ARCADIS

*Infrastructure, environment, facilities*

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Mr. Steven Scharf, P.E.
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7015

Subject:
Results of Third Quarter 2007 Groundwater Monitoring,
Operable Unit 2, Northrop Grumman Systems Corporation (Northrop Grumman) and Naval Weapons Industrial Reserve Plant (NWIRP) Sites, Bethpage, New York.
(NYSDEC Site #s 1-30-003A and B)

ENVIRONMENT

Date:
March 12, 2008

Contact:
David E. Stern

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(631) 391-5284

Email:
dstern@arcadis-us.com

Our ref:
NY001464.0407.00004

Dear Mr. Scharf:

On behalf of Northrop Grumman Systems Corporation (Northrop Grumman), ARCADIS is providing the NYSDEC with the results of hydraulic monitoring as well as validated analytical results for the groundwater performance and effectiveness monitoring completed in accordance with the approved groundwater monitoring plan (ARCADIS G&M, Inc. 2006) for the Third Quarter of 2007 for Operable Unit 2 (OU2).

Table 1 provides the OU2 remedial systems performance and operational data for this period. Tables 2 and 3 provide the analytical results of volatile organic compounds (VOCs) concentrations in monitoring wells and outpost wells, respectively, for this period. Table 4 provides the analytical results of inorganic monitoring for this period. Table 5 provides the results of water-level monitoring performed this period. Figure 1 shows the site plan with well locations.

Please contact us if you have any questions or comments.

Sincerely,

ARCADIS U.S., Inc.

David E. Stern
Senior Scientist

Carlo San Giovanni
Project Manager

Enclosures

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Table 1. Summary of Operational Data and Water Balance for the On-Site Portion of the OU2 Groundwater Remedy, Third Quarter 2007, Operable Unit 2, Northrop Grumman Corporation, Bethpage, New York.

| Identification | Design Pumping/ Recharge Rate [a] (gpm) | Current Actual Average Pumping/Recharge Rate [b] (gpm) | Design Total Pumpage/Recharge (MG) | Current Actual Total Pumpage/Recharge (MG) | Current Percent of Design Pumpage/ Recharge | Current TCE Concentration (ug/L) | Current TVOC Concentration [c] ug/L | Third Quarter 2007 Estimated VOC Mass Removed [d] (lbs) | Cumulative Year-to-Date TVOC Mass Removed [e,f] (lbs) |
|---|---|---|---|---|---|---|---|---|---|
| **Remedial Wells** | | **Groundwater Removed from Aquifer** | | | | | | | |
| Well 1 | 800 | 819 | 104.8 | 107.3 | 102% | 420 | 530 | 474 | 1,421 |
| Well 3 | 700 | 720 | 91.7 | 94.4 | 103% | 3,000 | 3,100.0 | 2,437 | 7,211 |
| Well 17 | 1,000 | 1,016 | 131.0 | 133.2 | 102% | 310 | 330 | 366 | 1,115 |
| Well 18 | 600 | 621 | 78.6 | 81.4 | 104% | 110 | 119 | 81 | 263 |
| Well 19 | 700 | 707 | 91.7 | 92.6 | 101% | 170 | 195.6 | 151 | 462 |
| **Rounded Totals:** | **3,800** | **3,883** | **498** | **509** | **102%** | **--** | **--** | **3,509** | **10,472** |
| **Recharge Basins [a]** | | **Treated Water Recharged to Aquifer** | | | | | | | |
| West Recharge Basins | 412 | 531 | 54 | 69.6 | 129% | -- | -- | -- | -- |
| South Recharge Basins | 2,231 | 2,861 | 292.4 | 374.9 | 128% | -- | -- | -- | -- |
| **Rounded Totals:** | **2,643** | **3,392** | **346** | **444.5** | **128%** | **--** | **--** | **--** | **--** |
| **Treated Water Sent to Calpine** | | | | | | | | | |
| Calpine Demand | 600-1000 | 484 | 77.8 - 131 | 63.4 | -- | -- | -- | -- | -- |

| **Treatment Efficiencies** | | **Average SPDES Outfall TVOC Concentrations (ug/L) [f]** |
|---|---|---|
| Tower 96 System Efficiency [e] : | **99.9%** | **1** |
| Tower 102 System Efficiency [e] : | **99.8%** | **0.4** |

see footnotes on last page

Table 1. Summary of Operational Data and Water Balance for the On-Site Portion of the OU2 Groundwater Remedy, Third Quarter 2007, Operable Unit 2, Northrop Grumman Corporation, Bethpage, New York.

(a) - Remedial well pumping rates based on computer modeling (ARCADIS G& M, Inc. 2003c). Acceptable minimum recharge rates based on computer modeling (ARCADIS G&M, Inc. 2004b). Design pumping and recharge rates were modified in April, 2005 and will be shown herein when procured equipment is installed and the wells returned to service at NYSDEC-approved modified pumping rates. Recharge includes remedial well pumpage (minus pipe loss) and incidental runoff from precipitation. Current average recharge rates have been determined using the entire 91-day span of time as opposed to current average pumping rates, which account for varying amounts of downtime, as indicated below.

(b) - Actual Average Pumping Rates were calculated based on Actual Total Pumpage and hours of operation from June 25, 2007 to September 24, 2007 (91 days).

(c) - The TVOC concentration for each well was calculated based on Third Quarter 2007 groundwater monitoring data (Table 2).

(d) - TVOC mass removed is based on the TVOC data given above and the following formula:

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

(e) Air Stripping Efficiency calculated from values above using the following formula:

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

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

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

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

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Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | N-10627 N-10627 9/27/2007 | N-10631 N-10631 9/27/2007 | FW-03 FW-03 9/11/2007 | GM-13D GM-13D 9/11/2007 | GM-15S GM-15S 9/12/2007 | GM-15I GM-15I 8/28/2007 | GM-15D GM-15D 9/12/2007 | GM-15D-2 GM-15D-2 9/12/2007 |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2,2-Tetrachloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethane | | < 5 | < 5 | < 5 | **5.9** | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethene | | < 5 | < 5 | < 5 | **12** | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloropropane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 2-Butanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 2-Hexanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 4-Methyl-2-pentanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Acetone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Benzene | | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Bromodichloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromoform | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromomethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Carbon disulfide | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Carbon tetrachloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chlorobenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroform | | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 |
| Chloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| cis-1,2-Dichloroethene | | < 5 | < 5 | < 5 | **27** | < 5 | < 5 | < 5 | < 5 |
| cis-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Dibromochloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Ethylbenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Freon 113 | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Methylene chloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Styrene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Tetrachloroethene | | < 5 | < 5 | **16** | **300** | < 5 | < 5 | < 5 | **12** |
| Toluene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Trichloroethene | | < 5 | < 5 | < 5 | **78** | < 5 | < 5 | < 5 | **10** |
| Vinyl chloride | | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 |
| Xylene-O | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Xylenes - M,P | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| **Total VOCs** | | 0 | 0 | **16** | **422.9** | 0 | 0 | 0 | **22** |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | GM-17I GM-17I 9/13/2007 | GM-17D GM-17D 9/13/2007 | GM-18I GM-18I 9/5/2007 | GM-18D GM-18D 9/14/2007 | GM-20I GM-20I 8/28/2007 | GM-20D GM-20D 8/28/2007 | GM-21S GM-21S 9/25/2007 | GM-21I GM-21I 9/25/2007 |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2,2-Tetrachloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloropropane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 2-Butanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 2-Hexanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 4-Methyl-2-pentanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Acetone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Benzene | | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Bromodichloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromoform | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromomethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Carbon disulfide | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Carbon tetrachloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chlorobenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroform | | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 |
| Chloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| cis-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| cis-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Dibromochloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Ethylbenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Freon 113 | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Methylene chloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Styrene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Tetrachloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Toluene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Trichloroethene | | < 5 | < 5 | < 5 | **6.4** | < 5 | < 5 | < 5 | < 5 |
| Vinyl chloride | | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 |
| Xylene-O | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Xylenes - M,P | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| **Total VOCs** | | 0 | 0 | 0 | **6.4** | 0 | 0 | 0 | 0 |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | GM-21D GM-21D 9/11/2007 | GM-33D2 GM-33D2 9/27/2007 | GM-34D GM-34D 9/26/2007 | GM-34D2 GM-34D2 9/26/2007 | GM-35D2 GM-35D2 8/29/2007 | GM-38D GM-38D 9/14/2007 | GM-38D2 GM-38D2 9/14/2007 |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,1,2,2-Tetrachloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,1,2-Trichloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,1-Dichloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,1-Dichloroethene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,2-Dichloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 1,2-Dichloropropane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| 2-Butanone | | < 50 | < 50 | < 250 | < 130 | < 100 | < 500 | < 500 |
| 2-Hexanone | | < 50 | < 50 | < 250 | < 130 | < 100 | < 500 | < 500 |
| 4-Methyl-2-pentanone | | < 50 | < 50 | < 250 | < 130 | < 100 | < 500 | < 500 |
| Acetone | | < 50 | < 50 | < 250 | < 130 | < 100 | < 500 | < 500 |
| Benzene | | < 0.7 | < 0.7 | < 3.5 | < 1.8 | < 1.4 | < 7 | < 7 |
| Bromodichloromethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Bromoform | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Bromomethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Carbon disulfide | | < 50 | < 50 | < 250 | < 130 | < 100 | < 500 | < 500 |
| Carbon tetrachloride | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Chlorobenzene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Chloroethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Chloroform | | < 7 | < 7 | < 35 | < 18 | < 14 | < 70 | < 70 |
| Chloromethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| cis-1,2-Dichloroethene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| cis-1,3-Dichloropropene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Dibromochloromethane | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Ethylbenzene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Freon 113 | | < 5 | **41** | < 25 | < 13 | < 10 | < 50 | < 50 |
| Methylene chloride | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Styrene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Tetrachloroethene | | < 5 | **18** | < 25 | **18** | < 10 | < 50 | < 50 |
| Toluene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| trans-1,2-Dichloroethene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| trans-1,3-Dichloropropene | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Trichloroethene | | < 5 | **81** | **1000 D** | **320** | **230** | **1200** | **1100** |
| Vinyl chloride | | < 2 | < 2 | < 10 | < 5 | < 4 | < 20 | < 20 |
| Xylene-O | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| Xylenes - M,P | | < 5 | < 5 | < 25 | < 13 | < 10 | < 50 | < 50 |
| **Total VOCs** | | 0 | **140** | **1000** | **338** | **230** | **1200** | **1100** |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | GM-39 GM-39 9/6/2007 | GM-39D2 GM-39D2 9/14/2007 | GM-73D GM-73D 9/7/2007 | GM-73D2 GM-73D2 9/7/2007 | GM-74I GM-74I 9/7/2007 | GM-74D GM-74D 9/7/2007 | GM-74D2 GM-74D2 9/7/2007 | GM-75D2 GM-75D2 9/27/2007 |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,1,2,2-Tetrachloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,1,2-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,1-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,1-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,2-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 1,2-Dichloropropane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| 2-Butanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 100 |
| 2-Hexanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 100 |
| 4-Methyl-2-pentanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 100 |
| Acetone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 100 |
| Benzene | | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 1.4 |
| Bromodichloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Bromoform | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Bromomethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Carbon disulfide | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 100 |
| Carbon tetrachloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Chlorobenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Chloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Chloroform | | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 14 |
| Chloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| cis-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| cis-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Dibromochloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Ethylbenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Freon 113 | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Methylene chloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Styrene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Tetrachloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | **7** | < 10 |
| Toluene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| trans-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| trans-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Trichloroethene | | **14** | **27** | **10** | **72** | < 5 | < 5 | **7** | **250** |
| Vinyl chloride | | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 4 |
| Xylene-O | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| Xylenes - M,P | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 10 |
| **Total VOCs** | | **14** | **27** | **10** | **72** | 0 | 0 | **14** | **250** |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | GM-78S GM-78S 9/25/2007 | GM-78I GM-78I 9/25/2007 | GM-79I GM-79I 9/6/2007 | GM-79D GM-79D 9/6/2007 | HN-40S HN-40S 9/25/2007 | HN-40I HN-40I 9/24/2007 | HN-42S HN-42S 9/24/2007 | HN-42I HN-42I 9/24/2007 |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2,2-Tetrachloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1,2-Trichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,1-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloropropane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 2-Butanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 2-Hexanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| 4-Methyl-2-pentanone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Acetone | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Benzene | | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Bromodichloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromoform | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Bromomethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Carbon disulfide | | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 | < 50 |
| Carbon tetrachloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chlorobenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chloroform | | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 | < 7 |
| Chloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| cis-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| cis-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Dibromochloromethane | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Ethylbenzene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Freon 113 | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Methylene chloride | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Styrene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Tetrachloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Toluene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,2-Dichloroethene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| trans-1,3-Dichloropropene | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Trichloroethene | | < 5 | < 5 | < 5 | **33** | < 5 | < 5 | < 5 | **12** |
| Vinyl chloride | | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 | < 2 |
| Xylene-O | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Xylenes - M,P | | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| **Total VOCs** | | 0 | 0 | 0 | **33** | 0 | 0 | 0 | **12** |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial W
Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | WELL 17 / WELL17 / 9/5/2007 | WELL 18 / WELL 18 / 9/5/2007 | WELL 19 / WELL 19 / 9/5/2007 | TOWER 102 INF / TOWER 102 INF / 9/5/2007 | TOWER 102 EFF / TOWER 102 EFF / 9/5/2007 |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,1,2,2-Tetrachloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,1,2-Trichloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,1-Dichloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,1-Dichloroethene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,2-Dichloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 1,2-Dichloropropane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| 2-Butanone | | < 100 | < 50 | < 50 | < 100 | < 50 |
| 2-Hexanone | | < 100 | < 50 | < 50 | < 100 | < 50 |
| 4-Methyl-2-pentanone | | < 100 | < 50 | < 50 | < 100 | < 50 |
| Acetone | | < 100 | < 50 | < 50 | < 100 | < 50 |
| Benzene | | < 1.4 | < 0.7 | < 0.7 | < 1.4 | < 0.7 |
| Bromodichloromethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Bromoform | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Bromomethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Carbon disulfide | | < 100 | < 50 | < 50 | < 100 | < 50 |
| Carbon tetrachloride | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Chlorobenzene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Chloroethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Chloroform | | < 14 | < 7 | < 7 | < 14 | < 7 |
| Chloromethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| cis-1,2-Dichloroethene | | < 10 | < 5 | **18** | < 10 | < 5 |
| cis-1,3-Dichloropropene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Dibromochloromethane | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Ethylbenzene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Freon 113 | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Methylene chloride | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Styrene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Tetrachloroethene | | **20** | **9.2** | **7.6** | **14** | < 5 |
| Toluene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| trans-1,2-Dichloroethene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| trans-1,3-Dichloropropene | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Trichloroethene | | **310** | **110** | **170** | **220** | < 5 |
| Vinyl chloride | | < 4 | < 2 | < 2 | < 4 | < 2 |
| Xylene-O | | < 10 | < 5 | < 5 | < 10 | < 5 |
| Xylenes - M,P | | < 10 | < 5 | < 5 | < 10 | < 5 |
| **Total VOCs** | | **330** | **119.2** | **195.6** | **234** | 0 |

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

Table 2. Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Groundwater Remedial Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | WELL 1 / WELL GP-1 / 9/5/2007 | WELL 3 / WELL GP-3 / 9/5/2007 | TOWER 96 INF / TOWER 96 INF / 9/5/2007 | TOWER 96 EFF / TOWER 96 EFF / 9/5/2007 |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | < 13 | < 100 | < 50 | < 5 |
| 1,1,2,2-Tetrachloroethane | | < 13 | < 100 | < 50 | < 5 |
| 1,1,2-Trichloroethane | | < 13 | < 100 | < 50 | < 5 |
| 1,1-Dichloroethane | | < 13 | < 100 | < 50 | < 5 |
| 1,1-Dichloroethene | | < 13 | < 100 | < 50 | < 5 |
| 1,2-Dichloroethane | | < 13 | < 100 | < 50 | < 5 |
| 1,2-Dichloropropane | | < 13 | < 100 | < 50 | < 5 |
| 2-Butanone | | < 130 | < 1000 | < 500 | < 50 |
| 2-Hexanone | | < 130 | < 1000 | < 500 | < 50 |
| 4-Methyl-2-pentanone | | < 130 | < 1000 | < 500 | < 50 |
| Acetone | | < 130 | < 1000 | < 500 | < 50 |
| Benzene | | < 1.8 | < 14 | < 7 | < 0.7 |
| Bromodichloromethane | | < 13 | < 100 | < 50 | < 5 |
| Bromoform | | < 13 | < 100 | < 50 | < 5 |
| Bromomethane | | < 13 | < 100 | < 50 | < 5 |
| Carbon disulfide | | < 130 | < 1000 | < 500 | < 50 |
| Carbon tetrachloride | | < 13 | < 100 | < 50 | < 5 |
| Chlorobenzene | | < 13 | < 100 | < 50 | < 5 |
| Chloroethane | | < 13 | < 100 | < 50 | < 5 |
| Chloroform | | < 18 | < 140 | < 70 | < 7 |
| Chloromethane | | < 13 | < 100 | < 50 | < 5 |
| cis-1,2-Dichloroethene | | < 13 | < 100 | **73** | < 5 |
| cis-1,3-Dichloropropene | | < 13 | < 100 | < 50 | < 5 |
| Dibromochloromethane | | < 13 | < 100 | < 50 | < 5 |
| Ethylbenzene | | < 13 | < 100 | < 50 | < 5 |
| Freon 113 | | < 13 | < 100 | < 50 | < 5 |
| Methylene chloride | | < 13 | < 100 | < 50 | < 5 |
| Styrene | | < 13 | < 100 | < 50 | < 5 |
| Tetrachloroethene | | **110** | < 100 | **110** | < 5 |
| Toluene | | < 13 | < 100 | < 50 | < 5 |
| trans-1,2-Dichloroethene | | < 13 | < 100 | < 50 | < 5 |
| trans-1,3-Dichloropropene | | < 13 | < 100 | < 50 | < 5 |
| Trichloroethene | | **420** | **3000** | **2900 D** | < 5 |
| Vinyl chloride | | < 5 | **100** | **59** | < 2 |
| Xylene-O | | < 13 | < 100 | < 50 | < 5 |
| Xylenes - M,P | | < 13 | < 100 | < 50 | < 5 |
| **Total VOCs** | | **530** | **3100** | **3142** | 0 |

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

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Table 3. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York

| CONSTITUENT (Units in ug/L) | WELL: / SAMPLE ID: / DATE: | BPOW-1-1 BPOW 1-1 9/21/2007 | BPOW-1-2 BPOW 1-2 9/21/2007 | BPOW-1-3 BPOW 1-3 9/26/2007 | BPOW-3-1 BPOW 3-1 9/18/2007 | BPOW-3-2 BPOW 3-2 9/20/2007 | BPOW-4-1 BPOW 4-1 9/21/2007 | BPOW-4-2 BPOW 4-2 9/21/2007 |
|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | | **1.6** | < 0.5 | **5.9** | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| 1,1,2,2-TETRACHLOROETHANE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| 1,1,2-TRICHLOROETHANE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| 1,1-DICHLOROETHANE | | **0.81** | < 0.5 | **1.8** | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| 1,1-DICHLOROETHENE | | **1.2** | < 0.5 | **4.3** | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| 1,2-DICHLOROETHANE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| CARBON TETRACHLORIDE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| CHLOROBENZENE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| CHLOROFORM | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| CIS-1,2-DICHLOROETHENE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TETRACHLOROETHENE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRANS-1,2-DICHLOROETHENE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRICHLOROETHYLENE | | **1.3** | < 0.5 | **1.1** | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| VINYL CHLORIDE | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| **Total Site-Related VOCs [1]:** | | **4.91 [3]** | 0 | **12 [3]** | 0 | 0 | 0 | 0 |
| **TVOC Trigger Value [2] [4]:** | | **0.6** | **0.6** | **0.6** | **1.5** | **1.5** | **1.5** | **1.5** |

(1) Site-related VOCs were established in the Public Water Supply Contingency Plan (PWSCP) (ARCADIS G&M, Inc. 2003).
(2) TVOC Trigger Values were established in the PWSCP (ARCADIS G&M, Inc. 2003)
(3) The TVOC Trigger Value for Cluster 1 was initially exceeded on April 23, 2004; confirmatory sampling and reporting was conducted as per the PWSCP (ARCADIS G&M, Inc. 2003)
(4) Outpost wells OW2-1 and OW2-2 were not sampled by Northrop Grumman this round, as the dedicated pumps were removed per NYSDEC request. The NYSDEC is currently investigatng the occurrence of benzene and methyl tertiary butyl ether in these wells and the results of the study are currently pending.
ug/L Micrograms per liter
**Bold** Constituent detected
TVOC Total Volatile Organic Compounds
NE Trigger Value Not Established

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Table 4. Concentrations of Total and Dissolved Cadmium and Chromium Detected in Monitoring Wells, Third Quarter 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| CONSTITUENT (Units in ug/L) | WELL: | N-10631 | GM-15S | GM-78S | GM-78I | MW-1GF | MW-2GF | MW-04 | MW-05 | MW-06 |
|---|---|---|---|---|---|---|---|---|---|---|
| | SAMPLE ID: | N-10631 | GM-15S | GM-78S | GM-78I | MW-01GF | MW-02GF | PT1MW-04 | PT1MW-05 | PT1MW-06 |
| | DATE: | 9/27/2007 | 9/12/2007 | 9/25/2007 | 9/25/2007 | 9/26/2007 | 9/26/2007 | 9/12/2007 | 9/12/2007 | 9/12/2007 |
| Cadmium | | **6.4** | -- | < 5 | < 5 | < 5 | < 5 | -- | -- | -- |
| Cadmium (Dissolved) | | -- | -- | < 5 | < 5 | -- | -- | -- | -- | -- |
| Chromium | | **35.9** | **570** | < 10 | < 10 | < 10 | **24.3** | < 10 | **395** | **272** |
| Chromium (Dissolved) | | -- | -- | < 10 | < 10 | -- | -- | -- | -- | -- |

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

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Table 5. Water-Level Measurement Data, September 28, 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| Well Identification | Measuring Point Elevation (ft msl) | Depth to Water (ft bmp) | Water-Level Elevation (ft msl) |
|---|---|---|---|
| **Shallow Wells** | | | |
| FW-03 | 124.30 | 52.76 | 71.54 |
| N-9921 | 94.23 | 29.71 | 64.52 |
| N-10597 | 109.85 | 38.18 | 71.67 |
| N-10600 | 102.41 | 36.25 | 66.16 |
| N-10631 | 103.47 | 34.56 | 68.91 |
| N-10633 | 103.80 | 37.22 | 66.58 |
| N-10634 | 101.20 | 37.61 | 63.59 |
| N-10821 | 91.58 | 32.96 | 58.62 |
| GM-15S | 109.44 | 42.18 | 67.26 |
| GM-16SR | 115.86 | 44.75 | 71.11 |
| GM-17SR | 115.79 | 43.67 | 72.12 |
| GM-18S | 107.60 | 37.73 | 69.87 |
| GM-19S | 109.86 | 39.69 | 70.17 |
| GM-21S | 105.81 | 35.35 | 70.46 |
| GM-78S | 104.94 | 37.98 | 66.96 |
| GM-79S (N-10628) | 100.88 | 37.73 | 63.15 |
| HN-24S | 120.32 | 48.91 | 71.41 |
| HN-40S | 116.35 | 45.89 | 70.46 |
| HN-42S | 120.32 | 47.92 | 72.40 |
| MW-3R | 101.45 | 30.40 | 71.05 |
| **Intermediate Wells** | | | |
| N-10624 | 93.61 | 29.32 | 64.29 |
| GM-15I | 109.25 | 42.03 | 67.22 |
| GM-16I | 115.81 | 44.87 | 70.94 |
| GM-17I | 115.83 | 43.94 | 71.89 |
| GM-18I | 109.03 | 39.11 | 69.92 |
| GM-19I | 109.86 | 40.83 | 69.03 |
| GM-20I | 103.88 | 32.94 | 70.94 |
| GM-21I | 105.72 | 36.40 | 69.32 |
| GM-74I | 107.42 | 38.22 | 69.20 |
| GM-78I | 105.06 | 38.29 | 66.77 |
| GM-79I | 100.88 | 38.19 | 62.69 |
| HN-24I [5] | 125.80 | -- | -- |
| HN-40I | 115.91 | 45.70 | 70.21 |
| HN-42I | 119.61 | 47.30 | 72.31 |

See notes on last page

Table 5. Water-Level Measurement Data, September 28, 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| Well Identification | Measuring Point Elevation (ft msl) | Depth to Water (ft bmp) | Water-Level Elevation (ft msl) |
|---|---|---|---|
| **Deep Wells** | | | |
| N-10627 | 93.70 | 29.85 | 63.85 |
| GM-13D | 113.97 | 43.17 | 70.80 |
| GM-15D | 109.84 | 44.59 | 65.25 |
| GM-17D | 115.68 | 46.89 | 68.79 |
| GM-18D | 108.88 | 42.41 | 66.47 |
| GM-20D | 103.92 | 35.55 | 68.37 |
| GM-21D | 105.66 | 40.60 | 65.06 |
| GM-34D | 71.19 | 12.50 | 58.69 |
| GM-36D | 91.63 | 33.51 | 58.12 |
| GM-37D | 97.26 | 37.51 | 59.75 |
| GM-38D | 91.75 | 37.47 | 54.28 |
| GM-39D$_A$[4] | 102.23 | 35.90 | 66.33 |
| GM-39D$_B$[4] | 102.08 | 38.98 | 63.10 |
| GM-73D | 104.87 | 41.31 | 63.56 |
| GM-74D | 107.43 | 42.68 | 64.75 |
| GM-79D | 101.25 | 39.72 | 61.53 |
| HN-29D | 115.11 | Not taken | -- |
| **Deep2 Wells** | | | |
| GM-15D2 | 109.78 | 47.23 | 62.55 |
| GM-33D2 | 106.85 | 46.56 | 60.29 |
| GM-34D2[5] | 71.19 | 14.58 | 56.61 |
| GM-35D2 | 96.28 | 37.94 | 58.34 |
| GM-36D2 | 91.60 | 36.59 | 55.01 |
| GM-37D2 | 97.17 | 38.49 | 58.68 |
| GM-38D2 | 91.56 | 40.72 | 50.84 |
| GM-70D2 | 99.58 | 39.23 | 60.35 |
| GM-71D2 | 98.45 | 40.17 | 58.28 |
| GM-73D2 | 104.62 | 43.27 | 61.35 |
| GM-74D2 | 107.36 | 48.88 | 58.48 |
| GM-75D2 | 93.63 | 33.00 | 60.63 |
| Well 1 [1] | 116.78 | 75.00 | 41.78 |
| Well 3 [2] | 117.78 | 88.00 | 29.78 |
| Well 17 [3] | 104.10 | 58.00 | 46.10 |
| Well 18 [3] | 110.00 | 58.00 | 52.00 |
| Well 19 | 108.70 | 62.60 | 46.10 |

See notes on last page

Table 5. Water-Level Measurement Data, September 28, 2007, Operable Unit 2, Northrop Grumman Systems Corporation, Bethpage, New York.

| Well Identification | Measuring Point Elevation (ft msl) | Depth to Water (ft bmp) | Water-Level Elevation (ft msl) |
|---|---|---|---|
| **Outpost Wells** | | | |
| BPOW1-1 | 73.65 | 28.80 | 44.85 |
| BPOW1-2 | 73.54 | 30.00 | 43.54 |
| BPOW1-3 | 73.37 | 30.05 | 43.32 |
| BPOW2-1[5] | 60.06 | -- | -- |
| BPOW2-2[5] | 59.96 | -- | -- |
| BPOW3-1 | 63.19 | 27.10 | 36.09 |
| BPOW3-2 | 63.72 | 28.52 | 35.20 |
| BPOW4-1 | 67.34 | 27.93 | 39.41 |
| BPOW4-2 | 67.18 | 27.31 | 39.87 |

(1) Water level was measured by inflating airline set at 120 ft bmp (gauge at wellhead) and subtracting the reading on the gauge from 120 to obtain the depth to water in ft bmp.

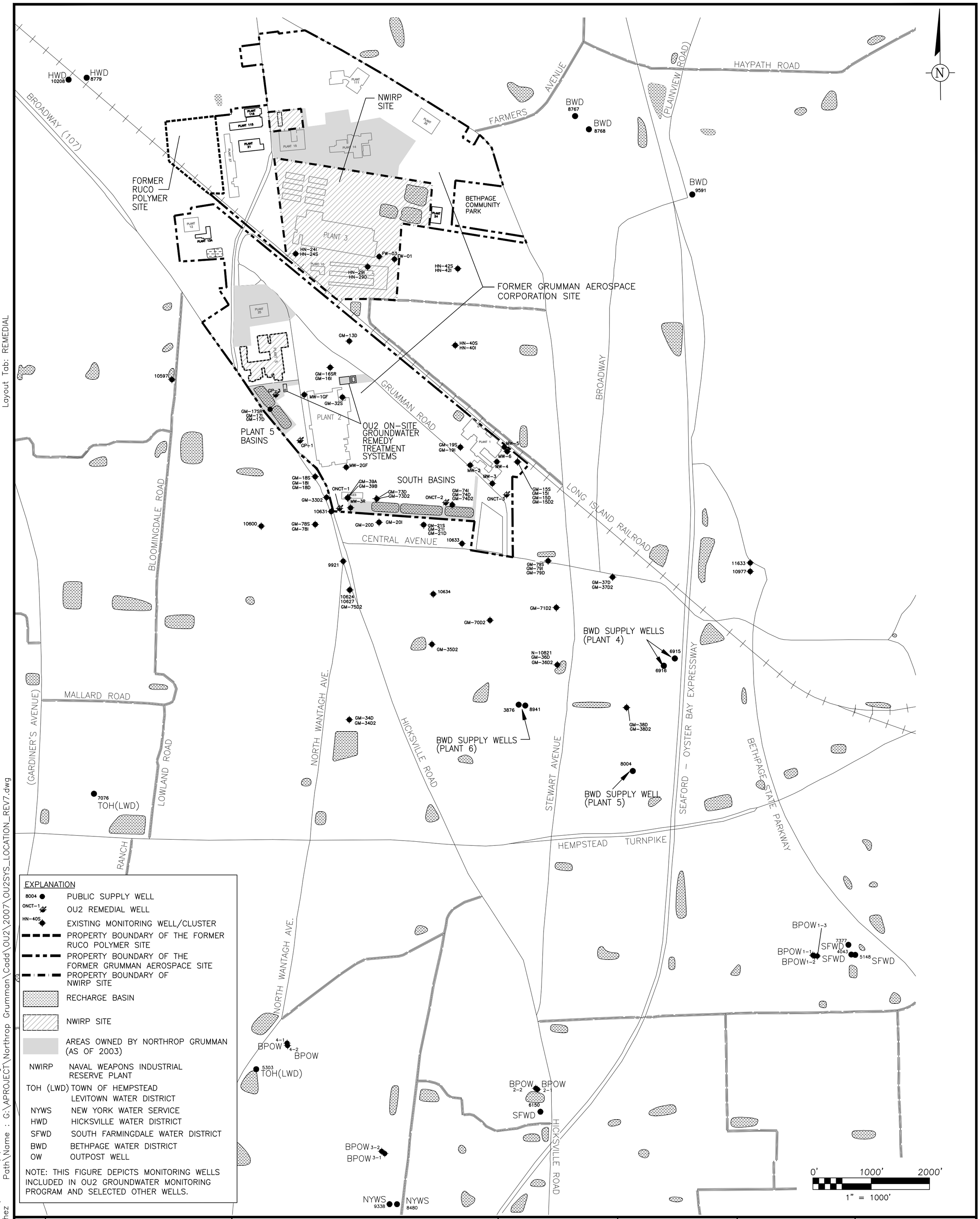
(2) Water level was measured by inflating an airline set at 150 ft bmp (gauge at well head) and subtracting the reading on the gauge from 150 to obtain the depth to water in ft bmp.

(3) Water level was measured by inflating airline set at 110 ft bmp (gauge at wellhead) and subtracting the reading on the gauge from 110 to obtain the depth to water in ft bmp.

(4) Wells GM-$39_A$ and GM-$39_B$ are screened at the approximate midpoint and basal portion of the deep zone, respectively.

(5) Well not accessible.

ft msl feet relative to mean sea level
ft bmp feet below measuring point




EXPLANATION

- 8004 ● PUBLIC SUPPLY WELL
- ONCT-1 OU2 REMEDIAL WELL
- HN-40S EXISTING MONITORING WELL/CLUSTER
- PROPERTY BOUNDARY OF THE FORMER RUCO POLYMER SITE
- PROPERTY BOUNDARY OF THE FORMER GRUMMAN AEROSPACE SITE
- PROPERTY BOUNDARY OF NWIRP SITE
- RECHARGE BASIN
- NWIRP SITE
- AREAS OWNED BY NORTHROP GRUMMAN (AS OF 2003)

| | |
|---|---|
| NWIRP | NAVAL WEAPONS INDUSTRIAL RESERVE PLANT |
| TOH (LWD) | TOWN OF HEMPSTEAD LEVITOWN WATER DISTRICT |
| NYWS | NEW YORK WATER SERVICE |
| HWD | HICKSVILLE WATER DISTRICT |
| SFWD | SOUTH FARMINGDALE WATER DISTRICT |
| BWD | BETHPAGE WATER DISTRICT |
| OW | OUTPOST WELL |

NOTE: THIS FIGURE DEPICTS MONITORING WELLS INCLUDED IN OU2 GROUNDWATER MONITORING PROGRAM AND SELECTED OTHER WELLS.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PROJECT TITLE

OPERABLE UNIT 2
NORTHROP GRUMMAN CORPORATION
BETHPAGE, NEW YORK

| PROJECT MANAGER | DEPARTMENT MANAGER | LEAD DESIGNER | CHECKED BY |
|---|---|---|---|
| C. SAN GIOVANNI | M. WOLFERT | | M. SAURBORN |

SHEET TITLE

LOCATION OF OU-2
ON-SITE GROUNDWATER
REMEDY AND WELLS

| TASK/PHASE NUMBER | DRAWN BY |
|---|---|
| 00004 | A. SANCHEZ |
| PROJECT NUMBER | DRAWING NUMBER |
| NY001464.0407 | 1 |


Acad Version : R17.0s (LMS Tech)
User Name : alsanchez
Current Plotstyle : ByColor
Layout Tab: REMEDIAL
Date/Time : Tue, 21 Aug 2007 – 10:41am
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