



# Camp Stanley Storage Activity Groundwater Contamination – March 2003 Sampling FACT SHEET

No. 14 – May 2003

*The purpose of this fact sheet is to provide an overview of the quarterly groundwater sampling conducted in March 2003. Future fact sheets will be issued to provide additional information regarding on-going sampling, investigation, and cleanup activities. The results for all groundwater sampling are available in the CSSA Environmental Encyclopedia located behind the Reference Desk in the Government Documentation Section on the 2nd floor at the downtown San Antonio Public Library, 600 Soledad Street, San Antonio, Texas, or on the internet at [www.stanley.army.mil](http://www.stanley.army.mil).*

## On-post Groundwater Monitoring

As part of the Camp Stanley Storage Activity (CSSA) environmental program, on-post groundwater monitoring has been conducted since 1991. The wells sampled include drinking water, monitoring, and agricultural/livestock wells. The laboratory results obtained from the March 2003 sampling indicated minor changes to volatile organic compound (VOC) levels on-post from findings reported in previous fact sheets. Toluene was detected which occurred during this event and the results are discussed in the Groundwater Sampling Results section.

## CSSA Off-post Groundwater Monitoring Plan

CSSA describes its off-post groundwater monitoring plan in its *Off-Post Monitoring Program and Response Plan*, July 2001 (Plan). The goals of this Plan are to confirm that drinking water meets U.S. Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) safe drinking water standards, to determine where VOC contamination has migrated, monitor off-post water wells near known VOC source areas at CSSA, and to respond according to the Plan if contaminant levels in these wells exceed standards. As part of the Plan, 25 off-post wells were sampled in March 2003. Three additional samples, designated “non-purged” were collected from three wells in order to sample the drinking water as it is used directly from the well, without prior purging.

Off-post water wells were selected for testing based on continued protection of drinking water and to provide detailed information for the environmental program. Factors such as well location, screened interval, and sampling access were all considered.

CSSA takes action if VOC contamination is detected in off-post wells at concentrations greater than 90 percent of the maximum contaminant level (MCL) or above 4.5 parts per billion (ppb) for tetrachloroethene (PCE) and trichloroethene (TCE). This action includes supplying bottled water to the affected residents within 24 hours of the notification of detection and resampling the well for confirmation. If additional sampling confirms previous test results, CSSA will install and maintain a granular activated carbon (GAC) filter which will remove contaminants from the water or connect the well owner to an alternate water supply for as long as contaminant levels exceed standards. Seven GAC filtration systems have been installed for off-post water wells: LS-7 (August 2001), LS-6 (August

2001), RFR-10 (two units, October 2001), RFR-11 (October 2001), LS-2/LS-3 (April 2002), and OFR-3 (April 2002).

## March 2003 Groundwater Sampling Results

The locations of all off-post wells sampled in March 2003 are shown on Figure 1. According to the EPA drinking water standards, concentrations below 5.0 ppb for PCE and TCE are considered safe. Table 1 (see back) presents groundwater analytical data for PCE and TCE from March 2003. PCE in wells LS-2 and LS-7 were below the MCL in March 2003 after exceeding the MCL for the first time in December 2002. CSSA had previously installed GAC filtration systems at these wells per the Plan. RFR-10 and RFR-11 also exceeded an MCL for one or both PCE and TCE in March 2003. These wells had exceeded MCLs in the past and had been equipped with GAC filtration systems.

All other VOC detections were below the applicable MCL in drinking water and do not prevent usability of these wells. However, because toluene was detected in several off-post samples in March 2003, the possible source of this contamination was researched. Very low concentrations of toluene (maximum of 2.37 ppb off-post and 8.70 ppb on-post) were detected in some on-post and off-post well samples. The MCL in drinking water for toluene is 1,000 ppb. A source associated with the sampling methodology was suspected due to the sporadic nature of the low-level detections. Therefore, a sample of the adhesive tape used to secure the sample labels to the sample bottles was submitted for analysis. The tape was found to contain over 1,160,000 ppb toluene. It is concluded that the low-level concentrations detected in the March 2003 groundwater samples were introduced by volatilization of toluene in the tape and adsorption into the samples during transit from the field to the laboratory. The tape to be used in future sampling is a toluene-free type

CSSA will continue to sample both on- and off-post groundwater on a quarterly basis for the foreseeable future. CSSA will continue to coordinate this groundwater monitoring program with many regulatory agencies and other potentially affected parties, including the EPA, TCEQ, Fort Sam Houston, City of Fair Oaks, Fair Oaks Water Utilities, Bexar Metropolitan Water District, Bexar County Commissioners' office, State Representatives' offices, local, state, and federal elected officials, and others.

## March 2003 post-GAC Sampling Results

In March 2003, analyses of seven post-GAC water samples confirmed that no VOCs were present above the applicable MCLs, and that the GAC units were working properly. Table 2 presents the results from post-GAC samples collected. The A1 and A2 designations after the well number indicate the sample was collected after the first and second GAC canisters, respectively. The GAC filtration system installed at wells LS-2 and LS-3 is larger than all other systems. This system was sampled after the first GAC canister and designated LS-2/LS-3-A1.

Carbonair, the company that manufactured and installed the GAC systems for CSSA, was contacted regarding the 0.07F ppb detection of PCE from sample RFR-11-A2. Prior to collection of the sample at RFR-11, the field sampling team noted that the GAC system had been inadvertently bypassed by the homeowner. The field sampling team discussed the problem with the well owner and re-started the GAC system. Carbonair advised that the very low detection of PCE was probably a result of back flow to the sampling port while the system was bypassed. Carbonair has recommended a specific procedure for re-starting a bypassed GAC system to prevent the back flow action from occurring in the future.

### Source Area Cleanup

Groundwater contamination at CSSA is associated with three VOC source areas that have been identified to date. Two source areas, Solid Waste Management Unit (SWMU) B-3 and SWMU O-1, are in the central portion of CSSA and affect the area designated as Plume 1. Cleanup activities at SWMU B-3 involved past soil vapor extraction (SVE) and removal of over 700 cubic yards of VOC contaminated soils. Additional SVE cleanup is currently being planned. A third source area, Area of Concern (AOC)-65, was identified in the southwest corner of CSSA and affects the area designated as Plume 2. Cleanup activities include the installation and testing of a SVE system, removal of over 600 cubic yards of contaminated soils, and rework of a surface drainage ditch to route rain water run-off away from the site. Testing of the AOC-65 soil vapor extraction (SVE) systems is being conducted to evaluate their effectiveness and to optimize their performance. A significant reduction in soil gas concentrations beneath AOC-65/Building 90 were observed during the initial operation of the SVE system. Testing of the SVE system west of Building 90 is ongoing.

### Public Comment

CSSA will continue to inform the public about different aspects of its environmental program. The public is welcome to comment on this fact sheet and the environmental activities at CSSA by writing to:

Installation Manager,  
Camp Stanley Storage Activity  
25800 Ralph Fair Road  
Boerne, Texas 78015-4800

You may also comment by calling:

- CSSA Installation Manager, Mr. Jason D. Shirley, at (210) 295-7416;
- EPA Regional Program Manager, Mr. Greg Lyssy, at (214) 665-8317; or
- Fort Sam Houston, Public Affairs Office, Mr. Phillip Reidinger, at (210) 221-1151 or (210) 336-0449 (mobile)

**Table 1 - Groundwater Sampling Results  
Off-post wells near Plume 1**

Well Number	PCE (ppb)	TCE (ppb)
FO-8	ND	ND
FO-17	ND	ND
FO-J1	ND	ND
JW-9	ND	ND
JW-14	0.15	ND
JW-14-NP	0.15	ND
JW-26	0.11	ND
JW-30	ND	0.08

**Off-post wells near Plume 2**

Well Number	PCE (ppb)	TCE (ppb)
DOM-2	ND	ND
HS-2	0.21	ND
I10-2	0.10	0.06
I10-4	ND	ND
I10-7	ND	ND
I10-7-NP	ND	ND
LS-1	0.46	0.12
LS-2	4.25	0.30
LS-3	3.99	0.35
LS-4	0.25	ND
LS-5	ND	0.19
LS-6	4.19	0.21
LS-7	4.01	0.41
LS-7 NP	ND	ND
OFR-1	0.37	ND
OFR-2	0.11	ND
OFR-3	2.81	3.25
RFR-10	<b>13.88</b>	<b>8.37</b>
RFR-11	<b>10.02</b>	0.12
RFR-12	0.10	0.23

The MCL for PCE and TCE is 5.0 ppb

ND = The VOC was not detected above the method detection limit.

Bold = Concentration > MCL

NP = Sample was not purged

**Table 2 - Post GAC System Sampling  
Off-post wells**

Well Number	PCE (ppb)	TCE (ppb)
LS-2/LS-3-A1	ND	ND
LS-2/LS-3-A2	ND	ND
LS-6 A2	ND	ND
LS-7 A2	ND	ND
OFR-3 A2	ND	ND
RFR-10 A2	ND	ND
RFR-11 A2	0.07F	ND

The MCL for PCE and TCE is 5.0 ppb

ND = The VOC was not detected above the method detection limit.

F = The value is above the laboratory method detection limit, but below the reporting limit.

**Figure 1 – Off Post Well Locations**

