



DEPARTMENT OF THE ARMY  
CAMP STANLEY STORAGE ACTIVITY, RRAD  
25800 RALPH FAIR ROAD, BOERNE, TX 78015-4800

May 23, 2003

U-058-03

RE: Sampling of wells, LS-1,  
LS-2,  
LS-3,  
LS-4,  
HS-2,

Camp Stanley Storage Activity (CSSA) collected groundwater samples from the above wells during March 2003 as set out in the summary tables below. These samples were submitted to a laboratory contracted by CSSA's environmental contractor for volatile organic compound (VOC) analysis. This letter provides you with the VOC data from the laboratory results and a formal thank you for your assistance in this groundwater monitoring effort.

An abbreviated summary of detected VOC compounds compared to maximum contaminant levels (MCLs) allowed in drinking water by the U.S. EPA under the Safe Drinking Water Act is provided below:

Date Sampled	VOC compound	Result (ppb)	MCL (ppb)
Well HS-2,			
3/12/03	Tetrachloroethene (PCE)	0.21F	5
	Trichloroethene (TCE)	<0.05 (non-detect)	5
	cis-1,2-Dichloroethene (DCE)	<0.07 (non-detect)	70
Well HS-2,			
3/12/03 Field Duplicate	PCE	0.22F	5
	TCE	<0.05 (non-detect)	5
	DCE	<0.07 (non-detect)	70
Well LS-1,			
3/12/03	PCE	0.46F	5
	TCE	0.12F	5
	DCE	<0.07 (non-detect)	70
Well LS-2,			
3/12/03	PCE	4.25	5
	TCE	0.30F	5
	DCE	<0.07 (non-detect)	70
Well LS-3,			
3/12/03	PCE	3.99	5
	TCE	0.35F	5
	DCE	<0.07 (non-detect)	70



Date Sampled	VOC compound	Result (ppb)	MCL (ppb)
Well LS-4,			
3/12/03	PCE	0.25F	5
	TCE	<0.05 (non-detect)	5
	DCE	<0.07 (non-detect)	70

\*The "F" flag indicates the value is above the laboratory method detection limit, but below the laboratory reporting limit for the compound.

Based on the analytical data, low levels of the VOCs PCE and TCE were identified in water samples from wells HS-2, LS-1 and LS-4. Results from the laboratory analysis are provided as an attachment for the events set out in the summary tables above. In addition to the VOCs set out above, low levels of chloroform (0.16 ppb) were identified in well HS-2, as well as bromodichloromethane (0.46F ppb), bromoform (0.58F ppb), chloroform (0.42 ppb) and dibromochloromethane (0.51 pb) in LIS-1 and chloroform (0.12F ppb) and toluene (0.37F ppb) in LS-3. Although these VOCs are not naturally occurring, these levels are below the applicable MCL for drinking water and as such, do not prevent usability of your wells, as you are aware.

Wells LS-2 and LS-3 have had previous detections of VOCs approaching and/or exceeding the MCL. A granular activated carbon (GAC) filtration system was installed at wells LS-2 and LS-3 in April 2002 by Carbonair Environmental Systems of San Marcos, Texas. CSSA will be responsible for all costs associated with operation and maintenance of this system. CSSA will send a representative on a monthly basis to exchange the five-micron pre-and post-filters in the system. VOCs were present in wells LS-2 and LS-3 in March 2003 at levels comparable to previous detections.

Carbonair performs maintenance on the system every 180 days. Carbonair will exchange the first carbon canister and perform other routine maintenance operations at future scheduled visits. If you experience any problems with the system, please let the installer or CSSA know immediately. Carbonair is very responsive and can make additional maintenance visits if needed.

In the past, CSSA has collected a water sample from your well after being processed through the GAC filter system. Analyses of these samples found levels of VOCs below the drinking water criteria demonstrating that the GAC system is working effectively. CSSA collected a confirmation sample in March 2003 to confirm the system remains effective. Results from the post-GAC sample results are presented below. The next post-GAC sampling event is scheduled for September 2003.

Date Sampled	VOC compound	Result (ppb)	MCL (ppb)
Well LS-2/LS-3, GAC samples for 106-WP2 and 106-WP1			
3/12/03 A1, after the first GAC canister	PCE	<0.06 (non-detect)	5
	TCE	<0.05 (non-detect)	5
	DCE	<0.07 (non-detect)	70
Well LS-2/LS-3, GAC samples for 106-WP2 and 106-WP1			
3/12/03 A2,	PCE	<0.06 (non-detect)	5



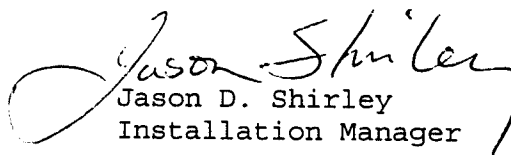
Date Sampled	VOC compound	Result (ppb)	MCL (ppb)
after the second GAC canister	TCE	<0.05 (non-detect)	5
	DCE	<0.07 (non-detect)	70

Additionally, low levels of chloroform (0.24F ppb) were identified in LS-2/LS-3-A1 and toluene (0.86F) and methylene chloride (3.77B ppb) in LS-2/LS-3-A2. The B flag indicates that the analyte was found in an associated method blank, as well as in the sample. Although these VOCs are not naturally occurring, these levels are below the applicable MCL for drinking water and as such, do not prevent usability of your wells, as you are aware.

As part of the ongoing CSSA environmental program, we are continuing to investigate and cleanup VOC source areas on the installation and to track these compounds in groundwater on and off-post. As part of this effort, we may contact you in the future to schedule another sampling event for one or more of the wells listed above. When arrangements with the contractors are complete, we will contact you with a proposed sampling date and time. Once we have arranged a date with you, CSSA will attempt to provide at least 72 hours notice prior to proposed sampling events.

Again, we would like to thank you for your cooperation. If you have any questions concerning this letter, please contact me at 295-7416.

Sincerely,

  
 Jason D. Shirley  
 Installation Manager

Attachments

cc: Mr. Greg Lyssy, EPA Region 6  
 Mr. Sonny Rayos, TCEQ Central Office  
 Mr. Henry Karnei, TCEQ Region 13  
 Ms. Kyle Cunningham, San Antonio Metropolitan Health Dist.  
 Ms. Julie Burdey, Parsons



AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-1      Lab Sample ID: AP47344      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.46	1		F
Bromoform	0.13	1.2	0.58	1		F
Chloroform	0.06	0.3	0.42	1		
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.51	1		
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.12	1		F
Tetrachloroethene	0.06	1.4	0.46	1		F
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	100	62-139	
4-Bromofluorobenzene(S)	96.8	75-125	
Dibromofluoromethane(S)	97.4	75-125	
Toluene-D8(S)	78.7	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments:

---



---



---

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-2      Lab Sample ID: AP47337      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.06	1		U
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.30	1		F
Tetrachloroethene	0.06	1.4	4.25	1		
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	91.9	62-139	
4-Bromofluorobenzene(S)	96.4	75-125	
Dibromofluoromethane(S)	91.0	75-125	
Toluene-D8(S)	98.6	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(1S)	
Chlorobenzene-D5(1S)	
Fluorobenzene(1S)	

Comments:

---



---



---

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-3      Lab Sample ID: AP47341      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.12	1		F
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.35	1		F
Tetrachloroethene	0.06	1.4	3.99	1		
Toluene	0.06	1.1	0.37	1		F
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	96.8	62-139	
4-Bromofluorobenzene(S)	97.5	75-125	
Dibromofluoromethane(S)	95.7	75-125	
Toluene-D8(S)	94.3	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments:

---



---



---

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-4      Lab Sample ID: AP47342      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.06	1		U
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.25	1		F
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	101	62-139	
4-Bromofluorobenzene(S)	99.9	75-125	
Dibromofluoromethane(S)	98.5	75-125	
Toluene-D8(S)	97.3	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments:

---



---



---

AFCBE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: HS-2      Lab Sample ID: AP47346      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.06	1		U
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.21	1		F
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	95.4	62-139	
4-Bromofluorobenzene(S)	102	75-125	
Dibromofluoromethane(S)	96.8	75-125	
Toluene-D8(S)	98.6	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(1S)	
Chlorobenzene-D5(1S)	
Fluorobenzene(1S)	

Comments:



AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: HS-2 DUP      Lab Sample ID: AP47345      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.16	1		F
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.22	1		F
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	99.1	62-139	
4-Bromofluorobenzene(S)	98.4	75-125	
Dibromofluoromethane(S)	98.1	75-125	
Toluene-D8(S)	95.7	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments:

---



---



---

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-2/LS-3-A1      Lab Sample ID: AP47338      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.24	1		F
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	0.51	1		U
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.06	1		U
Toluene	0.06	1.1	0.06	1		U
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	89.7	62-139	
4-Bromofluorobenzene(S)	96.1	75-125	
Dibromofluoromethane(S)	92.5	75-125	
Toluene-D8(S)	94.8	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments:

---



---



---

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: EPA 8260B      Preparatory Method: 5030B      AAB #: 030317AM-60669  
 Lab Name: APPL, Inc      Contract #: F41624-00D-8024-TO0042  
 Field Sample ID: LS-2/LS-3-A2      Lab Sample ID: AP47339      Matrix: Water  
 % Solids: NA      Initial Calibration ID: M030315  
 Date Received: 13-Mar-03      Date Prepared: 17-Mar-03      Date Analyzed: 17-Mar-03  
 Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
Bromodichloromethane	0.06	0.8	0.06	1		U
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	0.06	1		U
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	0.06	1		U
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	1.0	3.77	1		B
Naphthalene	0.07	0.8	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.06	1		U
Toluene	0.06	1.1	0.86	1		F
Trans-1,2-DCE	0.08	0.6	0.08	1		U
Vinyl chloride	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
1,2-DCA-D4(S)	91.7	62-139	
4-Bromofluorobenzene(S)	98.8	75-125	
Dibromofluoromethane(S)	92.9	75-125	
Toluene-D8(S)	100	75-125	

Internal Std	Qualifier
1,4-Dichlorobenzene-D(IS)	
Chlorobenzene-D5(IS)	
Fluorobenzene(IS)	

Comments: *See p. 121. TC 4/10/03*