1-30-003A -002

ARCADIS

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Mr. Steven Scharf
Project Manager
New York State Department of Environmental Conservation (NYSDEC)
Remedial Action, Bureau A
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7015

ENVIRONMENTAL

Subject:
Data Report for Outpost Well OW2-1, Northrop Grumman Corporation and Naval Weapons Industrial Reserve Plant Sites, Bethpage, New York.
(NYSDEC Site #s 1-30-003A and B)

Date:
10 September 2004

Contact:
Mike Wolfert

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Dear Mr. Scharf:

ARCADIS has prepared this Data Report on behalf of Northrop Grumman Corporation (NGC) and the U.S. Navy to serve as formal notification of the analytical results of groundwater samples collected from Outpost Well OW2-1. As you will recall, Outpost Well OW2-1 was installed to provide early warning of the advance of the groundwater plume toward South Farmingdale Water District Public Supply Well N-6150. The following text summarizes groundwater sample collection and analytical procedures, the data evaluation process, and provides our findings and conclusions.

In general, the outpost well was purged and sampled using a dedicated submersible pump and packer system following methodologies approved by the NYSDEC. Groundwater samples were analyzed in the laboratory for the Target Compound List (TCL) volatile organic compounds (VOCs), using United States Environmental Protection Agency Method 502.2. You will recall that the modeling performed by ARCADIS in support of development of the Public Water Supply Contingency Plan (ARCADIS G&M, Inc. 2003) determined that Well OW2-1 was located at a distance hydraulically upgradient of Well N-6150 that corresponds to less than five years of groundwater travel time; therefore, a trigger value was not established for Well OW2-1.

The groundwater quality data from Well OW2-1 are provided in Table 1. The subject well was sampled on June 29, 2004. As a conservative measure, based on a detection of site-related VOCs in the June 29th sampling event, the well was re-sampled on August 4 and August 12, 2004 to assess the reproducibility of the June 29th results. The results of the August 4th and August 12th sampling confirmed the June 29th results in that, with the exception of two compounds, the same constituents were detected during each event and at similar concentrations. The data were therefore determined to be representative of current water quality conditions in the

well and indicate that the groundwater plume, comprised of site-related VOCs, has impacted Well OW2-1.

In addition to the site-related VOCs shown in Table 1, other VOCs were also identified during each sampling event, as is summarized below:

Compound (units in ug/L)	OW2-1 6/29/2004	OW2-1 8/12/2004	OW2-1 8/12/2004
Benzene	26	42	36
Methyl tertiary butyl ether (MTBE)	4.3	5.8	6.1

If you have any questions or need additional information, please feel free to contact us.

Sincerely,

ARCADIS G&M, Inc.

David E. Stern
Senior Hydrogeologist

Carlo San Giovanni

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Project Manager

Michael F. Wolfert
Project Director

Enclosures

Copies:
John Cofman, Northrop Grumman
Larry Leskovjan, Northrop Grumman
James Colter, NAVFAC Northern Division
Ian Ushe, NYSDOH
William Bier, South Farmingdale Water District
Gary Loesch, H2M

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Table 1. Concentrations of Site-Related Volatile Organic Compounds Detected in Outpost Well OW 2-1, Second Quarter 2004, Northrop Grumman Corporation, Bethpage, New York.

CONSTITUENT (Units in ug/L)	NYSDEC Standards Criteria and Guidance Values[2]	WELL: / SAMPLE ID: / DATE:	OW 2-1 / OW 2-1 / 06/29/04	OW 2-1 / OW 2-1 / 08/04/04	OW 2-1 / OW 2-1 / 08/12/04
Chlorobenzene	5		<0.50	<0.50	<0.50
1,1-Dichloroethene	5		<0.50	<0.50	<0.50
1,1-Dichloroethane	5		**0.96**	**1.5**	**1.1**
trans-1,2-Dichloroethene	5		<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	5		<0.50	**0.58**	<0.50
Chloroform	7		<0.50	<0.50	<0.50
1,2-Dichloroethane	5		**1.1**	**1.7**	**1.1**
1,1,1-Trichloroethane	5		**0.62**	**0.69**	**1.4**
Carbon tetrachloride	5		<0.50	<0.50	<0.50
Trichloroethene	5		**1.1**	**1.8**	**1.8**
1,1,2,2-Tetrachloroethane	5		<0.50	<0.50	<0.50
Tetrachloroethene	5		<0.50	**0.53**	<0.50
Freon-113 *	5		<0.50	<0.50	<0.50
1,1,2-Trichloroethane	5		<0.50	<0.50	<0.50
Total Site-Related VOCs:			**3.78**	**6.80**	**5.40**
Well Cluster OW-2 TVOC Trigger Value: [1]			NE	NE	NE

Footnotes:

(1) Site-related VOCs and trigger values were established in the Public Water Supply Contingency Plan (ARCADIS G&M, Inc. 2003). A trigger value for Well OW2-1 was not established since modeling determined that this well is located a distance upgradient of SFWD Well N-6150 that corresponds to less than five years of groundwater travel time.

(2) Standards, Criteria, and Guidance (SCG) values based on documents referenced in the OU2 Feasibility Study Report (ARCADIS Geraghty & Miller, Inc. 2000); most stringent value listed.

General Notes:

- Results reported as a NYSDEC Category A deliverable per the NYS DER-10 Guidance Document (NYSDEC 2002).
- Samples analyzed by EPA Method 502.2, as specified in the OU2 Record of Decision.
- Results were validated by ARCADIS by following the contract laboratory program national functional guidelines for organic data review (USEPA 1999).

Definitions:

OU2 Operable Unit 2
VOCs Volatile organic compounds
ug/L Micrograms per liter
NYSDEC New York State Department of Environmental Conservation
* Freon 113 also known as 1,1,1-Trichloro-2,2,2-trifluoroethane.
NE Trigger Value Not Established
Bold value indicates a detection.