:	10/19/2006	10/19/2006	10/20/2006	10/20/2006	10/23/2006
Volatile Organic Compounds						
Chloromethane		<5	<5	<5	<5	<5
Bromomethane		<5	<5	<5	<5	<5
Vinyl Choride		<2	<2	<2	<2	<2
Chloroethane		<5	<5	<5	<5	<5
Methylene chloride		<5	<5	<5	<5	<5
Acetone		<10	<10	<10	<10	<10
Carbon disulfide		<5	<5	<5	<5	<5
1,1-Dichloroethene		<5	<5	<5	<5	<5
1,1-Dichloroethane		<5	<5	<5	<5	<5
		<5	<5	<5	<5	<5
1,2-Dichloroethane		<5	<5	<5	<5	<5
2-Butanone		<10	<10	<10	<10	<10
1,1,1-Trichloroethane		<5	<5	<5	<5	<5
Carbon tetrachloride		<5	<5	<5	<5	<5
Bromodichloromethane		<5	<5	<5	<5	<5
1,2-Dichloropropane		<5	<5	<5	<5	<5
cis-1,3-Dichloropropene		<5	<5	<5	<5	<5
Trichloroethene		<5	<5	<5	<5	<5
Dibromochloromethane		<5	<5	<5	<5	<5
1,1,2-Trichloroethane		<5	<5	<5	<5	<5
Benzene		<0.7	<0.7	<0.7	<0.7	<0.7
trans-1,3-Dichloropropene		<5	<5	<5	<5	<5
Bromoform		<5	<5	<5	<5	<5
4-Methyl-2-pentanone		<10	<10	<10	<10	<10
2-Hexanone		<10	<10	<10	<10	<10
Tetrachloroethene		<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5	<5
Toluene		<5	<5	<5	<5	<5
Chlorobenzene		<5	<5	<5	<5	<5
Ethylbenzene		<5	<5	<5	<5	<5
Styrene		<5	<5	<5	<5	<5
Xylene (total)		<5	<5	<5	<5	<5
Vinyl Acetate		<5	<5	<5	<5	<5
Freon 113		<5	<5	<5	<5	<5
cis-1,2-Dichloroethylene		<5	<5	<5	<5	<5
trans-1,2-Dichloroethylene		<5	<5	<5	<5	<5
Chlorodifluoromethane		<5	<5	<5	<5	<5
Dichlorodifluoromethane		<5	<5	<5	<5	<5
Total :		0	0	0	0	0

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-103	VP-103	VP-103	VP-103	VP-23A	
	Sample ID:	VP-103 (600)	VP-103 (620)	VP-103 (640)	VP-103 (660)	VP-23A (57-62)	
CONSTITUENT	Sample Date:	10/23/2006	10/23/2006	10/24/2006	10/24/2006	10/12/2006	
Volatile Organic Compounds							
Chloromethane		<5	<5	<5	<5	<5	
Bromomethane		<5	<5	<5	<5	<5	
Vinyl Choride		<2	<2	<2	<2	<2	
Chloroethane		<5	<5	<5	<5	<5	
Methylene chloride		<5	<5	<5	<5	<5	
Acetone		<10	<10	<10	<10	<10	
Carbon disulfide		<5	<5	<5	<5	<5	
1,1-Dichloroethene		<5	<5	<5	<5	<5	
1,1-Dichloroethane		<5	<5	<5	<5	<5	
		<5	<5	<5	<5	2.4	J
1,2-Dichloroethane		<5	<5	<5	<5	<5	
2-Butanone		<10	<10	<10	<10	<10	
1,1,1-Trichloroethane		<5	<5	<5	<5	<5	
Carbon tetrachloride		<5	<5	<5	<5	<5	
Bromodichloromethane		<5	<5	<5	<5	<5	
1,2-Dichloropropane		<5	<5	<5	<5	<5	
cis-1,3-Dichloropropene		<5	<5	<5	<5	<5	
Trichloroethene		<5	<5	<5	<5	38	
Dibromochloromethane		<5	<5	<5	<5	<5	
1,1,2-Trichloroethane		<5	<5	<5	<5	<5	
Benzene		<0.7	<0.7	<0.7	<0.7	<0.7	
trans-1,3-Dichloropropene		<5	<5	<5	<5	<5	
Bromoform		<5	<5	<5	<5	<5	
4-Methyl-2-pentanone		<10	<10	<10	<10	<10	
2-Hexanone		<10	<10	<10	<10	<10	
Tetrachloroethene		<5	<5	<5	<5	<5	
1,1,2,2-Tetrachloroethane		<5	<5	<5	<5	<5	
Toluene		<5	<5	<5	<5	<5	
Chlorobenzene		<5	<5	<5	<5	<5	
Ethylbenzene		<5	<5	<5	<5	<5	
Styrene		<5	<5	<5	<5	<5	
Xylene (total)		<5	<5	<5	<5	<5	
Vinyl Acetate		<5	<5	<5	<5	<5	
Freon 113		<5	<5	<5	<5	<5	
cis-1,2-Dichloroethylene		<5	<5	<5	<5	51	
trans-1,2-Dichloroethylene		<5	<5	<5	<5	0.43	J
Chlorodifluoromethane		<5	<5	<5	<5	17	
Dichlorodifluoromethane		<5	<5	<5	<5	<5	
Total :		0	0	0	0	108.83	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

Table 1B. Validated On and Off Site Vertical Profile Borings Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

	Site ID:	VP-23A		VP-28A		VP-35		VP-35		VP-35	
	Sample ID:	VP-23A (62-67)		VP-28A (53-58)		VP-P-35 (51-56)		VP-P-35 (57-62)		VP-P-35 (62-67)	
CONSTITUENT	Sample Date:	10/12/2006		6/5/2006		10/13/2006		10/13/2006		10/13/2006	
Volatile Organic Compounds											
Chloromethane		<5		<5		<5		<5		<5	
Bromomethane		<5		<5		<5		<5		<5	
Vinyl Choride		<2		0.9	J	<2		<2		<2	
Chloroethane		<5		<5		<5		<5		<5	
Methylene chloride		<5		2	JB	<5		<5		<5	
Acetone		<10		10		2.7J	J	<10		<10	
Carbon disulfide		<5		<5		<5		<5		<5	
1,1-Dichloroethene		<5		<5		<5		<5		<5	
1,1-Dichloroethane		<5		4	J	<5		<5		<5	
		<5		<5		0.61	J	<5		<5	
1,2-Dichloroethane		<5		<5		<5		<5		<5	
2-Butanone		<10		<10		<10		<10		<10	
1,1,1-Trichloroethane		<5		<5		<5		<5		<5	
Carbon tetrachloride		<5		<5		<5		<5		<5	
Bromodichloromethane		<5		<5		<5		<5		<5	
1,2-Dichloropropane		<5		<5		<5		<5		<5	
cis-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Trichloroethene		9.7		46		6.7		5.8		<5	
Dibromochloromethane		<5		<5		<5		<5		<5	
1,1,2-Trichloroethane		<5		<5		<5		<5		<5	
Benzene		<0.7		<0.7		<0.7		<0.7		<0.7	
trans-1,3-Dichloropropene		<5		<5		<5		<5		<5	
Bromoform		<5		<5		<5		<5		<5	
4-Methyl-2-pentanone		<10		<10		<10		<10		<10	
2-Hexanone		<10		<10		<10		<10		<10	
Tetrachloroethene		<5		<5		<5		<5		<5	
1,1,2,2-Tetrachloroethane		<5		<5		<5		<5		<5	
Toluene		<5		1	J	<5		<5		<5	
Chlorobenzene		<5		<5		<5		<5		<5	
Ethylbenzene		<5		<5		<5		<5		<5	
Styrene		<5		<5		<5		<5		<5	
Xylene (total)		<5		1	J	<5		<5		<5	
Vinyl Acetate		<5		<5		<5		<5		<5	
Freon 113		<5		<5		<5		<5		<5	
cis-1,2-Dichloroethylene		8.1		130		10		2.3	J	<5	
trans-1,2-Dichloroethylene		<5		<5		<5		<5		<5	
Chlorodifluoromethane		8.5		<5		220	D	200		25	
Dichlorodifluoromethane		<5		<5		<5		<5		<5	
Total :		26.3		194.9		237.31		208.1		25	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary diluti

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Table 1C. Validated On-Site Soil Boring Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT (ug/kg)	Site ID: / Sample ID: / Sample Date:	H3 H-3-SB(36-38) 10/24/2006	H3 H-3-SB(38-40) 10/24/2006	H3 H-3-SB(40-42) 10/24/2006	H3 H-3-SB(42-44) 10/24/2006	H3 H-3-SB(44-46) 10/24/2006
Volatile Organic Compounds						
1,1,1-Trichloroethane		<10	<10	<1200	<14000	<14000
1,1,2,2-Tetrachloroethane		<10	<10	<1200	<14000	<14000
1,1,2-Trichloroethane		<10	<10	<1200	<14000	<14000
1,1-Dichloroethane		<10	<10	<1200	<14000	<14000
1,1-Dichloroethylene		<10	<10	<1200	<14000	<14000
1,2-Dichloroethane		<10	<10	<1200	<14000	<14000
1,2-Dichloropropane		<10	<10	<1200	<14000	<14000
2-Hexanone		<10	<10	<1200	<14000	<14000
Acetone		<10	<10	730 J	<14000	<14000
Benzene		<10	<10	<1200	<14000	<14000
Bromodichloromethane		<10	<10	<1200	<14000	<14000
Bromoform		<10	<10	<1200	<14000	<14000
Carbon disulfide		<10	0.22 J	<1200	<14000	<14000
Carbon tetrachloride		<10	<10	<1200	<14000	<14000
Chlorobenzene		<10	<10	<1200	<14000	<14000
Chlorodifluoromethane		<10	<10	<1200	<14000	<14000
Chloroethane		<10	<10	<1200	<14000	<14000
Chloroform		<10	<10	<1200	<14000	<14000
cis-1,2-Dichloroethylene		<10	<10	<1200	<14000	<14000
cis-1,3-Dichloropropene		<10	<10	<1200	<14000	<14000
Dibromochloromethane		<10	<10	<1200	<14000	<14000
Dichlorodifluoromethane		<10	<10	<1200	<14000	<14000
trans-1,2-Dichloroethylene		<10	<10	<1200	<14000	<14000
Ethylbenzene		<10	<10	9200	31000	30000
Freon 113		<10	<10	<1200	<14000	<14000
Bromomethane		<10	<10	<1200	<14000	<14000
Chloromethane		<10	<10	<1200	<14000	<14000
2-Butanone(MEK)		<10	<10	<1200	<14000	<14000
4-Methyl-2-pentanone		<10	<10	<1200	<14000	<14000
Methylene chloride		<10	<10	<1200	<14000	<14000
Styrene		<10	<10	<1200	<14000	<14000
Tetrachloroethylene		<10	<10	<1200	<14000	<14000
Toluene		<10	<10	6900	220000	220000
trans-1,3-Dichloropropene		<10	<10	<1200	<14000	<14000
Trichloroethylene		<10	<10	<1200	<14000	<14000
Vinyl Acetate		<10	<10	<1200	<14000	<14000
Xylene (total)		<10	1.6 J	60000	140000	140000
Vinyl chloride		<10	<10	<1200	<14000	<14000
Total :		373.00	1.82	76,830	391,000	390,000

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary dilution.
B : Detected in associated blank.

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Table 1C. Validated On-Site Soil Boring Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT (ug/kg)	Site ID: / Sample ID: / Sample Date:	H3 H-3-SB(46-48) 10/24/2006		H7 H-7-SB(43-45) 10/30/2006		H7 H-7-SB(45-47) 10/30/2006		H7 H-7-SB(50-52) 10/31/2006		I4 I-4-SB(28-30) 10/18/2006	
Volatile Organic Compounds											
1,1,1-Trichloroethane		<1400		<12		<12		<120		<1200	
1,1,2,2-Tetrachloroethane		<1400		<12		<12		<120		<1200	
1,1,2-Trichloroethane		<1400		<12		<12		<120		<1200	
1,1-Dichloroethane		<1400		<12		<12		<120		<1200	
1,1-Dichloroethylene		<1400		<12		<12		<120		<1200	
1,2-Dichloroethane		<1400		<12		<12		<120		<1200	
1,2-Dichloropropane		<1400		<12		<12		<120		<1200	
2-Hexanone		<1400		<12		<12		<120		<1200	
Acetone		<1400		<12		<12		<120		<1200	
Benzene		<1400		<12		<12		<120		<1200	
Bromodichloromethane		<1400		<12		<12		<120		<1200	
Bromoform		<1400		<12		<12		<120		<1200	
Carbon disulfide		<1400		<12		<12		<120		<1200	
Carbon tetrachloride		<1400		<12		<12		<120		<1200	
Chlorobenzene		<1400		<12		<12		<120		<1200	
Chlorodifluoromethane		<1400		<12		<12		<120		<1200	
Chloroethane		<1400		<12		<12		<120		<1200	
Chloroform		<1400		<12		<12		<120		<1200	
cis-1,2-Dichloroethylene		210	J	0.39	J	<12		230		<1200	
cis-1,3-Dichloropropene		<1400		<12		<12		<120		<1200	
Dibromochloromethane		<1400		<12		<12		<120		<1200	
Dichlorodifluoromethane		<1400		<12		<12		<120		<1200	
trans-1,2-Dichloroethylene		<1400		<12		<12		<120		<1200	
Ethylbenzene		1700		1.6	J	<12		42	J	2300	
Freon 113		<1400		<12		<12		<120		<1200	
Bromomethane		<1400		<12		<12		<120		<1200	
Chloromethane		<1400		<12		<12		<120		<1200	
2-Butanone(MEK)		<1400		<12		<12		<120		<1200	
4-Methyl-2-pentanone		<1400		<12		<12		<120		<1200	
Methylene chloride		<1400		<12		<12		<120		<1200	
Styrene		<1400		<12		<12		<120		<1200	
Tetrachloroethylene		<1400		0.28	J	<12		<120		<1200	
Toluene		15000		<12		<12		300	B	17000	
trans-1,3-Dichloropropene		<1400		<12		<12		<120		<1200	
Trichloroethylene		250	J	0.79	J	<12		2300		<1200	
Vinyl Acetate		<1400		<12		<12		<120		<1200	
Xylene (total)		8400		2.5	J	<12		110	J	11000	
Vinyl chloride		<1400		<12		5.9	J	44	J	<1200	
Total :		25,560		5.56		5.90		3,026		30,300	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary
B : Detected in associated blank.

Table 1C. Validated On-Site Soil Boring Volatile Organic Compounds Data,
Northrop Grumman, Former Settling Ponds (OU3 - Bethpage Community Park), Bethpage, New York

CONSTITUENT (ug/kg)	Site ID: / Sample ID: / Sample Date:	I4 / I-4-SB(38-40) / 10/18/2006	I4 / I-4-SB(46-48) / 10/19/2006	
Volatile Organic Compounds				
1,1,1-Trichloroethane		<14000	3300	
1,1,2,2-Tetrachloroethane		<14000	<1500	
1,1,2-Trichloroethane		<14000	88	J
1,1-Dichloroethane		<14000	<1500	
1,1-Dichloroethylene		<14000	140	J
1,2-Dichloroethane		<14000	<1500	
1,2-Dichloropropane		<14000	<1500	
2-Hexanone		<14000	<1500	
Acetone		<14000	<1500	
Benzene		<14000	<1500	
Bromodichloromethane		<14000	<1500	
Bromoform		<14000	<1500	
Carbon disulfide		<14000	<1500	
Carbon tetrachloride		<14000	<1500	
Chlorobenzene		<14000	<1500	
Chlorodifluoromethane		<14000	<1500	
Chloroethane		<14000	<1500	
Chloroform		<14000	<1500	
cis-1,2-Dichloroethylene		<14000	36000	D
cis-1,3-Dichloropropene		<14000	<1500	
Dibromochloromethane		<14000	<1500	
Dichlorodifluoromethane		<14000	<1500	
trans-1,2-Dichloroethylene		<14000	<1500	
Ethylbenzene		20000	11000	
Freon 113		<14000	<1500	
Bromomethane		<14000	<1500	
Chloromethane		<14000	<1500	
2-Butanone(MEK)		<14000	<1500	
4-Methyl-2-pentanone		<14000	<1500	
Methylene chloride		<14000	<1500	
Styrene		<14000	<1500	
Tetrachloroethylene		<14000	2500	
Toluene		210000	30000	
trans-1,3-Dichloropropene		<14000	<1500	
Trichloroethylene		<14000	270000	D
Vinyl Acetate		<14000	<1500	
Xylene (total)		84000	51000	
Vinyl chloride		<14000	580	J
Total :		314,000	404,608	

Notes:
ug/L : Micrograms per liter.
J : Estimated value.
D : Constituent quantified at a secondary
B : Detected in associated blank.