

1-30 00317-002

# ARCADIS GERAGHTY & MILLER



Mr. Steven Scharf, P.E.  
Environmental Engineer  
New York State Department of Environmental Conservation (NYSDEC)  
Bureau of Eastern Remedial Action  
Division of Hazardous Waste Remediation  
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Albany, New York 12233-7010

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Subject:  
Second Quarter 2000 Groundwater Monitoring Data,  
Northrop Grumman Corporation, Bethpage, New York.

ENVIRONMENTAL

Dear Mr. Scharf:

On behalf of Northrop Grumman Corporation, ARCADIS Geraghty & Miller is providing the NYSDEC with groundwater data for the past four quarters (i.e., September and December of 1999 and March and June of 2000) of outpost monitoring near Bethpage Water District Plants 4, 5, and 6. Table 1 summarizes volatile organic compound (VOC) concentrations detected in groundwater samples. Figures 1 and 2 depict the historical concentrations of total VOCs in groundwater versus time for selected monitoring wells.

Date:  
16 February 2001

Contact:  
David E. Stern

Also provided are the results of the past four quarters (i.e., September and December of 1999 and March and June of 2000) of monitoring for total cadmium and chromium (Cd/Cr). Table 2 summarizes Cd/Cr concentrations detected in groundwater samples during this period.

Extension:  
(631) 391-5284

Please contact us if you have any questions or comments.

Sincerely,

ARCADIS Geraghty & Miller Inc

David E. Stern  
Project Scientist

Carlo San Giovanni  
Project Manager

Enclosures

Copies:  
J. Cofman - Northrop Grumman  
J. Molloy - H2M  
R. Krumholz - Bethpage Water District

Our ref.:  
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Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-35D2*	GM-35D2	GM-35D2*	GM-35D2	GM-35D2*
	DATE:	9/2/99	9/2/99	1/6/00	1/6/00	3/24/00
	LAB/SAMPLER:	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M
Chloromethane	<	5	< 0.5	< 10	< 0.5	< 10
Bromomethane	<	5	< 0.5	< 10	< 0.5	< 10
Vinyl Chloride	<	2	< 0.5	< 0.3	< 0.5	< 1
Chloroethane	<	5	< 0.5	< 10	< 0.5	< 10
Methylene chloride	<	5	< 0.5	< 10	< 0.5	< 10
Acetone	<	10 J	NA	2 J	NA	< 10
Carbon disulfide	<	10	NA	< 10	NA	< 10
1,1-Dichloroethene	4 J	5.5	5 J	6.7	4 J	
1,1-Dichloroethane	1 J	0.9	< 10	0.5	< 10	
1,2-Dichloroethene (total)	0.9 J	0.8	< 10	0.7	< 10	
Chloroform	<	7	0.7	< 10	0.7	< 10
1,2-Dichloroethane	<	5	< 0.5	< 10	< 0.5	< 10
2-Butanone	<	10	NA	< 10	NA	< 10
1,1,1-Trichloroethane	2 J	2.6	< 10	2.4	2 J	
Carbon tetrachloride	3 J	2.3	3 J	3.4	3 J	
Bromodichloromethane	<	10	< 0.5	< 10	< 0.5	< 10
1,2-Dichloropropane	<	5	< 0.5	< 10	< 0.5	< 10
cis-1,3-Dichloropropene	<	5	< 0.5	< 10	< 0.5	< 10
Trichloroethene	63	80	76	94	88	
Dibromochloromethane	<	5	< 0.5	< 10	< 0.5	< 10
1,1,2-Trichloroethane	<	5	< 0.5	< 10	< 0.5	< 10
Benzene	<	0.7	< 0.5	< 10	< 0.5	< 10
trans-1,3-Dichloropropene	<	5	< 0.5	< 10	< 0.5	< 10
Bromoform	<	10	< 0.5	< 10	< 0.5	< 10
4-Methyl-2-pentanone	<	10	NA	< 10	NA	< 10
2-Hexanone	<	10 J	NA	< 10	NA	< 10
Tetrachloroethene	0.5 J	0.5	< 10	< 0.5	< 10	
1,1,2,2-Tetrachloroethane	<	5	< 0.5	< 10	< 0.5	< 10
Toluene	0.1 J	< 0.5	< 10	< 0.5	< 10	
Chlorobenzene	<	5	< 0.5	< 10	< 0.5	< 10
Ethylbenzene	<	5	< 0.5	< 10	< 0.5	< 10
Styrene	<	5	< 0.5	< 10	< 0.5	< 10
Xylene (total)	<	5	< 0.5	< 10	< 0.5	< 10
Total VOCs		74.5	93.3	86	108.4	97

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell, P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February 2000.  
\* Groundwater sample split with H2M.  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-35D2	GM-35D2*	GM-35D2	GM-36D*	GM-36D	
		DATE:	3/24/00	7/14/00	7/14/00	9/2/99	9/2/99	
			H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	
Chloromethane		<	0.5	<	10	<	0.5	
Bromomethane		<	0.5	<	10	<	0.5	
Vinyl Chloride		<	0.5	<	0.3	<	0.5	
Chloroethane		<	0.5	<	10	<	0.5	
Methylene chloride		<	0.5	<	10	<	0.5	
Acetone			NA	<	10	<	10	
Carbon disulfide			NA	<	10	<	10	
1,1-Dichloroethene			<b>4</b>	<b>4</b> J	<b>4.7</b>	<	5	
1,1-Dichloroethane		<	0.5	<	10	<	0.5	
1,2-Dichloroethene (total)		<	0.5	<	10	<b>0.4</b> J	<	0.5
Chloroform		<	0.5	<	10	<b>0.7</b>	<	7
1,2-Dichloroethane		<	0.5	<	10	<	0.5	
2-Butanone			NA	<	10	<	10	
1,1,1-Trichloroethane			<b>1.4</b>	<b>2</b> J	<b>1.9</b>	<	5	
Carbon tetrachloride			<b>2</b>	<	10	<	5	
Bromodichloromethane		<	0.5	<	10	<	0.5	
1,2-Dichloropropane		<	0.5	<	10	<	0.5	
cis-1,3-Dichloropropene		<	0.5	<	10	<	0.5	
Trichloroethene			<b>72</b>	<b>91</b> J	<b>130</b>	<b>36</b>	<b>37</b>	
Dibromochloromethane		<	0.5	<	10	<	0.5	
1,1,2-Trichloroethane		<	0.5	<	10	<	0.5	
Benzene		<	0.5	<	10	<	0.5	
trans-1,3-Dichloropropene		<	0.5	<	10	<	0.5	
Bromoform		<	0.5	<	10	<	0.5	
4-Methyl-2-pentanone			NA	<	10	<	10	
2-Hexanone			NA	<	10	<	10	
Tetrachloroethene		<	0.5	<	10	<b>0.7</b>	<b>2</b> J	
1,1,1,2-Tetrachloroethane		<	0.5	R	<	0.5	<	5
Toluene		<	0.5	<	10	<	0.5	
Chlorobenzene		<	0.5	<	10	<	0.5	
Ethylbenzene		<	0.5	<	10	<	0.5	
Styrene		<	0.5	<	10	<	0.5	
Xylene (total)		<	0.5	<	10	<	0.5	
Total VOCs			<b>79.4</b>	<b>97</b>	<b>142.5</b>	<b>38.4</b>	<b>38.9</b>	

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrel P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February / Groundwater sample split with H2M  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-36D*	GM-36D	GM-36D*	GM-36D	GM-36D*						
		DATE:	12/10/99	12/10/99	3/27/00	3/27/00	7/14/00						
			STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M						
Chloromethane		<	5	<	0.5	<	10	<	0.5	<	10		
Bromomethane		<	5	<	0.5	<	10	<	0.5	<	10	J	
Vinyl Chloride		<	2	<	0.5	<	1	<	0.5	<	0.3		
Chloroethane		<	5	<	0.5	<	10	<	0.5	<	10		
Methylene chloride		<	5	<	0.5	<	10	<	0.5	<	10		
Acetone		<	10		NA	<	10		NA	<	10	J	
Carbon disulfide		<	10		NA	<	10		NA	<	10		
1,1-Dichloroethene		<	5	<	0.5	<	10	<	0.5	<	10		
1,1-Dichloroethane		<	5	<	0.5	<	10	<	0.5	<	10		
1,2-Dichloroethene (total)		<	0.6	J	<	0.5	<	10	<	0.5	<	10	
Chloroform		<	7	<	0.5	<	10	<	0.5	<	10		
1,2-Dichloroethane		<	5	<	0.5	<	10	<	0.5	<	10		
2-Butanone		<	10		NA	<	10		NA	<	10		
1,1,1-Trichloroethane		<	5	<	0.5	<	10	J	<	0.5	<	10	
Carbon tetrachloride		<	5	<	0.5	<	10	J	<	0.5	<	10	J
Bromodichloromethane		<	10	<	0.5	<	10	<	0.5	<	10		
1,2-Dichloropropane		<	5	<	0.5	<	10	<	0.5	<	10		
cis-1,3-Dichloropropene		<	5	<	0.5	<	10	<	0.5	<	10		
Trichloroethene			52		41		54		45		24	J	
Dibromochloromethane		<	5	<	0.5	<	10	<	0.5	<	10		
1,1,2-Trichloroethane		<	5	<	0.5	<	10	<	0.5	<	10		
Benzene		<	0.7	<	0.5	<	10	<	0.5	<	10		
trans-1,3-Dichloropropene		<	5	<	0.5	<	10	<	0.5	<	10		
Bromoform		<	10	<	0.5	<	10	<	0.5	<	10		
4-Methyl-2-pentanone		<	10		NA	<	10		NA	<	10		
2-Hexanone		<	10		NA	<	10		NA	<	10		
Tetrachloroethene		<	3	J	1.9		2	J	1.5	<	10		
1,1,2,2-Tetrachloroethane		<	5	<	0.5	<	10	<	0.5		R		
Toluene		<	5	<	0.5	<	10	<	0.5	<	10		
Chlorobenzene		<	5	<	0.5	<	10	<	0.5	<	10		
Ethylbenzene		<	5	<	0.5	<	10	<	0.5	<	10		
Styrene		<	5	<	0.5	<	10	<	0.5	<	10		
Xylene (total)		<	5	<	0.5	<	10	<	0.5	<	10		
Total VOCs			55.6		42.9		56		46.5		24		

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell  
P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc.,  
Monroe, Connecticut. Moved to  
Shelton, Connecticut in February 2000.  
\* Groundwater sample split with H2M  
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ug/L Micrograms per liter.  
J Estimated value.  
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D Constituent identified at a secondary  
dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-36D	GM-36D2*	GM-36D2	GM-36D2*	GM-36D2**
	DATE:	7/14/00	9/2/99	9/2/99	12/10/99	12/10/99
LAB/SAMPLER:		H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	STL/G&M
Chloromethane	<	0.5	< 5	< 0.5	< 5	< 5
Bromomethane	<	0.5	< 5	< 0.5	< 5	< 5
Vinyl Chloride	<	0.5	< 2	< 0.5	< 2	< 2
Chloroethane	<	0.5	< 5	< 0.5	< 5	< 5
Methylene chloride	<	0.5	< 5	< 0.5	< 5	< 5
Acetone		NA	< 10 J	NA	< 10	< 10
Carbon disulfide		NA	< 10	NA	< 10	< 10
1,1-Dichloroethene	<	0.5	< 5	< 0.5	< 5	< 5
1,1-Dichloroethane	<	0.5	< 5	< 0.5	< 5	< 5
1,2-Dichloroethene (total)	<	0.5	< 5	< 0.5	< 5	< 5
Chloroform	<	0.5	< 7	< 0.5	< 7	< 7
1,2-Dichloroethane	<	0.5	< 5	< 0.5	< 5	< 5
2-Butanone		NA	< 10	NA	< 10	< 10
1,1,1-Trichloroethane	<	0.5	< 5	< 0.5	< 5	< 5
Carbon tetrachloride	<	0.5	< 5	< 0.5	< 5	< 5
Bromodichloromethane	<	0.5	< 10	< 0.5	< 10	< 10
1,2-Dichloropropane	<	0.5	< 5	< 0.5	< 5	< 5
cis-1,3-Dichloropropene	<	0.5	< 5	< 0.5	< 5	< 5
Trichloroethene		<b>22</b>	<b>0.4 J</b>	< 0.5	<b>3 J</b>	< 5
Dibromochloromethane	<	0.5	< 5	< 0.5	< 5	< 5
1,1,2-Trichloroethane	<	0.5	< 5	< 0.5	< 5	< 5
Benzene	<	0.5	< 0.7	< 0.5	<b>0.3 J</b>	< 0.7
trans-1,3-Dichloropropene	<	0.5	< 5	< 0.5	< 5	< 5
Bromoform	<	0.5	< 10	< 0.5	< 10	< 10
4-Methyl-2-pentanone		NA	< 10	NA	< 10	< 10
2-Hexanone		NA	< 10 J	NA	< 10	< 10
Tetrachloroethene		<b>0.8</b>	< 5	< 0.5	< 5	< 5
1,1,2,2-Tetrachloroethane	<	0.5	< 5	< 0.5	< 5	< 5
Toluene	<	0.5	< 5	< 0.5	< 5	< 5
Chlorobenzene	<	0.5	< 5	< 0.5	< 5	< 5
Ethylbenzene	<	0.5	< 5	< 0.5	< 5	< 5
Styrene	<	0.5	< 5	< 0.5	< 5	< 5
Xylene (total)	<	0.5	< 5	< 0.5	< 5	< 5
Total VOCs		<b>22.8</b>	<b>0.4</b>	<b>0</b>	<b>3.3</b>	<b>0</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrel P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February.  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-36D2	GM-36D2*	GM-36D2	GM-36D2*	GM-36D2
		DATE:	12/10/99	3/28/00	3/28/00	7/14/00	7/14/00
			H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M
Chloromethane			< 0.5	< 10	< 1	< 10	< 0.5
Bromomethane			< 0.5	< 10	< 1	< 10	< 0.5
Vinyl Chloride			< 0.5	< 1	< 1	< 0.3	< 0.5
Chloroethane			< 0.5	< 10	< 1	< 10	< 0.5
Methylene chloride			< 0.5	< 10	< 1	< 10	< 0.5
Acetone			NA	< 10	NA	< 10	NA
Carbon disulfide			NA	< 10	NA	< 10	NA
1,1-Dichloroethene			< 0.5	< 10	< 1	< 10	< 0.5
1,1-Dichloroethane			< 0.5	< 10	< 1	< 10	< 0.5
1,2-Dichloroethene (total)			< 0.5	< 10	< 1	< 10	< 0.5
Chloroform			< 0.5	< 10	< 1	< 10	< 0.5
1,2-Dichloroethane			< 0.5	< 10	< 1	< 10	< 0.5
2-Butanone			NA	< 10	NA	< 10	NA
1,1,1-Trichloroethane			< 0.5	< 10	J	< 10	< 0.5
Carbon tetrachloride			< 0.5	< 10	J	< 10	< 0.5
Bromodichloromethane			< 0.5	< 10	< 1	< 10	< 0.5
1,2-Dichloropropane			< 0.5	< 10	< 1	< 10	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 10	< 1	< 10	< 0.5
Trichloroethene			< 0.5	< 10	< 1	< 10	< 0.5
Dibromochloromethane			< 0.5	< 10	< 1	< 10	< 0.5
1,1,2-Trichloroethane			< 0.5	< 10	< 1	< 10	< 0.5
Benzene			< 0.5	< 10	< 1	< 10	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 10	< 1	< 10	< 0.5
Bromoform			< 0.5	< 10	< 1	< 10	< 0.5
4-Methyl-2-pentanone			NA	< 10	NA	< 10	NA
2-Hexanone			NA	< 10	NA	< 10	NA
Tetrachloroethene			< 0.5	< 10	< 1	< 10	< 0.5
1,1,2,2-Tetrachloroethane			< 0.5	< 10	< 1	R	< 0.5
Toluene			< 0.5	< 10	< 1	< 10	< 0.5
Chlorobenzene			< 0.5	< 10	< 1	< 10	< 0.5
Ethylbenzene			< 0.5	< 10	< 1	< 10	< 0.5
Styrene			< 0.5	< 10	< 1	< 10	< 0.5
Xylene (total)			< 0.5	< 10	< 1	< 10	< 0.5
Total VOCs			0	0	0	0	0

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell  
P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc.,  
Monroe, Connecticut. Moved to  
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CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE: GM-37D*		SITE: GM-37D		SITE: GM-37D*	
		DATE: 9/7/99	DATE: 9/7/99	DATE: 1/6/00	DATE: 1/6/00	DATE: 3/27/00	DATE: 3/27/00
		STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M
Chloromethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Bromomethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Vinyl Chloride		< 2	< 0.5	< 0.3	< 0.5	< 1	< 1
Chloroethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Methylene chloride		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Acetone		< 10	NA	< 10	NA	< 10	< 10
Carbon disulfide		< 10	NA	< 10	NA	< 10	< 10
1,1-Dichloroethene		<b>6</b>	<b>2.3</b>	<b>4</b> J	<b>2.4</b>	<b>3</b> J	<b>3</b> J
1,1-Dichloroethane		<b>9</b>	<b>9.3</b>	<b>8</b> J	<b>7.9</b>	<b>9</b> J	<b>9</b> J
1,2-Dichloroethene (total)		<b>7</b>	< 0.5	< 10	< 0.5	< 10	< 10
Chloroform		< 7	<b>0.9</b>	< 10	<b>0.7</b>	< 10	< 10
1,2-Dichloroethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
2-Butanone		< 10	NA	< 10	NA	< 10	< 10
1,1,1-Trichloroethane		<b>5</b>	<b>5.3</b>	<b>4</b> J	<b>4.3</b>	<b>4</b> J	<b>4</b> J
Carbon tetrachloride		< 5	< 0.5	< 10	< 0.5	< 10	J
Bromodichloromethane		< 10	< 0.5	< 10	< 0.5	< 10	< 10
1,2-Dichloropropane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
cis-1,3-Dichloropropene		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Trichloroethene		<b>9</b>	< 0.5	<b>0.5</b> J	< 0.5	< 10	< 10
Dibromochloromethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
1,1,2-Trichloroethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Benzene		< 0.7	< 0.5	< 10	< 0.5	< 10	< 10
trans-1,3-Dichloropropene		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Bromoform		< 10	< 0.5	< 10	< 0.5	< 10	< 10
4-Methyl-2-pentanone		< 10	NA	< 10	NA	< 10	< 10
2-Hexanone		< 10	NA	< 10	NA	< 10	< 10
Tetrachloroethene		<b>2</b> J	<b>1.5</b>	<b>1</b> J	<b>1.1</b>	<b>1</b> J	<b>1</b> J
1,1,2,2-Tetrachloroethane		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Toluene		<b>3</b> J	< 0.5	< 10	< 0.5	< 10	< 10
Chlorobenzene		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Ethylbenzene		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Styrene		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Xylene (total)		< 5	< 0.5	< 10	< 0.5	< 10	< 10
Total VOCs		<b>41</b>	<b>19.3</b>	<b>17.5</b>	<b>16.4</b>	<b>17</b>	<b>17</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February ;  
\* Groundwater sample split with H2I  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-37D	GM-37D*	GM-37D	GM-37D2*	GM-37D2
		DATE:	3/27/00	7/13/00	7/13/00	9/7/99	9/7/99
			H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M
Chloromethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Bromomethane			< 0.5	< 10 J	< 0.5	< 5	< 0.5
Vinyl Chloride			< 0.5	< 0.3	< 0.5	< 2	< 0.5
Chloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Methylene chloride			< 0.5	< 10	< 0.5	< 5	< 0.5
Acetone			NA	< 10 J	NA	< 10	NA
Carbon disulfide			NA	< 10	NA	< 10	NA
1,1-Dichloroethene			<b>1.7</b>	<b>4 J</b>	<b>2.5</b>	< 5	<b>0.6</b>
1,1-Dichloroethane			<b>7.8</b>	<b>9 J</b>	<b>7.4</b>	<b>7</b>	<b>6.8</b>
1,2-Dichloroethene (total)			< 0.5	< 10	< 0.5	< 5	< 0.5
Chloroform			0.6	< 10	<b>0.8</b>	< 7	<b>1.4</b>
1,2-Dichloroethane			< 0.5	< 10	< 0.5	< 5	<b>0.5</b>
2-Butanone			NA	< 10	NA	< 10	NA
1,1,1-Trichloroethane			<b>4</b>	<b>6 J</b>	<b>4.1</b>	< 5	<b>2.2</b>
Carbon tetrachloride			< 0.5	< 10 J	< 0.5	< 5	< 0.5
Bromodichloromethane			< 0.5	< 10	< 0.5	< 10	< 0.5
1,2-Dichloropropane			< 0.5	< 10	< 0.5	< 5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 10	< 0.5	< 5	< 0.5
Trichloroethene			< 0.5	< 10	<b>0.5</b>	<b>3 J</b>	<b>2.1</b>
Dibromochloromethane			< 0.5	< 10	< 0.5	< 5	< 0.5
1,1,2-Trichloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Benzene			< 0.5	< 10	< 0.5	< 0.7	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 10	< 0.5	< 5	< 0.5
Bromoform			< 0.5	< 10	< 0.5	< 10	< 0.5
4-Methyl-2-pentanone			NA	< 10	NA	< 10	NA
2-Hexanone			NA	< 10	NA	< 10	NA
Tetrachloroethene			<b>0.9</b>	<b>2 J</b>	<b>1.1</b>	< 5	< 0.5
1,1,2,2-Tetrachloroethane			< 0.5	R	< 0.5	< 5	< 0.5
Toluene			< 0.5	< 10	< 0.5	< 5	< 0.5
Chlorobenzene			< 0.5	< 10	< 0.5	< 5	< 0.5
Ethylbenzene			< 0.5	< 10	< 0.5	< 5	< 0.5
Styrene			< 0.5	< 10	< 0.5	< 5	< 0.5
Xylene (total)			< 0.5	< 10	< 0.5	< 5	< 0.5
Total VOCs			<b>15</b>	<b>21</b>	<b>16.4</b>	<b>10</b>	<b>13.6</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February 2000.  
\* Groundwater sample split with H2M.  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.



Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-37D2*	GM-37D2	GM-37D2*	GM-37D2	GM-37D2*
	DATE:	1/7/00	1/7/00	3/27/00	3/27/00	7/13/00
LAB/SAMPLER:	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M
Chloromethane	< 10	< 0.5	< 10	< 0.5	< 10	< 10
Bromomethane	< 10	< 0.5	< 10	< 0.5	< 10	J
Vinyl Chloride	< 0.3	<b>0.8</b>	< 1	< 0.5	< 0.3	
Chloroethane	< 10	< 0.5	< 10	< 0.5	< 10	
Methylene chloride	< 10	< 0.5	< 10	< 0.5	< 10	
Acetone	< 10	J	NA	< 10	NA	J
Carbon disulfide	< 10		NA	< 10	NA	< 10
1,1-Dichloroethene	<b>2</b>	<b>J</b>	<b>1.3</b>	<b>2</b>	<b>J</b>	<b>1.3</b>
1,1-Dichloroethane	<b>9</b>	<b>J</b>	<b>8.9</b>	<b>11</b>		<b>11</b>
1,2-Dichloroethene (total)	< 10		< 0.5	< 10	< 0.5	< 10
Chloroform	< 10		<b>1.0</b>	<b>1</b>	<b>J</b>	< 10
1,2-Dichloroethane	< 10		< 0.5	< 10	< 0.5	< 10
2-Butanone	< 10		NA	< 10	NA	< 10
1,1,1-Trichloroethane	<b>3</b>	<b>J</b>	<b>2.5</b>	<b>3</b>	<b>J</b>	<b>3</b>
Carbon tetrachloride	< 10		< 0.5	< 10	J	< 0.5
Bromodichloromethane	< 10		< 0.5	< 10	< 0.5	< 10
1,2-Dichloropropane	< 10		< 0.5	< 10	< 0.5	< 10
cis-1,3-Dichloropropene	< 10		< 0.5	< 10	< 0.5	< 10
Trichloroethene	<b>2</b>	<b>J</b>	<b>2.3</b>	<b>2</b>	<b>J</b>	<b>2.1</b>
Dibromochloromethane	< 10		< 0.5	< 10	< 0.5	< 10
1,1,2-Trichloroethane	< 10		< 0.5	< 10	< 0.5	< 10
Benzene	< 10		< 0.5	< 10	< 0.5	< 10
trans-1,3-Dichloropropene	< 10		< 0.5	< 10	< 0.5	< 10
Bromoform	< 10		< 0.5	< 10	< 0.5	< 10
4-Methyl-2-pentanone	< 10		NA	< 10	NA	< 10
2-Hexanone	< 10		NA	< 10	NA	< 10
Tetrachloroethene	< 10		< 0.5	< 10	< 0.5	< 10
1,1,2,2-Tetrachloroethane	< 10		< 0.5	< 10	< 0.5	R
Toluene	< 10		< 0.5	< 10	< 0.5	< 10
Chlorobenzene	< 10		< 0.5	< 10	< 0.5	< 10
Ethylbenzene	< 10		< 0.5	< 10	< 0.5	< 10
Styrene	< 10		< 0.5	< 10	< 0.5	< 10
Xylene (total)	< 10		< 0.5	< 10	< 0.5	< 10
Total VOCs	<b>16</b>		<b>16.8</b>	<b>19</b>		<b>18.4</b>
						<b>29</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February /  
\* Groundwater sample split with H2I  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-37D2	GM-38D*	GM-38D	GM-38D*	GM-38D					
	DATE:	7/13/00	9/1/99	9/1/99	12/8/99	12/8/99					
LAB/SAMPLER:		H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M					
Chloromethane	<	0.5	<	25	<	1	<	50	<	1	
Bromomethane	<	0.5	<	25	<	1	<	50	<	1	
Vinyl Chloride	<	0.5	<	10	<	1	<	20	<	1	
Chloroethane	<	0.5	<	25	<	1	<	50	<	1	
Methylene chloride	<	0.5	<b>3</b>	<b>J</b>	<	1	<	50	<	1	
Acetone		NA	<	50	<b>J</b>	NA	<	100		NA	
Carbon disulfide		NA	<b>1</b>	<b>J</b>	NA	<	100			NA	
1,1-Dichloroethene		<b>2.9</b>	<b>5</b>	<b>J</b>	<b>2.6</b>	<	50			<b>2</b>	
1,1-Dichloroethane		<b>15</b>	<	25	<b>1.5</b>	<b>3</b>	<b>J</b>			<b>1</b>	
1,2-Dichloroethene (total)	<	0.5	<b>3</b>	<b>J</b>	<b>1.3</b>	<	50			<b>1</b>	
Chloroform		<b>0.8</b>	<	35	<b>1</b>	<	70			<	1
1,2-Dichloroethane	<	0.5	<	25	<	1	<	50		<	1
2-Butanone		NA	<	50	NA	<	100			NA	
1,1,1-Trichloroethane		<b>4.4</b>	<b>4</b>	<b>J</b>	<b>3.9</b>	<b>4</b>	<b>J</b>			<b>3</b>	
Carbon tetrachloride	<	0.5	<	25	<	1	<	50		<	1
Bromodichloromethane	<	0.5	<	50	<	1	<	100		<	1
1,2-Dichloropropane	<	0.5	<	25	<	1	<	50		<	1
cis-1,3-Dichloropropene	<	0.5	<	25	<	1	<	50		<	1
Trichloroethene		<b>2.3</b>	<b>800</b>		<b>610</b>	<b>930</b>				<b>700</b>	
Dibromochloromethane	<	0.5	<	25	<	1	<	50		<	1
1,1,2-Trichloroethane	<	0.5	<	25	<	1	<	50		<	1
Benzene	<	0.5	<	4	<	1	<	7		<	1
trans-1,3-Dichloropropene	<	0.5	<	25	<	1	<	50		<	1
Bromoform	<	0.5	<	50	<	1	<	100		<	1
4-Methyl-2-pentanone		NA	<	50	NA	<	100			NA	
2-Hexanone		NA	<	50	<b>J</b>	NA	<	100		NA	
Tetrachloroethene	<	0.5	<	25	<b>1.1</b>	<	50			<b>1</b>	
1,1,2,2-Tetrachloroethane	<	0.5	<	25	<	1	<	50		<	1
Toluene	<	0.5	<b>0.4</b>	<b>J</b>	<	1	<b>3</b>	<b>J</b>		<	1
Chlorobenzene	<	0.5	<	25	<	1	<	50		<	1
Ethylbenzene	<	0.5	<	25	<	1	<	50		<	1
Styrene	<	0.5	<	25	<	1	<	50		<	1
Xylene (total)	<	0.5	<	25	<	1	<	50		<	1
Total VOCs		<b>25.4</b>	<b>816.4</b>		<b>621.4</b>	<b>940</b>		<b>708</b>			

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrel P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February 2000.  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-38D*	GM-38D	GM-38D*	GM-38D	GM-38D2*
		DATE:	3/28/00	3/28/00	7/12/00	7/12/00	9/1/99
			STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M
Chloromethane			< 10	< 1	< 50	< 1	< 25
Bromomethane			< 10	< 1	< 50 J	< 1	< 25
Vinyl Chloride			< 1	< 1	< 2	< 1	< 10
Chloroethane			< 10	< 1	< 50	< 1	< 25
Methylene chloride			< 10	< 1	< 50	< 1	2 J
Acetone			< 10	NA	< 50	NA	< 50 J
Carbon disulfide			< 10	NA	< 50	NA	< 50
1,1-Dichloroethane			6 J	3	< 50	1.7	< 25
1,1-Dichloroethane			3 J	1	< 50	1	< 25
1,2-Dichloroethane (total)			2 J	1	< 50	1	6 J
Chloroform			< 10	< 1	< 50	1	< 35
1,2-Dichloroethane			< 10	< 1	< 50	< 1	< 25
2-Butanone			< 10	NA	< 50	NA	26 J
1,1,1-Trichloroethane			5 J	4	< 50	2.6	< 25
Carbon tetrachloride			< 10 J	< 1	< 50	< 1	< 25
Bromodichloromethane			< 10	< 1	< 50	< 1	< 50
1,2-Dichloropropane			< 10	< 1	< 50	< 1	< 25
cis-1,3-Dichloropropene			< 10	< 1	< 50	< 1	< 25
Trichloroethene			1200 D	890	660 J	650	620
Dibromochloromethane			< 10	< 1	< 50	< 1	< 25
1,1,2-Trichloroethane			< 10	< 1	< 50	< 1	< 25
Benzene			< 10	< 1	< 50	< 1	< 4
trans-1,3-Dichloropropene			< 10	< 1	< 50	< 1	< 25
Bromoform			< 10	< 1	< 50	< 1	< 50
4-Methyl-2-pentanone			< 10	NA	< 50	NA	7 J
2-Hexanone			< 10	NA	< 50	NA	9 J
Tetrachloroethene			1 J	1	< 50	1	< 25
1,1,2,2-Tetrachloroethane			< 10	< 1	R	< 1	< 25
Toluene			< 10	< 1	< 50	< 1	< 25
Chlorobenzene			< 10	< 1	< 50	< 1	< 25
Ethylbenzene			< 10	< 1	< 50	< 1	< 25
Styrene			< 10	< 1	< 50	< 1	< 25
Xylene (total)			< 10	< 1	< 50	< 1	< 25
Total VOCs			1217	900	660	658.3	670

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February / Groundwater sample split with H2M  
\* Replicate sample.  
\*\* Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-38D2**	GM-38D2	GM-38D2*	GM-38D2	GM-38D2*						
		DATE:	9/1/99	9/1/99	12/8/99	12/8/99	3/28/00						
			STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M						
Chloromethane		<	25	<	1	<	25	<	1	<	50		
Bromomethane		<	25	<	1	<	25	<	1	<	50		
Vinyl Chloride		<	10	<	1	<	10	<	1	<	6		
Chloroethane		<	25	<	1	<	25	<	1	<	50		
Methylene chloride			4	J	<	1	<	25	<	1	<	50	
Acetone		<	50	J		NA	<	100		NA		14	J
Carbon disulfide		<	50			NA	<	50		NA	<	50	
1,1-Dichloroethene		<	25	<	1	<	25	<	1	<	50		
1,1-Dichloroethane		<	25	<	1	<	25	<	1	<	50		
1,2-Dichloroethene (total)			6	J		4.6		6	J		3	<	50
Chloroform		<	35			1.3	<	35			1	<	50
1,2-Dichloroethane		<	25	<	1	<	25	<	1	<	50		
2-Butanone		<	50			NA	<	100		NA	<	50	
1,1,1-Trichloroethane		<	25	<	1	<	25	<	1	<	50	J	
Carbon tetrachloride		<	25	<	1	<	25	<	1	<	50	J	
Bromodichloromethane		<	50	<	1	<	50	<	1	<	50		
1,2-Dichloropropane		<	25	<	1	<	25	<	1	<	50		
cis-1,3-Dichloropropene		<	25	<	1	<	25	<	1	<	50		
Trichloroethene			640			500		710			540		880
Dibromochloromethane		<	25	<	1	<	25	<	1	<	50		
1,1,2-Trichloroethane		<	25			1.3	<	25	<	1	<	50	
Benzene		<	4	<	1	<	4	<	1	<	50		
trans-1,3-Dichloropropene		<	25	<	1	<	25	<	1	<	50		
Bromoform		<	50	<	1	<	50	<	1	<	50		
4-Methyl-2-pentanone		<	50			NA	<	50		NA	<	50	
2-Hexanone		<	50	J		NA	<	50		NA	<	50	
Tetrachloroethene		<	25	<	1	<	25	<	1	<	50		
1,1,2,2-Tetrachloroethane		<	25	<	1	<	25	<	1	<	50		
Toluene			0.4	J	<	1		1	J	<	1	<	50
Chlorobenzene		<	25	<	1	<	25	<	1	<	50		
Ethylbenzene		<	25	<	1	<	25	<	1	<	50		
Styrene		<	25	<	1	<	25	<	1	<	50		
Xylene (total)		<	25	<	1	<	25	<	1	<	50		
Total VOCs			650.4			507.2		717			544		894

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrel  
P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc.,  
Monroe, Connecticut. Moved to  
Shelton, Connecticut in February ;  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second  
dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-38D2**	GM-38D2	GM-38D2*	GM-38D2**	GM-38D2				
	DATE:	3/28/00	3/28/00	7/12/00	7/12/00	7/12/00				
LAB/SAMPLER:	STL/G&M	H2M/H2M	STL/G&M	STL/G&M	STL/G&M	H2M/H2M				
Chloromethane	<	80	<	1	<	50	<	100	<	1
Bromomethane	<	80	<	1	<	50 J	<	100 J	<	1
Vinyl Chloride	<	9	<	1	<	2	<	3	<	1
Chloroethane	<	80	<	1	<	50	<	100	<	1
Methylene chloride	<	80	<	1	<	50	<	100	<	1
Acetone	<	80	NA	<	50	<	100 J	NA	NA	NA
Carbon disulfide	<	80	NA	<	50	<	100	NA	NA	NA
1,1-Dichloroethene	<	80	<	1	<	50	<	100	<	1
1,1-Dichloroethane	<	80	<	1	<	50	<	100	<	1
1,2-Dichloroethene (total)	<	80	3.5	6 J	<	100	<	100	4.6	1.3
Chloroform	<	80	1	<	50	<	100	<	100	1.3
1,2-Dichloroethane	<	80	<	1	<	50	<	100	<	1
2-Butanone	<	80	NA	<	50	<	100	NA	NA	NA
1,1,1-Trichloroethane	<	80 J	<	1	<	50	<	100	<	1
Carbon tetrachloride	<	80 J	<	1	<	50	<	100 J	<	1
Bromodichloromethane	<	80	<	1	<	50	<	100	<	1
1,2-Dichloropropane	<	80	<	1	<	50	<	100	<	1
cis-1,3-Dichloropropene	<	80	<	1	<	50	<	100	<	1
Trichloroethene	880	690	790 J	1000 J	730					
Dibromochloromethane	<	80	<	1	<	50	<	100	<	1
1,1,2-Trichloroethane	<	80	1	<	50	<	100	<	100	1.4
Benzene	<	80	<	1	<	50	<	100	<	1
trans-1,3-Dichloropropene	<	80	<	1	<	50	<	100	<	1
Bromoform	<	80	<	1	<	50	<	100	<	1
4-Methyl-2-pentanone	<	80	NA	<	50	<	100	NA	NA	NA
2-Hexanone	<	80	NA	<	50	<	100	NA	NA	NA
Tetrachloroethene	<	80	<	1	<	50	<	100	<	1
1,1,2,2-Tetrachloroethane	<	80	<	1	R	R	<	100	<	1
Toluene	<	80	<	1	<	50	<	100	<	1
Chlorobenzene	<	80	<	1	<	50	<	100	<	1
Ethylbenzene	<	80	<	1	<	50	<	100	<	1
Styrene	<	80	<	1	<	50	<	100	<	1
Xylene (total)	<	80	<	1	<	50	<	100	<	1
Total VOCs	880	695.5	796	1000	737.3					

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February.  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE:	GM-70D2*	GM-70D2	GM-70D2*	GM-70D2	GM-70D2*
	DATE:	8/31/99	8/31/99	12/8/99	12/8/99	3/24/00
LAB/SAMPLER:	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	
Chloromethane	< 5	< 0.5	< 5	< 0.5	< 10	
Bromomethane	< 5	< 0.5	< 5	< 0.5	< 10	
Vinyl Chloride	< 2	< 0.5	< 2	< 0.5	< 1	
Chloroethane	< 5	< 0.5	< 5	< 0.5	< 10	
Methylene chloride	< 5	< 0.5	< 5	< 0.5	< 10	
Acetone	< 10 J	NA	< 10	NA	< 10	
Carbon disulfide	< 10	NA	< 10	NA	< 10	
1,1-Dichloroethene	< 5	< 0.5	< 5	< 0.5	< 10	
1,1-Dichloroethane	< 5	< 0.5	< 5	< 0.5	< 10	
1,2-Dichloroethene (total)	2 J	0.9	1 J	< 0.5	1 J	
Chloroform	< 7	< 0.5	< 7	< 0.5	< 10	
1,2-Dichloroethane	< 5	< 0.5	< 5	< 0.5	< 10	
2-Butanone	< 10	NA	< 10	NA	< 10	
1,1,1-Trichloroethane	< 5	< 0.5	< 5	< 0.5	< 10 J	
Carbon tetrachloride	< 5	< 0.5	< 5	< 0.5	< 10 J	
Bromodichloromethane	< 10	< 0.5	< 10	< 0.5	< 10	
1,2-Dichloropropane	< 5	< 0.5	< 5	< 0.5	< 10	
cis-1,3-Dichloropropene	< 5	< 0.5	< 5	< 0.5	< 10	
Trichloroethene	75	58	48	34	89	
Dibromochloromethane	< 5	< 0.5	< 5	< 0.5	< 10	
1,1,2-Trichloroethane	< 5	< 0.5	< 5	< 0.5	< 10	
Benzene	< 0.7	< 0.5	< 0.7	< 0.5	< 10	
trans-1,3-Dichloropropene	< 5	< 0.5	< 5	< 0.5	< 10	
Bromoform	< 10	< 0.5	< 10	< 0.5	< 10	
4-Methyl-2-pentanone	< 10	NA	< 10	NA	< 10	
2-Hexanone	< 10 J	NA	< 10	NA	< 10	
Tetrachloroethene	4 J	3.6	3 J	1.4	5 J	
1,1,2,2-Tetrachloroethane	< 5	< 0.5	< 5	< 0.5	< 10	
Toluene	< 5	< 0.5	0.3 J	< 0.5	< 10	
Chlorobenzene	< 5	< 0.5	< 5	< 0.5	< 10	
Ethylbenzene	< 5	< 0.5	< 5	< 0.5	< 10	
Styrene	< 5	< 0.5	< 5	< 0.5	< 10	
Xylene (total)	< 5	< 0.5	< 5	< 0.5	< 10	
Total VOCs		81	62.5	52.3	35.4	95

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February 2000. Groundwater sample split with H2M.  
\* Replicate sample.  
\*\* Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-70D2	GM-70D2*	GM-70D2	GM-71D2*	GM-71D2
		DATE:	3/24/00	7/13/00	7/13/00	8/31/99	8/31/99
			H2M/H2M	STL/G&M	H2M/H2M	STL/G&M	H2M/H2M
Chloromethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Bromomethane			< 0.5	< 10 J	< 0.5	< 5	< 0.5
Vinyl Chloride			< 0.5	< 0.3	< 0.5	< 2	< 0.5
Chloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Methylene chloride			< 0.5	< 10	< 0.5	< 5	< 0.5
Acetone			NA	< 10 J	NA	< 18 J	NA
Carbon disulfide			NA	< 10	NA	< 10	NA
1,1-Dichloroethene			< 0.5	< 10	< 0.5	< 5	< 0.5
1,1-Dichloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
1,2-Dichloroethene (total)			<b>0.7</b>	<b>1 J</b>	< 0.5	< 5	< 0.5
Chloroform			< 0.5	< 10	< 0.5	<b>0.7 J</b>	<b>0.5</b>
1,2-Dichloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
2-Butanone			NA	< 10	NA	< 10	NA
1,1,1-Trichloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Carbon tetrachloride			< 0.5	< 10 J	< 0.5	<b>1 J</b>	<b>0.9</b>
Bromodichloromethane			< 0.5	< 10	< 0.5	< 10	< 0.5
1,2-Dichloropropane			< 0.5	< 10	< 0.5	< 5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 10	< 0.5	< 5	< 0.5
Trichloroethene			<b>99</b>	<b>54 J</b>	<b>52</b>	<b>4 J</b>	<b>2.5</b>
Dibromochloromethane			< 0.5	< 10	< 0.5	< 5	< 0.5
1,1,2-Trichloroethane			< 0.5	< 10	< 0.5	< 5	< 0.5
Benzene			< 0.5	< 10	< 0.5	< 0.7	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 10	< 0.5	< 5	< 0.5
Bromoform			< 0.5	< 10	< 0.5	< 10	< 0.5
4-Methyl-2-pentanone			NA	< 10	NA	< 10	NA
2-Hexanone			NA	< 10	NA	< 10 J	NA
Tetrachloroethene			<b>4.5</b>	<b>3 J</b>	<b>2.1</b>	< 5	< 0.5
1,1,1,2-Tetrachloroethane			< 0.5	R	< 0.5	< 5	< 0.5
Toluene			< 0.5	< 10	< 0.5	< 5	< 0.5
Chlorobenzene			< 0.5	< 10	< 0.5	< 5	< 0.5
Ethylbenzene			< 0.5	< 10	< 0.5	< 5	< 0.5
Styrene			< 0.5	< 10	< 0.5	< 5	< 0.5
Xylene (total)			< 0.5	< 10	< 0.5	< 5	< 0.5
Total VOCs			<b>104.2</b>	<b>58</b>	<b>54.1</b>	<b>5.7</b>	<b>3.9</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell  
P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc.,  
Monroe, Connecticut. Moved to  
Shelton, Connecticut in February ;  
\* Groundwater sample split with H2I  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second:  
dilution.

Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	LAB/SAMPLER:	SITE:	GM-71D2*	GM-71D2	GM-71D2*	GM-71D2	GM-71D2					
		DATE:	12/10/99	12/10/99	3/24/00	3/24/00	7/12/00					
			STL/G&M	H2M/H2M	STL/G&M	H2M/H2M	STL/G&M					
Chloromethane		<	5	<	0.5	<	10	<	0.5	<	10	
Bromomethane		<	5	<	0.5	<	10	<	0.5	<	10	J
Vinyl Chloride		<	2	<	0.5	<	1	<	0.5	<	0.3	
Chloroethane		<	5	<	0.5	<	10	<	0.5	<	10	
Methylene chloride		<	5	<	0.5	<	10	<	0.5	<	10	
Acetone		<	10		NA	<	10		NA	<	10	
Carbon disulfide		<	10		NA	<	10		NA	<	10	
1,1-Dichloroethene		<	5	<	0.5	<	10	<	0.5	<	10	
1,1-Dichloroethane		<	5	<	0.5	<	10	<	0.5	<	10	
1,2-Dichloroethene (total)		<	5	<	0.5	<	10	<	0.5	<	10	
Chloroform			<b>0.6</b> J	<	0.5	<	10	<	0.5	<	10	
1,2-Dichloroethane		<	5	<	0.5	<	10	<	0.5	<	10	
2-Butanone		<	10		NA	<	10		NA	<	10	
1,1,1-Trichloroethane		<	5	<	0.5	<	10	J	<	0.5	<	10
Carbon tetrachloride			<b>1</b> J		<b>0.9</b>		<b>1</b> J		<b>1.1</b>		<b>2</b> J	
Bromodichloromethane		<	10	<	0.5	<	10	<	0.5	<	10	
1,2-Dichloropropane		<	5	<	0.5	<	10	<	0.5	<	10	
cis-1,3-Dichloropropene		<	5	<	0.5	<	10	<	0.5	<	10	
Trichloroethene			<b>4</b> J		<b>2.5</b>		<b>5</b> J		<b>3</b>		<b>5</b> J	
Dibromochloromethane		<	5	<	0.5	<	10	<	0.5	<	10	
1,1,2-Trichloroethane		<	5	<	0.5	<	10	<	0.5	<	10	
Benzene		<	0.7	<	0.5	<	10	<	0.5	<	10	
trans-1,3-Dichloropropene		<	5	<	0.5	<	10	<	0.5	<	10	
Bromoform		<	10	<	0.5	<	10	<	0.5	<	10	
4-Methyl-2-pentanone		<	10		NA	<	10		NA	<	10	
2-Hexanone		<	10		NA	<	10		NA	<	10	
Tetrachloroethene		<	5	<	0.5	<	10	<	0.5	<	10	
1,1,2,2-Tetrachloroethane		<	5	<	0.5	<	10	<	0.5	<	10	
Toluene		<	5	<	0.5	<	10	<	0.5		R	
Chlorobenzene		<	5	<	0.5	<	10	<	0.5	<	10	
Ethylbenzene		<	5	<	0.5	<	10	<	0.5	<	10	
Styrene		<	5	<	0.5	<	10	<	0.5	<	10	
Xylene (total)		<	5	<	0.5	<	10	<	0.5	<	10	
Total VOCs			<b>5.6</b>		<b>3.4</b>		<b>6</b>		<b>4.1</b>		<b>7</b>	

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrell P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc., Monroe, Connecticut. Moved to Shelton, Connecticut in February ;  
\* Groundwater sample split with H2I  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a second dilution.



Table 1. VOCs Detected in Groundwater Samples Collected During the Last 2 Quarters of 1999 and 1st 2 Quarters of 2000 as part of the Off-site Outpost Monitoring Program, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	SITE: DATE: LAB/SAMPLER:	GM-71D2 7/12/00 H2M/H2M
Chloromethane		< 0.5
Bromomethane		< 0.5
Vinyl Chloride		< 0.5
Chloroethane		< 0.5
Methylene chloride		< 0.5
Acetone		NA
Carbon disulfide		NA
1,1-Dichloroethene		< 0.5
1,1-Dichloroethane		< 0.5
1,2-Dichloroethene (total)		< 0.5
Chloroform		<b>0.6</b>
1,2-Dichloroethane		<b>0.5</b>
2-Butanone		NA
1,1,1-Trichloroethane		< 0.5
Carbon tetrachloride		<b>1.7</b>
Bromodichloromethane		< 0.5
1,2-Dichloropropane		< 0.5
cis-1,3-Dichloropropene		< 0.5
Trichloroethene		<b>4.8</b>
Dibromochloromethane		< 0.5
1,1,2-Trichloroethane		< 0.5
Benzene		< 0.5
trans-1,3-Dichloropropene		< 0.5
Bromoform		< 0.5
4-Methyl-2-pentanone		NA
2-Hexanone		NA
Tetrachloroethene		< 0.5
1,1,2,2-Tetrachloroethane		< 0.5
Toluene		< 0.5
Chlorobenzene		< 0.5
Ethylbenzene		< 0.5
Styrene		< 0.5
Xylene (total)		< 0.5
Total VOCs		<b>7.6</b>

VOCs Volatile organic compounds.  
H2M Holzmacher, McClendon & Murrel  
P.C., Melville, NY.  
G&M ARCADIS Geraghty & Miller, Inc.  
STL Severn Trent Laboratories, Inc.,  
Monroe, Connecticut. Moved to  
Shelton, Connecticut in February ;  
\* Groundwater sample split with H2M  
\*\* Replicate sample.  
ug/L Micrograms per liter.  
J Estimated value.  
NA Not analyzed.  
D Constituent identified at a secondary  
dilution.

Table 2. Total Cadmium and Chromium Detected in Groundwater Samples Collected During Last Two Quarters 1999 and First Two Quarters 2000 Groundwater Monitoring Rounds, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	NYSDEC SCGs (1)	SITE: SAMPLE ID: DATE:	10631 MW-10631 12/1/99	10631 N-10631 3/13/00	10631 N-10631 6/27/00	GM-16S GM-16S 3/15/00	GM-16SR MW-16SR 6/27/00
Cadmium	5	<5	2.2 B	2.6	1.5 B	0.7	<0.2
Chromium	50	17.1	50.1	38	27.1	4.6	<0.83

(1) Standards, Criteria, and Guidance Values.

ug/L Micrograms per liter.

B Detected between the IDL and CRDL.

IDL Instrument detection limit.

CRDL Contract required detection limit.

NYSDEC New York State Department of Environmental Conservation.

EQ Equipment Blanks.

Value exceeds associated SCG value.

Replicate sample.

Table 2. Total Cadmium and Chromium Detected in Groundwater Samples Collected During Last Two Quarters 1999 and First Two Quarters 2000  
Groundwater Monitoring Rounds, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT: (Units in ug/L)	NYSDEC SCGs <sup>(1)</sup>	SITE:		MW-03R		MW-03R		MW-03R		MW-03R*		EQ.BLANK	
		SAMPLE ID:	DATE:	MW-3R	MW-3R	MW-3R	MW-3R	MW-3R	REP-1	FB062700	6/27/00		
Cadmium	5			27.6	26.9	28	28.9	29.2					<0.2
Chromium	50			64.6	67.9	81	75.8	75					1 B

(1) Standards, Criteria, and Guidance Values.

ug/L Micrograms per liter.

B Detected between the IDL and CRDL.

IDL Instrument detection limit.

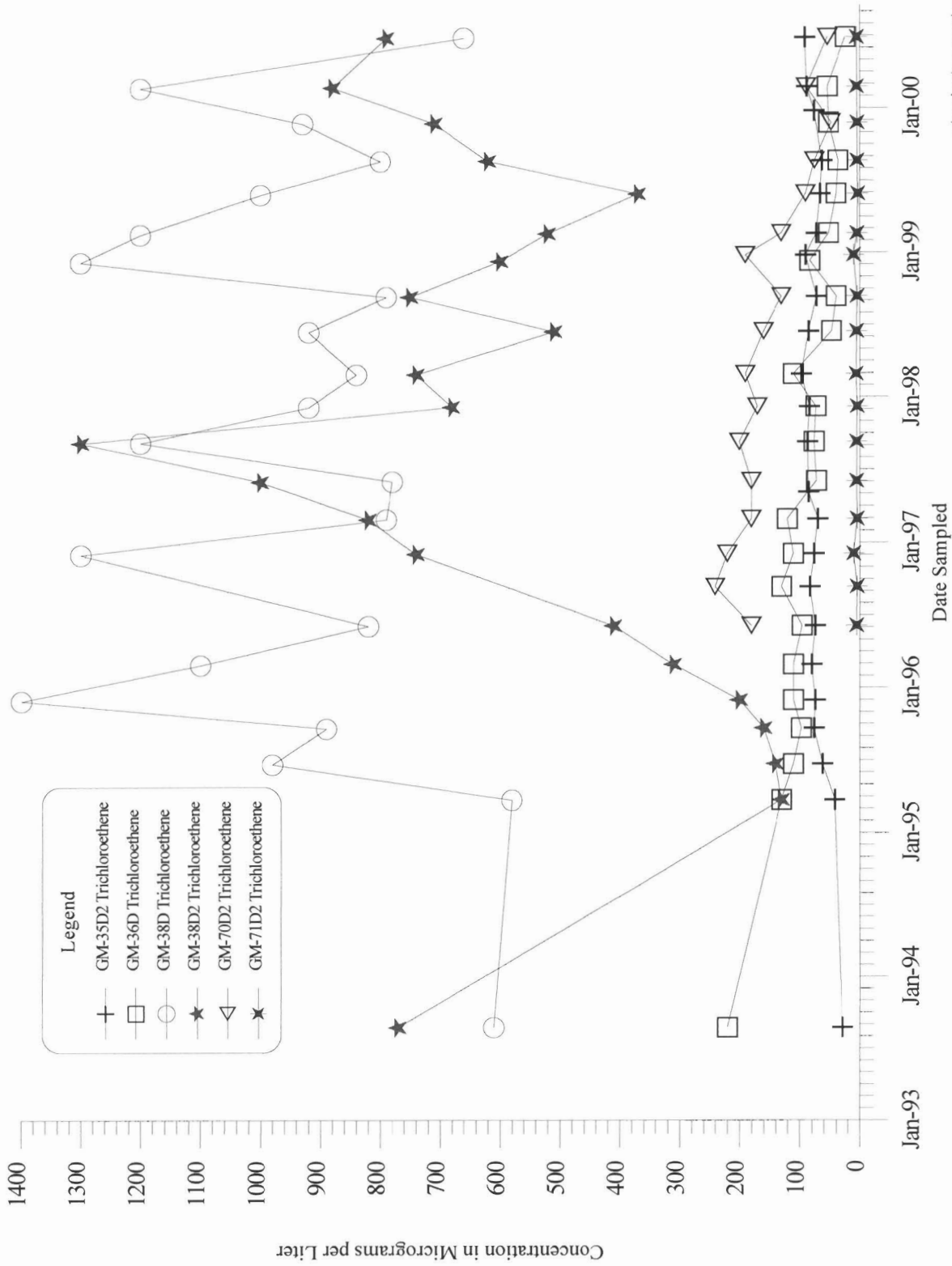
CRDL Contract required detection limit.

NYSDEC New York State Department of Environmental Conservation.

EQ Equipment Blank.

Value exceeds associated SCG value.

Replicate sample.



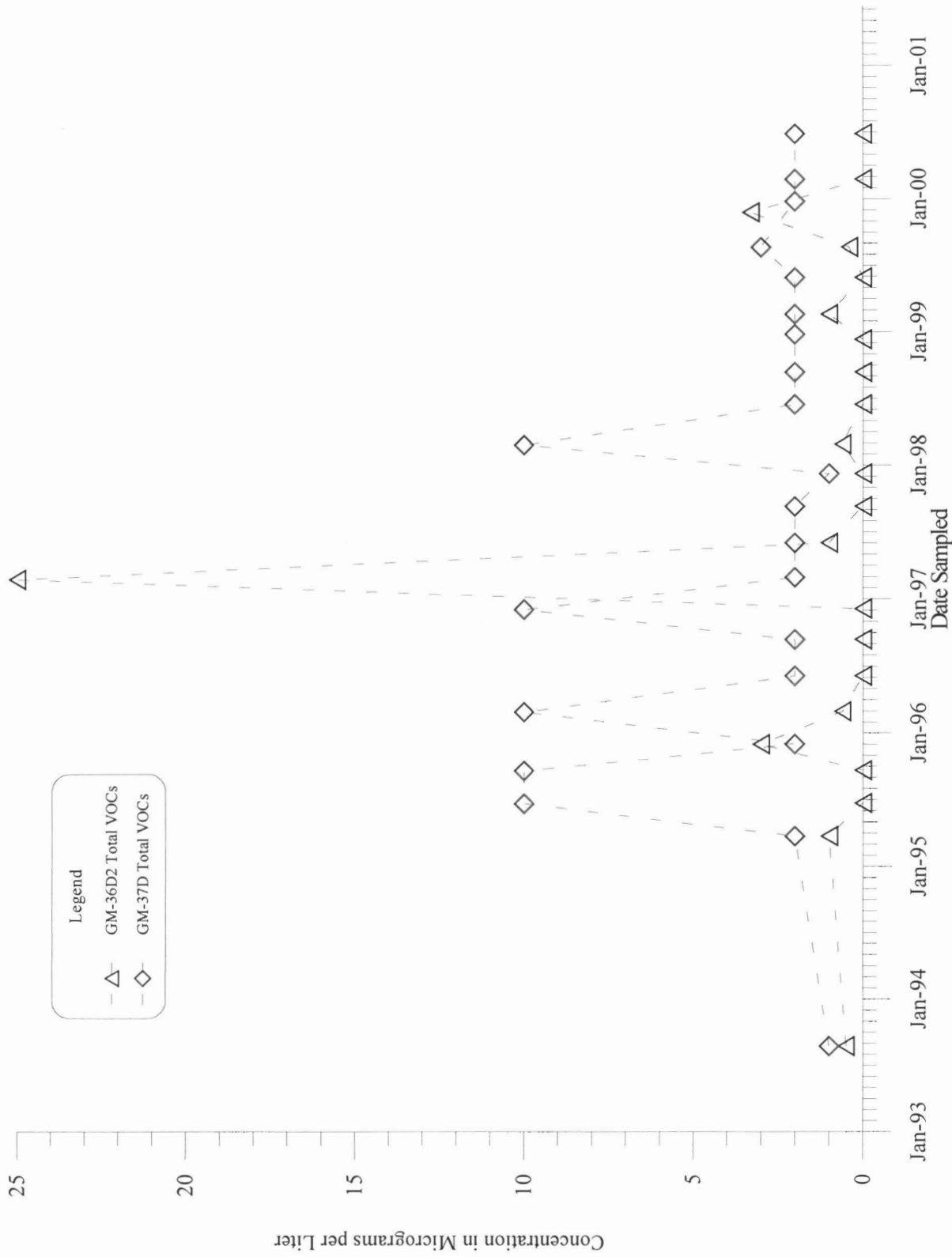
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Trichloroethene Concentrations in Selected  
 Deep and D2 Monitoring Wells  
 Off-Site Groundwater Monitoring Program  
 Northrop Grumman Corporation, Bethpage, New York

FIGURE  
 1



ARCADIS GERAGHTY & MILLER



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**FIGURE 2**

Total Volatile Organic Compound Concentrations in Selected Deep and D2 Monitoring Wells Off-Site Groundwater Monitoring Program Northrop Grumman Corporation, Bethpage, New York



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