Mr. Jason Pelton
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ENVIRONMENT

Subject:
Addendum to Pre-Design Sampling and Remedial Technology Evaluation Report for VOC Source Area, Operable Unit 3 (Former Grumman Settling Ponds), Bethpage, New York

Date:
February 2, 2018

Contact:
David Stern

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Our ref:
NY001496.37LS

Dear Mr. Pelton:

Arcadis of New York, Inc. (Arcadis) prepared this Addendum to the October 16, 2015 “Pre-Design Sampling and Remedial Technology Evaluation Report for VOC Source Area” (VOC Pre-Remedial Report), as requested by Northrop Grumman Systems Corporation (Northrop Grumman), to provide the results of supplemental soil sampling at the Bethpage Community Park, Bethpage, NY (Park). Sampling locations were developed in consultation with Environmental Management and Global Innovation (EMAGIN) to support the design of In-Situ Thermal Remediation (ISTR) for volatile organic compounds (VOCs) in deep soil in the Park, which is required by the Operable Unit 3 (OU3) Record of Decision (ROD) issued by the New York State Department of Environmental Conservation (NYSDEC). **Figure 1** depicts the general site location and **Figure 2** depicts the Park features.

The purpose of the sample collection was to supplement vertical and horizontal delineation of total VOCs in selected areas of the Park ballfield where TVOCs were previously identified as exceeding the remedial action objective (RAO) of 10 milligrams per kilogram (mg/kg). The supplemental sampling field work was conducted between September 20, 2017 and November 8, 2017. Sampling methodology conformed to the May 14, 2014 NYSDEC-approved Pre-Design Sampling Work Plan for VOC Source Area.

A total of 19 soil borings were sampled; sampling locations are shown on **Figure 3** and the sample depths and location coordinates are listed in **Table 1**. The soil borings were field located using a handheld Global Positioning System (GPS) unit. Soil samples were collected using direct-push drilling equipment with Dual-Tube or Macro-Core ® samplers (depending on sample depth). Soil cores were

continuously logged and screened with a photo-ionization detector and soil samples were collected from the pre-determined sampling intervals and submitted to Pace Analytical of Melville, New York for analysis of Target Compound List (TCL) VOCs using USEPA Method 8260C. Data validation was performed in conformance with the project quality assurance project plan (QAPP).

Soil sample analytical results are summarized in **Table 2**. Sample/Core Logs are provided in **Attachment 1**. Category B laboratory reports are provided in **Attachment 2**. Data usability reports are provided in **Attachment 3**.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Arcadis of New York, Inc.

David E. Stern, PG
Senior Hydrogeologist

Carlo San Giovanni
Project Manager

Copies:
Donald Hesler, NYSDEC
Steve Karpinski, NYSDOH
Ed Hannon, Northrop Grumman

Enclosures:

Tables

1 Summary of Soil Borings
2 Concentrations of Volatile Organic Compounds in Soil Samples

Figures

1 Site Location
2 Site Area Features
3 Location of Soil Borings for Supplemental Delineation of TVOCs

Attachments

1 Sample/Core Logs
2 Laboratory Data Reports
3 Data Usability Summary Reports

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Table 1
Summary of Soil Borings
Addendum to Pre-Design Sampling and Remedial Technology Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

Location ID	Sample ID	X-Coordinate	Y-Coordinate	Sample Intervals (ft. bls)
nR-8	nR-8-17	1126325.09	214798.51	40-42, 42-44, 44-46, 46-48, 48-50
H-3	H-3-17	1126147.44	214910.94	40-42, 42-44, 44-46, 46-48, 48-50
H-6	H-6-17	1126140.14	214851.39	40-42, 42-44, 44-46, 46-48, 48-50
I-6	I-6-17	1126159.99	214848.95	40-42, 42-44, 44-46, 46-48, 48-50
K-3	K-3-17	1126206.99	214903.65	40-42, 42-44, 44-46, 46-48, 48-50
K-13	K-13-17	1126182.68	214705.13	40-42, 42-44, 44-46, 46-48, 48-50
M-6	M-6-17	1126239.4	214839.23	40-42, 42-44, 44-46, 46-48, 48-50
M-13	M-13-17	1126222.38	214700.27	40-42, 42-44, 44-46, 46-48, 48-50
P-13	P-13-17	1126281.94	214692.98	40-42, 42-44, 44-46, 46-48, 48-50, 50-52
R-11	R-11-17	1126326.5	214727.82	40-42, 42-44, 44-46, 46-48, 48-50, 50-52, 52-54
S-10	S-10-17	1126348.79	214745.24	40-42, 42-44, 44-46, 46-48, 48-50
I-3	I-3-17	1126167.29	214908.51	46-48
K-5	K-5-17	1126202.13	214863.94	46-48
J-6	J-6-17	1126178.635	214836.595	48-50
Q-6.5	Q-6.5-17	1126327.52	214818.365	48-50
nQ-8	nQ-8-17	1126305.24	214800.945	48-50
nS-8	nS-8-17	1126344.94	214796.08	48-50
S-11	S-11-17	1126346.36	214725.39	46-48, 48-50
R-12	R-12-17	1126324.07	214707.96	46-48, 48-50
Total number of delineation borings:	***19***			

Note:

1. Location IDs are relative to the sample grid established as part of 2014 Pre-Design Investigation
2. X, Y coordinates based on State Plane NAD83, Long Island Zone US Foot

ft. bls (Feet Below Land Surface)

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples,
Addendum to Pre-Design Sampling and Remedial Technology
Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

		Boring ID:	H-3-17	H-3-17	H-3-17	H-3-17	H-3-17	H-6-17	H-6-17	H-6-17	H-6-17	H-6-17	I-3-17	I-6-17	I-6-17
		Starting Depth:	40	42	44	46	48	40	42	44	46	48	46	40	42
		Date Sampled:	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	9/26/2017	11/6/2017	9/27/2017	9/27/2017
Constituent		Sampled ID:	H-3-17 (40-42)	H-3-17 (42-44)	H-3-17 (44-46)	H-3-17 (46-48)	H-3-17 (48-50)	H-6-17 (40-42)	H-6-17 (42-44)	H-6-17 (44-46)	H-6-17 (46-48)	H-6-17 (48-50)	I-3-17 (46-48)_20171106	I-6-17 (40-42)	I-6-17 (42-44)
	CAS	Units													
1,1,1-Trichloroethane	71-55-6	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	< 0.0018 M1	< 0.0019	< 0.0018	< 0.115 L2CL	< 0.0888 L2CL	< 0.0017	< 0.0018	< 0.0898 L2CL	< 0.0983 L2CL	< 0.0902 L2CL	< 0.0020 CL	< 0.0017	< 0.0016
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,1,2-Trichloroethane	79-00-5	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,1-Dichloroethane	75-34-3	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,1-Dichloroethene	75-35-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,2,4-Trichlorobenzene	120-82-1	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	< 0.0018 CL	< 0.0019 CL	< 0.0018 CL	< 0.115 L2CL	< 0.0888 L2CL	< 0.0017 CL	< 0.0018 CL	< 0.0898 L2CL	< 0.0983 L2CL	< 0.0902 L2CL	< 0.0020 CL	< 0.0017 J	< 0.0016 J
1,2-Dibromoethane	106-93-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,2-Dichlorobenzene	95-50-1	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,2-Dichloroethane	107-06-2	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,2-Dichloropropane	78-87-5	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,3-Dichlorobenzene	541-73-1	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
1,4-Dichlorobenzene	106-46-7	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
2-Butanone (MEK)	78-93-3	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017 J	< 0.0016 J
4-Methyl-2-Pentanone	108-10-1	mg/kg	< 0.0018 M1	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017 J	< 0.0016 J
Acetone	67-64-1	mg/kg	< 0.0018	< 0.0019	**0.0087 CH**	< 0.115	< 0.0888	**0.0058 CHD6**	**0.0026 CH**	< 0.0898	< 0.0983	< 0.0902	**0.0079 CHIH**	**0.0204 J**	< 0.0016
Benzene	71-43-2	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Bromodichloromethane	75-27-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Bromoform	75-25-2	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Bromomethane	74-83-9	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Carbon Disulfide	75-15-0	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	**0.0018 J**	< 0.0016
Carbon Tetrachloride	56-23-5	mg/kg	< 0.0018 M1	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
CFC-11	75-69-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115 L2	< 0.0888 L2	< 0.0017	< 0.0018	< 0.0898 L2	< 0.0983 L2	< 0.0902 L2M0	< 0.0020	< 0.0017	< 0.0016
CFC-12	75-71-8	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Chlorobenzene	108-90-7	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Chlorodibromomethane	124-48-1	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Chloroethane	75-00-3	mg/kg	< 0.0018 M1	< 0.0019	< 0.0018	< 0.115 L2	< 0.0888 L2	< 0.0017	< 0.0018	< 0.0898 L2	< 0.0983 L2	< 0.0902 L2M0	< 0.0020	< 0.0017	< 0.0016
Chloroform	67-66-3	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Chloromethane	74-87-3	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
cis-1,2-Dichloroethene	156-59-2	mg/kg	< 0.0018	< 0.0019	**0.0046**	**1.03**	**0.168**	**0.0042 D6**	**0.0587**	**0.225**	**1.25**	**1.01**	< 0.0020	**0.0180 J**	**0.0073**
cis-1,3-Dichloropropene	10061-01-5	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Cyclohexane	110-82-7	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017 J	< 0.0016 J
Dichloromethane	75-09-2	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	**0.0021**	< 0.0017	< 0.0016
Ethylbenzene	100-41-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	**0.448**	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	**0.0038 J**	< 0.0016
Isopropylbenzene	98-82-8	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Methyl Acetate	79-20-9	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017 J	< 0.0016 J
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	mg/kg	< 0.0018 M1	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Methylcyclohexane	108-87-2	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	**0.0194 J**	< 0.0016
Methyl-tert-butylether	1634-04-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017 J	< 0.0016 J
Styrene (Monomer)	100-42-5	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Tetrachloroethene	127-18-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Toluene	108-88-3	mg/kg	< 0.0018	< 0.0019	< 0.0018	**9.92**	< 0.0888	**0.0044 D6**	< 0.0018	< 0.0898	**2.06**	**0.371**	< 0.0020	**0.0230 J**	< 0.0016
Total Xylenes	1330-20-7	mg/kg	< 0.0036	< 0.0038	< 0.0035	**2.97**	< 0.178	< 0.0033	< 0.0036	< 0.18	< 0.197	< 0.18	< 0.0040	**0.0189 J**	< 0.0033
trans-1,2-Dichloroethene	156-60-5	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
trans-1,3-Dichloropropene	10061-02-6	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	< 0.0017	< 0.0016
Trichloroethene	79-01-6	mg/kg	< 0.0018 M1	< 0.0019	**0.0318**	**24.6**	**3.21**	**0.0027**	**0.0291**	**0.212**	**11.2**	**5.25**	< 0.0020	**0.0025 J**	**0.0064**
Vinyl chloride	75-01-4	mg/kg	< 0.0018	< 0.0019	< 0.0018	< 0.115	< 0.0888	< 0.0017	< 0.0018	< 0.0898	< 0.0983	< 0.0902	< 0.0020	**0.0055 J**	< 0.0016
TVOC	**--**	mg/kg	0.00	0.00	**0.05**	**38.97**	**3.38**	**0.02**	**0.09**	**0.44**	**14.51**	**6.63**	**0.01**	**0.11**	**0.01**

Footnotes on last page

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples,
Addendum to Pre-Design Sampling and Remedial Technology
Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

			Boring ID:	I-6-17	I-6-17	I-6-17	I-6-17	J-6-17	K-13-17	K-13-17	K-13-17	K-13-17	K-13-17	K-3-17	K-3-17	K-3-17	K-3-17	K-3-17
			Starting Depth:	44	44	46	48	48	40	42	44	46	48	40	42	44	46	48
			Date Sampled:	9/27/2017	9/27/2017	9/27/2017	9/27/2017	10/27/2017	9/20/2017	9/20/2017	9/20/2017	9/20/2017	9/20/2017	9/28/2017	9/28/2017	9/28/2017	9/29/2017	9/29/2017
Constituent			Sampled ID:	I-6-17 (44-46)	REP092717AD1	I-6-17 (46-48)	I-6-17 (48-50)	J-6-17 (48-50)	K-13-17 (40-42)	K-13-17 (42-44)	K-13-17 (44-46)	K-13-17 (46-48)	K-13-17 (48-50)	K-3-17 (40-42)	K-3-17 (42-44)	K-3-17 (44-46)	K-3-17 (46-48)	K-3-17 (48-50)
	CAS	Units																
1,1,1-Trichloroethane	71-55-6	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0033**	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	< 0.0018 CL	< 0.0018 CL	< 0.0923	< 0.0016 CL	< 0.0016 CL	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018 R1
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923 L2	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,1,2-Trichloroethane	79-00-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
1,1-Dichloroethane	75-34-3	mg/kg	< 0.0903	< 0.0896	< 0.0905	**0.109**	< 0.0017	< 0.0018	**0.0175**	< 0.0923	**0.0099**	< 0.0016 IH	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,1-Dichloroethene	75-35-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	**0.115**	< 0.0017	< 0.0018	< 0.0018	< 0.0923 L2	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,2,4-Trichlorobenzene	120-82-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	< 0.0018 CL	< 0.0018 CL	< 0.0923 CL	< 0.0016 CL	< 0.0016 CL	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016 CL	< 0.0018 CL
1,2-Dibromoethane	106-93-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
1,2-Dichlorobenzene	95-50-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,2-Dichloroethane	107-06-2	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
1,2-Dichloropropane	78-87-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,3-Dichlorobenzene	541-73-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
1,4-Dichlorobenzene	106-46-7	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
2-Butanone (MEK)	78-93-3	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	**0.0022**	< 0.0018	< 0.0923 L2	**0.0086**	< 0.0016	< 0.0019 CL	< 0.0020 CL	< 0.0018 CLM1	**0.0054 CL**	**0.0031 CL**
4-Methyl-2-Pentanone	108-10-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018 M1
Acetone	67-64-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	**0.0111**	**0.106 D6A+E**	< 0.0923 L1	**0.0526**	**0.0017**	**0.0054 D6**	< 0.0020	< 0.0018	**0.0255**	**0.0187 R1**
Benzene	71-43-2	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Bromodichloromethane	75-27-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
Bromoform	75-25-2	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018 CL	< 0.0018 CL	< 0.0923	< 0.0016 CL	< 0.0016 CL	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Bromomethane	74-83-9	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	< 0.0018	< 0.0018	< 0.0923 L2	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016 CL	< 0.0018 CL
Carbon Disulfide	75-15-0	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0158 D6**	< 0.0923 L2	**0.0170**	**0.0025**	< 0.0019	< 0.0020	< 0.0018	**0.0197**	**0.0053**
Carbon Tetrachloride	56-23-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
CFC-11	75-69-4	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	< 0.0018	< 0.0018	< 0.0923 L2M0	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
CFC-12	75-71-8	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017 CL	< 0.0018	< 0.0018	< 0.0923 CL	< 0.0016	< 0.0016	< 0.0019 CL	< 0.0020 CL	< 0.0018 CL	< 0.0016 CL	< 0.0018 CL
Chlorobenzene	108-90-7	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Chlorodibromomethane	124-48-1	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
Chloroethane	75-00-3	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	< 0.0985 J	< 0.0017	< 0.0018	< 0.0018	< 0.0923 L2M0	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Chloroform	67-66-3	mg/kg	< 0.0903	< 0.0896	< 0.0905	**0.19**	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
Chloromethane	74-87-3	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016 CL	< 0.0018 CL
cis-1,2-Dichloroethene	156-59-2	mg/kg	**0.188**	**0.229**	**0.327**	**25.2 D**	< 0.0017	**0.0028**	**0.0497**	**0.348**	**0.0334**	**0.0172**	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	**0.0045**
cis-1,3-Dichloropropene	10061-01-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
Cyclohexane	110-82-7	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0033 D6**	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Dichloromethane	75-09-2	mg/kg	< 0.0903	< 0.0896	< 0.0905	**1.55**	< 0.0017	< 0.0018	**0.0021 D6**	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Ethylbenzene	100-41-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0027 D6**	**0.598**	**0.0016**	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Isopropylbenzene	98-82-8	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0047 D6**	**0.344**	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Methyl Acetate	79-20-9	mg/kg	< 0.0903	< 0.0896 CHIH	< 0.0905	**0.271 J**	< 0.0017	< 0.0018	< 0.0018	< 0.0923 M1	< 0.0016	< 0.0016 IH	< 0.0019 CL	< 0.0020 CL	< 0.0018 CL	**0.0021 CLIH**	< 0.0018 CLIH
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018 M1
Methylcyclohexane	108-87-2	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0229 D6**	**2.11**	**0.0133**	< 0.0016	< 0.0019	< 0.0020	< 0.0018	**0.0040**	**0.0087**
Methyl-tert-butylether	1634-04-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Styrene (Monomer)	100-42-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Tetrachloroethene	127-18-4	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0029**	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
Toluene	108-88-3	mg/kg	< 0.0903	**0.109**	**0.257**	**0.965**	< 0.0017	< 0.0018	**0.0159 D6**	< 0.0923	**0.0103**	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	**0.0031 R1**
Total Xylenes	1330-20-7	mg/kg	< 0.181	< 0.179	< 0.181	< 0.197	< 0.0034	< 0.0035	**0.0113**	< 0.185	**0.0072**	< 0.0031	**0.0043**	< 0.0041	< 0.0037	< 0.0031	< 0.0037
trans-1,2-Dichloroethene	156-60-5	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	**0.0047**	< 0.0923	**0.0021**	< 0.0016	< 0.0019	< 0.0020	< 0.0018	< 0.0016	< 0.0018
trans-1,3-Dichloropropene	10061-02-6	mg/kg	< 0.0903	< 0.0896	< 0.0905	< 0.0985	< 0.0017	< 0.0018	< 0.0018	< 0.0923	< 0.0016	< 0.0016	< 0.0019	< 0.0020	< 0.0018 M1	< 0.0016	< 0.0018
Trichloroethene	79-01-6	mg/kg	**0.567**	**0.731**	**1.34**	**15 D**	< 0.0017	**0.0020**	**0.0279 D6**	**0.103**	**0.0180**	**0.0048**	< 0.0019	< 0.0020	< 0.0018	< 0.0016	**0.0087 M1R1**
Vinyl chloride	75-01-4	mg/kg	< 0.0903 J	< 0.0896 J	< 0.0905 J	**0.0995 J**	< 0.0017	< 0.0018	**0.0337 D6**	< 0.0923	**0.0176**	**0.0200**	< 0.0019	< 0.0020	< 0.0018	< 0.0016 CL	< 0.0018 CL
TVOC	**--**	mg/kg	**0.76**	**1.07**	**1.92**	**43.50**	0.00	**0.02**	**0.32**	**3.50**	**0.19**	**0.05**	**0.01**	0.00	0.00	**0.06**	**0.05**

Footnotes on last page

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples,
Addendum to Pre-Design Sampling and Remedial Technology
Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

		Boring ID:	K-5-17	M-13-17	M-13-17	M-13-17	M-13-17	M-13-17	M-6-17	M-6-17	M-6-17	M-6-17	M-6-17	M-6-17	nQ-8-17	nR-8-17
		Starting Depth:	46	40	42	44	46	48	40	42	44	46	48	48	48	40
		Date Sampled:	11/6/2017	9/29/2017	9/29/2017	9/29/2017	9/29/2017	9/29/2017	9/28/2017	9/28/2017	9/28/2017	9/28/2017	9/28/2017	9/28/2017	11/7/2017	10/2/2017
Constituent		Sampled ID:	K-5-17 (46-48)_20171106	M-13-17 (40-42)	M-13-17 (42-44)	M-13-17 (44-46)	M-13-17 (46-48)	M-13-17 (48-50)	M-6-17 (40-42)	M-6-17 (42-44)	M-6-17 (44-46)	M-6-17 (46-48)	M-6-17 (48-50)	REPO92817A01	NQ-8-17(48-50)_20171107	NR-8-17 (40-42)
	CAS	Units														
1,1,1-Trichloroethane	71-55-6	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	< 0.0022 CL	< 0.0018	< 0.0019	< 0.0872 L2	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,1,2-Trichloroethane	79-00-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,1-Dichloroethane	75-34-3	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015 IH	**0.0016 IH**	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,1-Dichloroethene	75-35-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,2,4-Trichlorobenzene	120-82-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	< 0.0022 CL	< 0.0018 CL	< 0.0019 CL	< 0.0872 L2CL	< 0.0015 CL	< 0.0016 CL	< 0.0017 CL	< 0.0020 CL	< 0.0015 CH	< 0.0016 CL	< 0.0016 CL	< 0.0016 CL	< 0.0023	< 0.0022
1,2-Dibromoethane	106-93-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,2-Dichlorobenzene	95-50-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,2-Dichloroethane	107-06-2	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,2-Dichloropropane	78-87-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,3-Dichlorobenzene	541-73-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
1,4-Dichlorobenzene	106-46-7	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
2-Butanone (MEK)	78-93-3	mg/kg	< 0.0022	< 0.0018 CL	< 0.0019 CL	< 0.0872	< 0.0015 CL	< 0.0016 CL	< 0.0017 CL	< 0.0020 CL	< 0.0015 CL	< 0.0016 CL	**0.0022 CL**	**0.0023 CL**	< 0.0023	< 0.0022
4-Methyl-2-Pentanone	108-10-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017 CL	< 0.0020 CL	< 0.0015 CL	< 0.0016 CL	< 0.0016 CL	< 0.0016 CL	< 0.0023	< 0.0022
Acetone	67-64-1	mg/kg	**0.0876 CHIH**	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	**0.0081 CH**	**0.0106 CH**	**0.0053 CH**	**0.0100 CH**	**0.0103 CH**	< 0.0023	< 0.0022
Benzene	71-43-2	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Bromodichloromethane	75-27-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Bromoform	75-25-2	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Bromomethane	74-83-9	mg/kg	< 0.0022	< 0.0018 CL	< 0.0019 CL	< 0.0872	< 0.0015 CL	< 0.0016 CL	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Carbon Disulfide	75-15-0	mg/kg	**0.0022 D6**	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Carbon Tetrachloride	56-23-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
CFC-11	75-69-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872 L2	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
CFC-12	75-71-8	mg/kg	< 0.0022	< 0.0018 CL	< 0.0019 CL	< 0.0872 CL	< 0.0015 CL	< 0.0016 CL	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022 CL
Chlorobenzene	108-90-7	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Chlorodibromomethane	124-48-1	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Chloroethane	75-00-3	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872 L2	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Chloroform	67-66-3	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Chloromethane	74-87-3	mg/kg	< 0.0022	< 0.0018 CL	< 0.0019 CL	< 0.0872	< 0.0015 CL	< 0.0016 CL	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022 CL
cis-1,2-Dichloroethene	156-59-2	mg/kg	**0.0095 D6**	< 0.0018	**0.0020**	**0.203**	**0.104**	**0.11**	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	**0.0030**	< 0.0022
cis-1,3-Dichloropropene	10061-01-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Cyclohexane	110-82-7	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Dichloromethane	75-09-2	mg/kg	**0.111**	**0.0020**	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	**0.0035**	**0.0089 C9**
Ethylbenzene	100-41-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	**0.0044**	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Isopropylbenzene	98-82-8	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	**0.0018**	**0.0020**	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Methyl Acetate	79-20-9	mg/kg	< 0.0022	< 0.0018 CL	< 0.0019 CL	< 0.0872	< 0.0015 CL	< 0.0016 CL	< 0.0017 CL	< 0.0020 CL	< 0.0015 CL	< 0.0016 CL	< 0.0016 CL	< 0.0016 CL	< 0.0023	< 0.0022 CL
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Methylcyclohexane	108-87-2	mg/kg	**0.0032 D6**	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	**0.0026 CH**	**0.0194 CH**	**0.0017 CH**	< 0.0016 CH	< 0.0023	< 0.0022
Methyl-tert-butylether	1634-04-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017 CL	< 0.0020 CL	< 0.0015 CL	< 0.0016 CL	< 0.0016 CL	< 0.0016 CL	< 0.0023	< 0.0022
Styrene (Monomer)	100-42-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Tetrachloroethene	127-18-4	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Toluene	108-88-3	mg/kg	**0.0139 D6**	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Total Xylenes	1330-20-7	mg/kg	< 0.0043	< 0.0036	< 0.0038	< 0.174	**0.0065**	**0.0044**	< 0.0033	< 0.0040	< 0.0031	< 0.0033	< 0.0032	< 0.0033	< 0.0046	< 0.0044
trans-1,2-Dichloroethene	156-60-5	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
trans-1,3-Dichloropropene	10061-02-6	mg/kg	< 0.0022	< 0.0018	< 0.0019	< 0.0872	< 0.0015	< 0.0016	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022
Trichloroethene	79-01-6	mg/kg	**0.0188 D6**	< 0.0018	< 0.0019	< 0.0872	**0.0166**	**0.0213**	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	**0.0071**	< 0.0022
Vinyl chloride	75-01-4	mg/kg	**0.0463**	< 0.0018 CL	< 0.0019 CL	< 0.0872	**0.0016 CL**	**0.0076 CL**	< 0.0017	< 0.0020	< 0.0015	< 0.0016	< 0.0016	< 0.0016	< 0.0023	< 0.0022 CL
TVOC	**--**	mg/kg	**0.29**	**0.00**	**0.00**	**0.20**	**0.13**	**0.14**	0.00	**0.01**	**0.02**	**0.03**	**0.01**	**0.01**	**0.01**	**0.01**

Footnotes on last page

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples,
Addendum to Pre-Design Sampling and Remedial Technology
Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

Constituent	Boring ID: / Starting Depth: / Date Sampled: / Sampled ID:	CAS	Units	nR-8-17 42 10/2/2017 NR-8-17 (42-44)	nR-8-17 44 10/2/2017 NR-8-17 (44-46)	nR-8-17 46 10/2/2017 NR-8-17 (46-48)	nR-8-17 48 10/2/2017 NR-8-17 (48-50)	nS-8-17 48 11/7/2017 NS-8-17(48-50)_20171107	P-13-17 40 9/25/2017 P-13-17 (40-42)	P-13-17 42 9/25/2017 P-13-17 (42-44)	P-13-17 44 9/25/2017 P-13-17 (44-46)	P-13-17 46 9/25/2017 P-13-17 (46-48)	P-13-17 48 9/25/2017 P-13-17 (48-50)	P-13-17 50 9/25/2017 P-13-17 (50-52)	Q-6.5-17 48 10/27/2017 Q-6.5-17 (48-50)	R-11-17 40 9/27/2017 R-11-17 (40-42)	R-11-17 42 9/27/2017 R-11-17 (42-44)	R-11-17 44 9/27/2017 R-11-17 (44-46)
1,1,1-Trichloroethane		71-55-6	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,1,2,2-Tetrachloroethane		79-34-5	mg/kg	< 0.0017	< 0.0018	< 0.0949 L2	< 0.0992 L2	< 0.0918 L2CL	< 0.0019 M1	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,1,2-trichloro-1,2,2-trifluoroethane		76-13-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,1,2-Trichloroethane		79-00-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,1-Dichloroethane		75-34-3	mg/kg	< 0.0017	< 0.0018	< 0.0949	**0.102**	**0.137**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,1-Dichloroethene		75-35-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	**0.194**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,2,4-Trichlorobenzene		120-82-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,2-Dibromo-3-chloropropane		96-12-8	mg/kg	< 0.0017	< 0.0018	< 0.0949 L2CL	< 0.0992 L2CL	< 0.0918 CL	< 0.0019 CL	< 0.0018 CL	< 0.0019 CL	< 0.0018 CL	< 0.0017 CL	< 0.0015 CL	< 0.0018	< 0.0019	< 0.0016 J	< 0.0019
1,2-Dibromoethane		106-93-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019 M1	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,2-Dichlorobenzene		95-50-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,2-Dichloroethane		107-06-2	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,2-Dichloropropane		78-87-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,3-Dichlorobenzene		541-73-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
1,4-Dichlorobenzene		106-46-7	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
2-Butanone (MEK)		78-93-3	mg/kg	< 0.0017	< 0.0018	< 0.0949	**0.123**	< 0.0918 CL	< 0.0019 CL	< 0.0018 CL	< 0.0019 CL	**0.0030 CL**	**0.0036 D6CL**	**0.0031 CL**	< 0.0018	< 0.0019	< 0.0016 J	**0.0142**
4-Methyl-2-Pentanone		108-10-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	**0.144**	< 0.0918	< 0.0019 M1	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016 J	< 0.0019
Acetone		67-64-1	mg/kg	**0.0138**	< 0.0018	< 0.0949	< 0.0992	< 0.0918	**0.0047**	**0.0073**	< 0.0019	**0.0136**	**0.0147 D6**	**0.0133**	< 0.0018	**0.0020**	**0.0033 J**	**0.0941**
Benzene		71-43-2	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Bromodichloromethane		75-27-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Bromoform		75-25-2	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Bromomethane		74-83-9	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918 L2	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Carbon Disulfide		75-15-0	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.0024**
Carbon Tetrachloride		56-23-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
CFC-11		75-69-4	mg/kg	< 0.0017	< 0.0018	< 0.0949 L2	< 0.0992 L2	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
CFC-12		75-71-8	mg/kg	< 0.0017 CL	< 0.0018 CL	< 0.0949 CL	< 0.0992 CL	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018 CL	< 0.0019 J	< 0.0016	< 0.0019 J
Chlorobenzene		108-90-7	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Chlorodibromomethane		124-48-1	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Chloroethane		75-00-3	mg/kg	< 0.0017	< 0.0018	< 0.0949 L2	< 0.0992 L2	< 0.0918 L2	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Chloroform		67-66-3	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Chloromethane		74-87-3	mg/kg	< 0.0017 CL	< 0.0018 CL	< 0.0949	< 0.0992	< 0.0918 CL	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
cis-1,2-Dichloroethene		156-59-2	mg/kg	< 0.0017	**0.0295**	**0.149**	**16.9**	**20.5**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	**0.0068**	< 0.0018	< 0.0019	< 0.0016	**0.0112**
cis-1,3-Dichloropropene		10061-01-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Cyclohexane		110-82-7	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019 J	< 0.0016 J	< 0.0019 J
Dichloromethane		75-09-2	mg/kg	< 0.0017	**0.0028 C9**	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Ethylbenzene		100-41-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.0037**
Isopropylbenzene		98-82-8	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.0053**
Methyl Acetate		79-20-9	mg/kg	< 0.0017 CL	< 0.0018 CL	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016 J	< 0.0019 CL
Methyl N-Butyl Ketone (2-Hexanone)		591-78-6	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019 M1	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Methylcyclohexane		108-87-2	mg/kg	< 0.0017	< 0.0018 CH	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.154**
Methyl-tert-butylether		1634-04-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016 J	< 0.0019
Styrene (Monomer)		100-42-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Tetrachloroethene		127-18-4	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	**0.0036**	< 0.0019	< 0.0016	< 0.0019
Toluene		108-88-3	mg/kg	< 0.0017	**0.0137**	**0.11**	**5.57**	**3.86**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.0145**
Total Xylenes		1330-20-7	mg/kg	< 0.0034	< 0.0036	< 0.19	< 0.198	< 0.184	< 0.0037	< 0.0036	< 0.0039	< 0.0036	< 0.0033	< 0.0030	< 0.0036	< 0.0039	< 0.0033	**0.0050**
trans-1,2-Dichloroethene		156-60-5	mg/kg	< 0.0017	< 0.0018	< 0.0949	**0.113**	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
trans-1,3-Dichloropropene		10061-02-6	mg/kg	< 0.0017	< 0.0018	< 0.0949	< 0.0992	< 0.0918	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	< 0.0019
Trichloroethene		79-01-6	mg/kg	< 0.0017	**0.0340**	**0.211**	**23.4**	**22.4**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	**0.0092**	**0.0472**	< 0.0019	< 0.0016	**0.0083**
Vinyl chloride		75-01-4	mg/kg	< 0.0017 CL	**0.0023 CL**	< 0.0949	< 0.0992	**0.786**	< 0.0019	< 0.0018	< 0.0019	< 0.0018	< 0.0017	< 0.0015	< 0.0018	< 0.0019	< 0.0016	**0.0026**
TVOC		**--**	mg/kg	**0.01**	**0.08**	**0.47**	**46.35**	**47.88**	**0.00**	**0.01**	0.00	**0.02**	**0.02**	**0.03**	**0.05**	**0.00**	**0.00**	**0.32**

Footnotes on last page

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples,
Addendum to Pre-Design Sampling and Remedial Technology
Evaluation Report for VOC Source Area
Operable Unit 3 (Former Grumman Settling Ponds),
Northrop Grumman Systems Corporation, Bethpage, New York.

Constituent	CAS	Units	Boring ID: R-11-17 Starting Depth: 46 Date Sampled: 9/27/2017 Sampled ID: R-11-17 (46-48)	R-11-17 48 9/27/2017 R-11-17 (48-50)	R-11-17 50 9/27/2017 R-11-17 (50-52)	R-11-17 52 9/27/2017 R-11-17 (52-54)	R-12-17 46 11/8/2017 R-12-17 (46-48)	R-12-17 48 11/8/2017 R-12-17 (48-50)	S-10-17 40 10/2/2017 S-10-17 (40-42)	S-10-17 42 10/2/2017 S-10-17 (42-44)	S-10-17 44 10/2/2017 S-10-17 (44-46)	S-10-17 46 10/2/2017 S-10-17 (46-48)	S-10-17 48 10/2/2017 S-10-17 (48-50)	S-11-17 46 11/8/2017 S-11-17 (46-48)	S-11-17 48 11/8/2017 S-11-17 (48-50)
1,1,1-Trichloroethane	71-55-6	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,1,2-Trichloroethane	79-00-5	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,1-Dichloroethane	75-34-3	mg/kg	< 0.0914	**0.188**	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	**0.186**	< 0.112
1,1-Dichloroethene	75-35-4	mg/kg	< 0.0914	**0.113**	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2,4-Trichlorobenzene	120-82-1	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2-Dibromoethane	106-93-4	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2-Dichlorobenzene	95-50-1	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2-Dichloroethane	107-06-2	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,2-Dichloropropane	78-87-5	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,3-Dichlorobenzene	541-73-1	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
1,4-Dichlorobenzene	106-46-7	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
2-Butanone (MEK)	78-93-3	mg/kg	**0.102 J**	< 0.0944 J	**0.555 J**	**0.0996 J**	< 0.0020 CL	< 0.1 CL	< 0.0021	< 0.0019	< 0.0021	< 0.0022	**0.0057**	< 0.103 CL	< 0.112 CL
4-Methyl-2-Pentanone	108-10-1	mg/kg	< 0.0914	**0.755**	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Acetone	67-64-1	mg/kg	< 0.0914	**0.21**	**1.48**	**0.423**	**0.0595 IH**	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	**0.0247**	< 0.103	< 0.112
Benzene	71-43-2	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Bromodichloromethane	75-27-4	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Bromoform	75-25-2	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Bromomethane	74-83-9	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Carbon Disulfide	75-15-0	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	**0.0056**	< 0.103	< 0.112
Carbon Tetrachloride	56-23-5	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
CFC-11	75-69-4	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
CFC-12	75-71-8	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020 CL	< 0.1	< 0.0021 CL	< 0.0019 CL	< 0.0021 CL	< 0.0022 CL	< 0.0018 CL	< 0.103	< 0.112
Chlorobenzene	108-90-7	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Chlorodibromomethane	124-48-1	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Chloroethane	75-00-3	mg/kg	< 0.0914 J	< 0.0944 J	< 0.102 J	< 0.0988 J	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Chloroform	67-66-3	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Chloromethane	74-87-3	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1 CL	< 0.0021 CL	< 0.0019 CL	< 0.0021 CL	< 0.0022 CL	< 0.0018 CL	< 0.103 CL	< 0.112 CL
cis-1,2-Dichloroethene	156-59-2	mg/kg	**3.75**	**43 D**	< 0.102	< 0.0988	**0.0025 D6**	**1.18**	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	**41.3**	**0.522**
cis-1,3-Dichloropropene	10061-01-5	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Cyclohexane	110-82-7	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 CL	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Dichloromethane	75-09-2	mg/kg	< 0.0914	**0.204**	**0.359**	< 0.0988	**0.0113 D6**	**0.148**	**0.0043 C9**	**0.0027 C9**	**0.0036 C9**	**0.0029 C9**	**0.0024 C9**	< 0.103	**0.128**
Ethylbenzene	100-41-4	mg/kg	**0.26**	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Isopropylbenzene	98-82-8	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Methyl Acetate	79-20-9	mg/kg	< 0.0914	**0.101 J**	**0.132 J**	**0.112 J**	< 0.0020	< 0.1 IH	< 0.0021 CL	< 0.0019 CL	< 0.0021 CL	< 0.0022 CL	< 0.0018 CL	< 0.103	< 0.112
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Methylcyclohexane	108-87-2	mg/kg	**0.176**	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Methyl-tert-butylether	1634-04-4	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Styrene (Monomer)	100-42-5	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Tetrachloroethene	127-18-4	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Toluene	108-88-3	mg/kg	**7.26**	**14.1 D**	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	**8.62**	< 0.112
Total Xylenes	1330-20-7	mg/kg	**1.26**	< 0.189	< 0.204	< 0.198	< 0.0040	< 0.201	< 0.0042	< 0.0038	< 0.0042	< 0.0043	< 0.0036	**0.265**	< 0.225
trans-1,2-Dichloroethene	156-60-5	mg/kg	< 0.0914	**0.226**	< 0.102	< 0.0988	< 0.0020	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	**0.328**	< 0.112
trans-1,3-Dichloropropene	10061-02-6	mg/kg	< 0.0914	< 0.0944	< 0.102	< 0.0988	< 0.0020 M1	< 0.1	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	< 0.103	< 0.112
Trichloroethene	79-01-6	mg/kg	**5.47**	**30.4 D**	< 0.102	< 0.0988	< 0.0020	**0.135**	< 0.0021	< 0.0019	< 0.0021	< 0.0022	< 0.0018	**15.6**	< 0.112
Vinyl chloride	75-01-4	mg/kg	**0.241 J**	**1.67 J**	**0.539 J**	< 0.0988 J	**0.0438 D6**	**0.122**	< 0.0021 CL	< 0.0019 CL	< 0.0021 CL	< 0.0022 CL	< 0.0018 CL	**0.248**	< 0.112
TVOC	--	mg/kg	**18.52**	**90.97**	**3.07**	**0.63**	**0.12**	**1.59**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**66.55**	**0.65**

Footnotes on last page

Table 2
Concentrations of Volatile Organic Compounds in Soil Samples, Addendum to Pre-Design Sampling and Remedial Technology Evaluation Report for VOC Source Area Operable Unit 3 (Former Grumman Settling Ponds), Northrop Grumman Systems Corporation, Bethpage, New York.

Notes and Abbreviations:

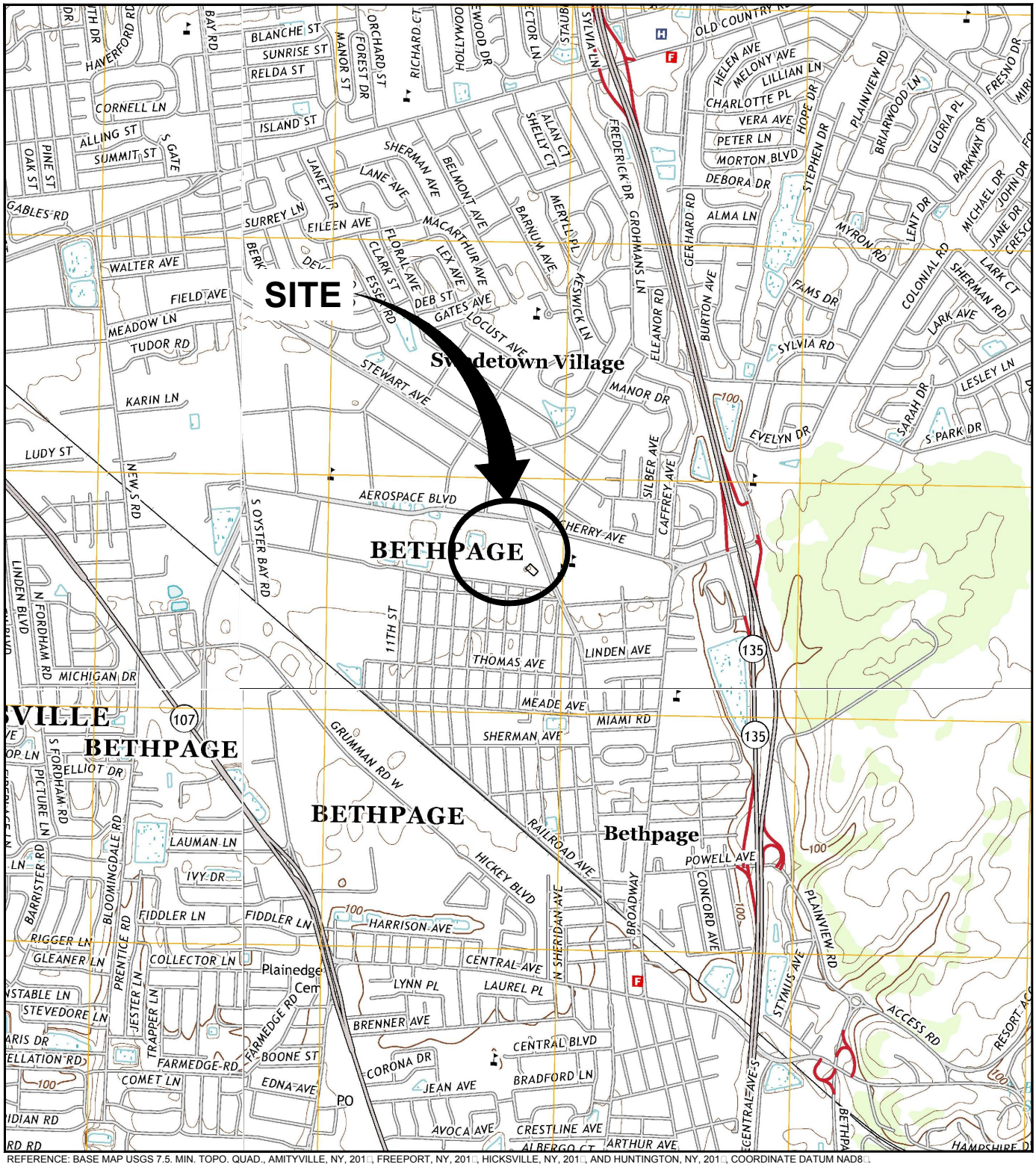
1. Results validated following protocols specified in June 2016 Quality Assurance Project Plan (QAPP)
2. Samples submitted to the laboratory were analyzed for TCL VOCs using USEPA Method 8260C.
3. Samples analyzed on a dry weight basis.
4. Samples were collected as specified in table 1 per the Pre-Design Sampling Work Plan for VOC Source Area (Work Plan) (EMAGIN 2014)
5. Cells exceeding the standard of 10mg/kg for TVOCs are shaded gray
6. TVOCs are rounded to two significant numbers.
7. **Bold value indicates a detection**

RI/FS	Remedial Investigation/Feasibility Study
TCL	Target compound list
VOCs	Volatile organic compounds
TVOCs	Total volatile organic compounds
ft.	Feet below original land surface that existed prior to the Town of Oyster Bay bringing in cover material.
mg/kg	Milligrams per kilogram

Laboratory Qualifiers and Definitions:

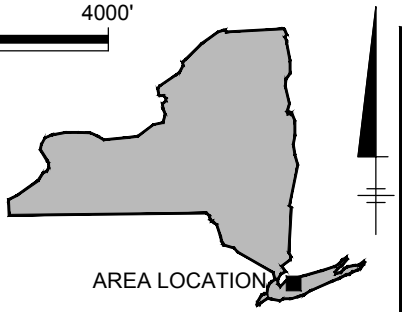
J	Value is estimated
D	Concentration is based on a diluted sample analysis
RL	Reporting Limit
S	Surrogate
MDL	Adjusted Method Detection Limit
ND	Not Detected at or above adjusted reporting limit
DF	Dilution Factor
REP	Sample Replicate

1j	Surrogate recovery high due to unresolved interferences.
A+	The reaction of the soil preservative, sodium bisulfate, is known to react with humic acid in soils to produce ketones.
C0	Results confirmed by second analysis.
C9	Common Laboratory Contaminant.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.
IL	This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. R1
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associate sample.



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., AMITYVILLE, NY, 201□, FREEPORT, NY, 201□, HICKSVILLE, NY, 201□, AND HUNTINGTON, NY, 201□, COORDINATE DATUM NAD8□

0 2000' 4000'

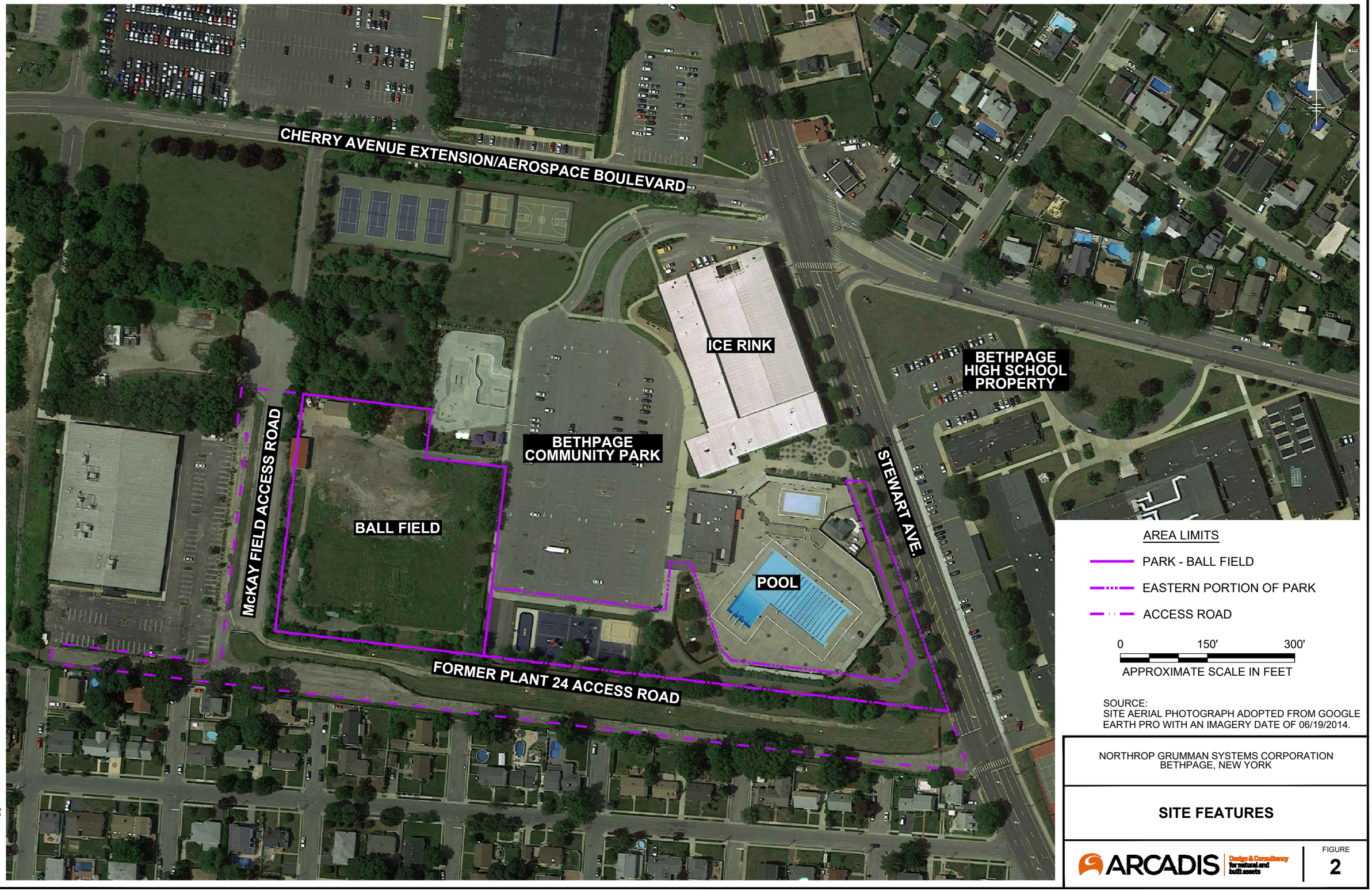


NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

SITE LOCATION

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1



AREA LIMITS

- PARK - BALL FIELD
- EASTERN PORTION OF PARK
- ACCESS ROAD

0 150' 300'

APPROXIMATE SCALE IN FEET

SOURCE:
SITE AERIAL PHOTOGRAPH ADOPTED FROM GOOGLE EARTH PRO WITH AN IMAGERY DATE OF 06/19/2014.

NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

SITE FEATURES

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

0 40' 80'

APPROXIMATE SCALE IN FEET

LEGEND:

- HISTORICAL VOC SAMPLE LOCATIONS (PRE 2014)
- HISTORICAL VOC SAMPLE LOCATIONS (2014 PRE-DESIGN INVESTIGATION)
- VOC SAMPLE LOCATIONS (2017 SUPPLEMENTAL PRE-DESIGN INVESTIGATION)

TVOCs — TOTAL VOLATILE ORGANIC COMPOUNDS

mg/kg — MILLIGRAMS PER KILOGRAM

NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

BETHPAGE COMMUNITY PARK VOC SOURCE AREA AND SAMPLING LOCATIONS

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FIGURE 3