



# MARCH 2003 2ND ROUND C-8 SAMPLING DUPONT FAYETTEVILLE WORKS FAYETTEVILLE, NORTH CAROLINA

Date: June 2003

Project No.: 18983753.00037



CORPORATE REMEDIATION GROUP

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## Introduction

On March 27<sup>th</sup> 2003, groundwater was sampled from four monitoring wells at the DuPont Fayetteville Works. In addition, a combined surface and wastewater sample was collected above Outfall-002. These samples were collected in order to establish baseline conditions at the facility during the initial activation of APFO (C-8) production.

## C-8 Sampling

Prior to initiating sampling activities, well locations were field identified and sampling locations were selected based on site coverage and accessibility. Figure 1 (attached) shows the locations of the four monitoring wells selected for sampling. Before sampling activities began, depth to water was measured for each well to the nearest one hundredth of a foot.

Monitoring wells were evacuated using a disposable bailer. Well evacuation stopped when at least three volumes were evacuated and three consecutive readings of pH and specific conductance were stabilized to within ten percent. After evacuation and parameter stabilization, the groundwater was sampled directly from a disposable bailer. The four monitoring wells sampled, SMW-01, SMW-02, NAF-01 and MW-1S, were sampled using this method. Low-flow purging sampling methods were not utilized during this sampling event because the low-flow purging equipment specifically designed for C-8 sampling was not available.

The combined surface and wastewater sample was collected approximately ten feet upstream from Outfall-002, after the confluence of all plant discharges. The location of Outfall-002 is shown on Figure 1 (attached). The water sample was collected by submerging the sample bottle into the water and then filling the bottle.

All equipment used for sampling activities was pre-cleaned or was dedicated as per the Groundwater Investigation Quality Assurance Project Plan For Washington Works Plant (QAPP), dated January 2002. All samples were collected and handled in a manner described in the QAPP, including the sample collected above Outfall-002.

## C-8 Results

The C-8 results for the four wells and Outfall-002 are presented in Table 1 (attached). This table provides the sample name and date of the sample, the depth to water and depth to bottom for each well, the measured C-8 result in ug/L, and comments, if applicable. In addition, C-8 results for the baseline C-8 sampling conducted in January 2002 are also provided. The groundwater from well NAF-01 is the only sample that had a detectable concentration of C-8. The concentration measured in this well was 0.0684 ug/L, which is just slightly above the practical quantification limit of 0.05 ug/L (NQ). Samples from the other wells and the outfall had C-8 concentrations that were either NQ or non-detectable (less than 0.01 ug/L; ND).

Data review indicated that data for both sampling events was generated in compliance with the laboratory standard operating procedure, except that only one matrix spike and laboratory replicate was analyzed with the second round of samples. All results met quality performance criteria established in the QAPP. All results were judged usable for project purposes.

Table 1  
C-8 Sampling  
DuPont Fayetteville Works  
Fayetteville, North Carolina

| Sample Name | Date      | Depth to Water (ft.) | Depth to Bottom (ft.) | C-8(ug/L) | Comments                                                                                                              |
|-------------|-----------|----------------------|-----------------------|-----------|-----------------------------------------------------------------------------------------------------------------------|
| SMW-01      | 3/27/2003 | 12.51                |                       | ND(<0.01) | well was bailed because low-flow purge equipment was not available                                                    |
| SMW-01      | 1/27/2003 | 13.55                | 22.84                 | ND(<0.01) | shallow well installed 1/21/03 for C-8 sampling                                                                       |
| SMW-02      | 3/27/2003 | 12.36                |                       | ND(<0.01) | well was bailed because low-flow purge equipment was not available                                                    |
| SMW-02      | 1/27/2003 | 14.79                | 17.12                 | ND(<0.01) | shallow well installed 1/21/03 for C-8 sampling, well was bailed because low-flow purge equipment was not available   |
| NAF-01      | 3/27/2003 | 5.76                 |                       | 0.0684    | well was bailed because low-flow purge equipment was not available                                                    |
| NAF-01      | 3/27/2003 | 5.76                 |                       | 0.0628    | duplicate sample                                                                                                      |
| NAF-01      | 1/27/2003 | 7.14                 | 18.31                 | 0.0649    |                                                                                                                       |
| MW-1S       | 3/27/2003 | 18.39                | 32.30                 | NQ(<0.05) | well was bailed because low-flow purge equipment was not available                                                    |
| MW-1S       | 1/28/2003 | 18.81                | 32.25                 | NQ(<0.05) |                                                                                                                       |
| MW-1S-2     | 1/28/2003 | 18.81                | 32.25                 | NQ(<0.05) | duplicate sample                                                                                                      |
| Outfall-002 | 3/27/2003 | --                   | --                    | NQ(<0.05) | sample collected upstream of outfall sampling point but after confluence of all plant discharges                      |
| Outfall-002 | 1/28/2003 | --                   | --                    | NQ(<0.05) | water is very foamy, sample collected upstream of outfall sampling point but after confluence of all plant discharges |