



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

February 28, 2005

U-237-05

Subject: Sampling of Water Well RFR-13

Camp Stanley Storage Activity (CSSA) collected groundwater samples from your well RFR-13 on 12/16/04 and 1/12/05. 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.


Based on the analytical data, no VOCs related to CSSA's groundwater investigation were identified in water samples from your well. However, concentrations of bromodichloromethane (5.02F ppb), chloroform (54.09 ppb), and dibromochloromethane (1.55 ppb) were identified in well RFR-13 from the 12/16/04 sample. These VOCs are regulated by the EPA as total trihalomethanes with a combined MCL of 80 ppb for all results. These compounds are common disinfection byproducts related to disinfectants added to drinking water. You indicated to CSSA's representative that you were treating your own drinking water with household bleach.

Due to the detection of chloroform, CSSA collected another water sample from RFR-13 on 1/12/05. Concentrations of bromodichloromethane (8.74F ppb), chloroform (64.52 ppb), and dibromochloromethane (2.94 ppb) were again identified in the 1/12/05 sample. A "Private Well Disinfection and Water Sampling" guide prepared by the TCEQ is attached for your information, as well as the results from the laboratory analysis.

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 your well listed above.

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
Ms. Kimberly Riley, Parsons

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 041229AN-82653
 Lab Name: APPL, Inc Contract #: F41624-03-D-8613, TO 08
 Field Sample ID: RFR-13 Lab Sample ID: AX10099 Matrix: Water
 % Solids: NA Initial Calibration ID: N041228
 Date Received: 17-Dec-04 Date Prepared: 29-Dec-04 Date Analyzed: 29-Dec-04
 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	5.02	1		
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	54.09	1		
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	1.55	1		
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	2.0	0.51	1		U
Naphthalene	0.07	0.4	0.07	1		U
TCE	0.05	1.0	0.05	1		U
Tetrachloroethene	0.06	1.4	0.06	1		R
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)	92.6	69-139	
4-Bromofluorobenzene(S)	97.9	75-125	
Dibromofluoromethane(S)	97.4	75-125	
Toluene-D8(S)	72.0	75-125	*

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

Comments: ARF: 46202

This sample was reanalyzed on 03 Jan 2005. Toluene-D8(S) was recovered below the lower control limit again. Possible matrix effect might be the reason for this non-compliance 2R.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 050118AH-83125
 Lab Name: APPL, Inc Contract #: F41624-03-D-8613, TO 08
 Field Sample ID: RFR-13 Lab Sample ID: AX10728 Matrix: Water
 % Solids: NA Initial Calibration ID: H050117
 Date Received: 12-Jan-05 Date Prepared: 18-Jan-05 Date Analyzed: 18-Jan-05
 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	8.74	1		
Bromoform	0.13	1.2	0.13	1		U
Chloroform	0.06	0.3	64.52	1		
Cis-1,2-DCE	0.07	1.2	0.07	1		U
Dibromochloromethane	0.06	0.5	2.94	1		
Dichlorodifluoromethane	0.11	1.0	0.11	1		U
Methylene chloride	0.51	2.0	0.51	1		U
Naphthalene	0.07	0.4	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)	91.7	69-139	
4-Bromofluorobenzene(S)	96.7	75-125	
Dibromofluoromethane(S)	91.9	75-125	
Toluene-D8(S)	99.6	75-125	

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

Comments: ARF: 46319

PRIVATE WELL DISINFECTION & WATER SAMPLING

GI-005 (revised 6/01)

You do not want the water you drink, cook with, and wash dishes in to be contaminated with microorganisms that cause disease. Unsafe water can spread a number of diseases known as "waterborne" infections—typhoid, cholera and dysentery, to name a few. All of these illnesses are caused by microorganisms in the intestines of infected people and animals, who may not always appear to be sick. Water supplies can be contaminated when the feces (bodily wastes) from infected individuals are not properly disposed of, and instead seep into underground water or run off into surface water supplies.

Unfortunately, disease-producing microorganisms are difficult to detect in water samples—fortunately, coliform bacteria are not hard to detect.

"Coliforms" are a group of microorganisms that do not cause disease, but which are found in the lower intestinal tract of human beings and other warm-blooded animals. Millions of coliforms are expelled each time a person or animal defecates. So when coliform organisms are found in a water sample, they indicate that feces may have contaminated the water and that immediate action should be taken to stop the contamination. When well water shows coliforms, disinfection procedures should be followed. If a doctor suggests that gastric cramps or chronic diarrhea may have been caused by contaminated water, well disinfection should be performed immediately and water samples should be submitted for analysis. In addition, recently constructed or recently repaired wells must be disinfected to prevent bacterial growth in the well and in the plumbing system. Well disinfection procedures are described in this pamphlet on page 2.

For some water sources, continuous disinfection equipment should be installed:

- any water source with repeated samples showing coliforms,
- shallow wells,
- hand-dug wells,
- cisterns, or
- surface water sources.

Information about continuous disinfection equipment may be obtained from local well drillers and plumbing suppliers.

To have your well water analyzed for coliform organisms, follow these steps.

Taking Water Samples

1 You must use a sample container provided by an approved laboratory (see list of laboratories on page 2).

2 You should find a proper location to take a sample, preferably an outside faucet that does not leak (avoid rubber hoses, fire hydrants, dirty areas and areas behind bushes).

- Do not take samples from kitchen or bathroom sinks.
- Avoid sampling on extremely windy days or when it is raining.
- Open the sample-area faucet to full flow for three minutes to clear the line.
- Then, reduce the flow to a slow, steady, sprayless stream.

3 Exercise care in handling samples! Samples are extremely easy to contaminate.

- Do not touch the inside of the container and do not rinse it.
- Fill the container without splashing, then seal it.

4 Complete a bacteriological submission form, which may be obtained along with a test container from a laboratory (see the list on page 2). Using the instructions below, private well owners will complete only the following items:

- For the "Name of Water System" item, write "private."
- Fill in the county name and your name and mailing address in the area designated as "Send Results To."
- Provide the date and time.
- For the "Type of System" item, indicate "individual."
- Then, complete as much information as possible under the "Water Source" item.

Delivering the Sample

5 Samples should be prepared properly for shipment. Leaking samples cannot be accepted for analysis.

- A sample must arrive at a laboratory **within 30 hours from the time the sample was collected.**
- Samples may be mailed or delivered. Public health laboratories in Texas are listed on page 2.

6 Results will be forwarded to you after completion of the tests. The most important part of the results will be the indication of "coliform organisms found" or "coliform organisms not found."

- A "not found" report indicates coliform organisms are absent, and means the water is considered bacteriologically safe to drink at the time of sampling.
- A positive or "coliform found" report indicates that coliform organisms are present and the water may be unsafe. If

repeated bacteriological testing reveals the possibility of contamination via a "coliform found" result, then well disinfection is recommended.

- If the laboratory finds fecal coliform or E. coli (Escherichia coli) bacteria present, do not touch the water and do not use it for drinking, bathing, cooking, preparing food, making ice or cleaning. Either boil the water or find water from another source. If you choose to boil, bring the water to the boiling point and let it boil for two minutes. Boiling will be essential until you disinfect the well and obtain a "not found" report from the laboratory indicating that E.coli or fecal coliform are no longer present.
- When a laboratory analysis report indicates "unsuitable for analysis," it means the laboratory was unable to conduct a valid test to draw a conclusion. In this case, the well owner should consider well disinfection before resubmitting a sample.

Well Disinfection

7 When a laboratory analysis report shows the presence of coliform organisms, use the following procedure for well disinfection:

First - Locate the wellhead and remove an access plug or bolt so that the area within the well casing is exposed. (See diagram on back page.)

Second - Using a funnel, pour in an appropriate amount of liquid chlorine bleach (Clorox, Purex, etc.). See chlorine bleach dosage below.

Chlorine Bleach Dosage Table for Well Disinfection:

Well Depth	Amount of Bleach
Less than 100 ft.	1 quart
100 to 200 ft.	1/2 gallon
200 to 300 ft.	3 quarts
300 and greater	1 gallon or more

These dosages are approximate. Greater amounts are recommended for excessively cloudy water or for hand-dug wells.

Third - Using the nearest faucet and a garden hose, allow water to run through the funnel into the well for one hour. This will circulate the chlorinated well water and improve the germ-killing action by allowing all fittings and equipment in the well to be exposed to the chlorine solution.

Fourth - After the well water has circulated for an hour, the garden hose and funnel may be removed and the access plug replaced. The disinfection process should be extended throughout the entire plumbing system.

Fifth - To disinfect the remainder of the plumbing system, turn on the next available faucet and allow it to run until the bleach odor can be detected, then turn it off. Repeat this step throughout the plumbing system at each faucet. Then, allow the chlorinated water to remain in the plumbing system overnight, or for 24 hours if possible. During this time, the water should not be used for drinking or cooking.

Sixth - After disinfecting the well and plumbing system, flush all faucets until the bleach odor disappears and the water is clear of any debris or color. Flush outside faucets first—you do not want to flood the septic system.

Seventh - Submit another bacteriological sample to determine if the disinfection process was successful.

Keep in mind that a single disinfection may not be sufficient because certain well systems, particularly shallow wells, hand-dug wells, wells in fissured areas, and old wells are more vulnerable to contamination. Water from these types of systems should be checked by periodically submitting samples for bacteriological analysis.

8 Retrace the proper steps for sampling, carefully following guidelines. Most reasons for an unsuitable sample can be avoided.

Public Health Laboratories

Sample containers may be obtained and returned for analysis from the public health laboratories listed here. Contact the respective laboratory for hours of operation and cost information.

Abilene-Taylor County Public Health District

2241 South 19th
Abilene, Texas 79605
915/692-5600

City of Amarillo Department of Health

P.O. Box 1971
4001 S. Osage Street
Amarillo, Texas 79186
806/342-1549

Angelina Neches River Authority

210 Lufkin Ave.
P.O. Box 387
Lufkin, TX 75902-0387
409/632-7795

Brazoria County Health Department

434 E. Mulberry
Angleton, Texas 77515
409/864-1484

Brazos County Health Department

201 N. Texas Avenue
Bryan, Texas 77803-5317
409/361-4440

Corpus Christi-Nueces County Public Health District

P.O. Box 9727
1702 Home Road
Corpus Christi, Texas 78469
361/851-7214

El Paso County Health District

222 South Campbell
El Paso, Texas 79901
915/543-3536

Galveston County Health District

P.O. 939, 1207 Oak Street
LaMarque, Texas 77568
409/938-7221 Ext. 449

**Greenville-Hunt County
Health Department**
Courthouse, Room 402
2500 Lee Street
Greenville, Texas 75401
903/408-4140

Houston Health and Human Services
1115 S. Braeswood
Houston, Texas 77030
713/558-3400

Laredo City Health Department
P.O. Box 2337
2600 Cedar Street
Laredo, Texas 78041
956/723-2051 Ext.259

Lower Colorado River Authority
3600 Lake Austin Blvd.
P.O. Box 220
Austin, Texas 78767
512/473-3322

Lubbock City Health Department
P.O. Box 2548
1902 Texas Avenue
Lubbock, Texas 79405
806/775-2908

Midland Health Department
3303 W. Illinois
Space 22
Midland, Texas 79703
915/681-7613

Nova Biologicals, Inc.
1775 E. Loop 336
Suites 4 & 5
Conroe, Texas 77303
936/756-5333

Paris-Lamar County Health Department
P.O. Box 938
740 South West 6th Street
Paris, Texas 75460
903/785-4561

Port Arthur City Health Department
P.O. Box A
431 Beaumont Avenue
Port Arthur, Texas 77641
409/983-8830

**City of San Angelo
Water Treatment Plant Laboratory**
1324 Metcalfe St.
San Angelo, Texas 76903
915/481-2722

**San Antonio Metropolitan
Health District**
332 West Commerce
San Antonio, Texas 78205
210/207-8820

Smith County Public Health Department
P.O. Box 209
815 N. Broadway 75710
Tyler, Texas 75710-0209
903/535-0090

South Texas Hospital
1301 Rangerville Rd.
P.O. Box 592
Harlingen, TX 78551
956/423-3420

Sweetwater-Nolan County Health Department
P.O. Box 458
301 E. 12th Street
Sweetwater, Texas 79556
915/235-5463

Tarrant County Public Health Department
1800 University Drive
Fort Worth, Texas 76107
817/871-7249

Texarkana Water Utilities Lab
2700 New Boston Rd.
P.O. Box 2008
Texarkana, TX 75501
903/798-3800

Texas Department of Health
1100 West 49th Street
Austin, Texas 78756
512/458-7591

Trinity River Authority Lake Livingston Project
FM 1988
P.O. Box 360
Livingston, TX 77351
936/365-2292

Trinity River Authority Northern Division
6500 W. Singleton Blvd.
P.O. Box 531196
Grand Prairie, TX 75212
972/263-2251

Victoria County Health Department
107 W. River Street
P.O. Box 2350
Victoria, Texas 77902
361/578-6281 Ext. 41

Waco-McLennan County Health District
225 West Waco Drive
Waco, Texas 76707
254/750-5471

**Wichita Falls-Wichita County
Health Department**
1700 Third Street
Wichita Falls, Texas 76301
940/761-7873

For additional assistance, contact the
Texas Natural Resource Conservation Commis-
sion regional office in your area:

Region 1 - Amarillo
3918 Canyon Drive
Amarillo, Texas 79109-4933
806/353-9251

Region 2 - Lubbock
4630 50th Street, Suite 600
Lubbock, Texas 79414-3520
806/796-7092

Region 3 - Abilene
1977 Industrial Blvd.
Abilene, Texas 79602-7833
915/698-9674

Region 4 - Arlington
1101 East Arkansas Lane
Arlington, Texas 76010-6499
817/588-5800

Region 5 - Tyler
2916 Teague Drive
Tyler, Texas 75701-3756
903/535-5100

Region 6 - El Paso
401 East Franklin Ave., Suite 560
El Paso, Texas 79901-1206
915/834-4949

Region 7 - Midland
3300 North A St., Bldg. 4, Suite 107
Midland, TX 79705-5404
915/570-1359

continued

Region 8 - San Angelo
622 South Oakes, Suite K
San Angelo, Texas 76903-7013
915/655-9479

Region 9 - Waco
6801 Sanger Ave., Suite 2500
Waco, Texas 76710-7826
254/751-0335

Region 10 - Beaumont
3870 Eastex Fwy, Suite 110
Beaumont, Texas 77703-1892
409/898-3838

Region 11 - Austin
1921 Cedar Bend Dr., Suite 150
Austin, Texas 78758-5336
512/339-2929

Region 12 - Houston
5425 Polk Avenue, Suite H
Houston, Texas 77023-1486
713/767-3500

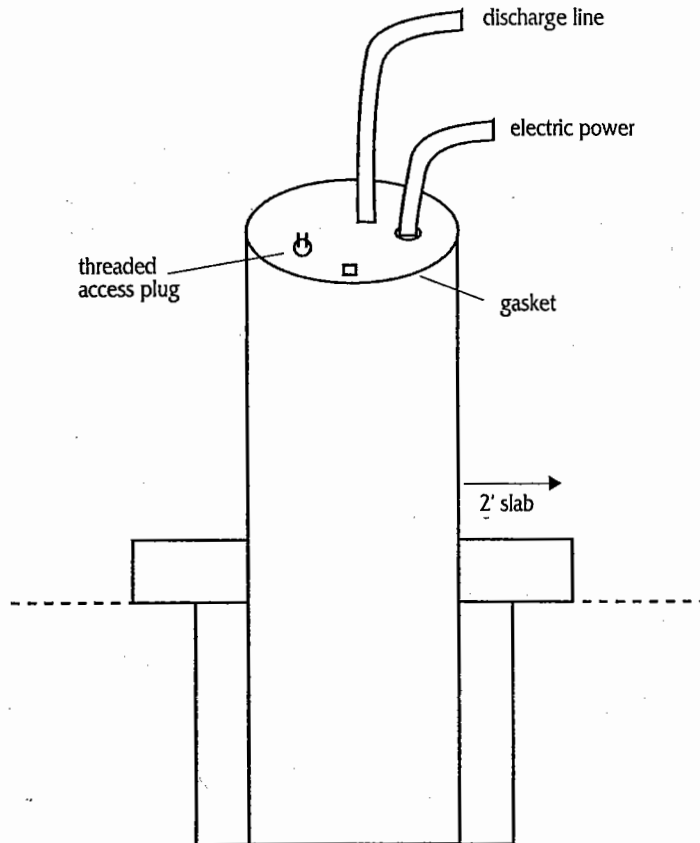
Region 13 - San Antonio
1425 Judson Road
San Antonio, Texas 78233-4480
210/490-3096

Region 14 - Corpus Christi
6300 Ocean Drive, Suite 1200
Corpus Christi, Texas 78412-5503
361/825-3100

Region 15 - Harlingen
1804 West Jefferson Avenue
Harlingen, Texas 78550-5247
956/425-6010

Region 16 - Laredo
1403 Seymour, Suite 2
Laredo, Texas 78040-8752
956/791-6611

Submersible Pump



Texas Natural Resource Conservation Commission

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