

STEP 4 DEFINE THE BOUNDARIES OF THE STUDY

The study boundary is not limited to the confines of the installation. The outer limit of the study boundary is based on detections of VOCs in on- and off-post drinking water wells. Plume 1 and Plume 2 are currently used to define the area(s) impacted by past military activities. Our present study boundary is based on past monitoring activities and will be expanded as necessary to determine the lateral and vertical extent of contamination. Plume boundaries for the Lower Glen Rose (LGR), Bexar Shale (BS), and Cow Creek (CC) for the COCs PCE, TCE and *cis*-1,2-dichloroethene are shown on **Figures 4** through **10**, as of September 2005.

The areas of interest in the groundwater monitoring program are the Upper Glen Rose formation (Upper Trinity aquifer) and the three formations in the Middle Trinity aquifer (LGR, BS, and CC) via well data for VOC and metal concentrations. At a minimum the following factors will be evaluated:

- Wet and dry seasonal variations;
- Rainfall impacts on plume or potential plume migration and groundwater recharge;
- Remediation alternatives;
- Fault and fracture location and size, and orientation that promote or retard plume migration; and
- CSSA will continue to monitor wells for the foreseeable future to make technically sound judgments to sample additional wells or exclude them from our sampling set.

Data collected will be reviewed. Quarterly reports will be prepared to summarize the findings of each monitoring event and an annual report will be created to discuss trends analyses and factors impacting the data. These analyses will address groundwater elevations, contaminant concentrations, data gaps, and other pertinent information.

Constraints to the groundwater project include, but are not limited to:

- Frequency of water level measurements.
- Securing access agreements with off-post well owners.
- Frequency of rainfall events.

4.1 Project Schedule

The quarterly monitoring timeline shall provide a road map for sampling, analysis, validation, verification, reviews, and reports for monitoring events both on- and off-post. A timeline is given in **Figure 11** for preparation of quarterly reports and planning of sampling events. Explanations for schedules associated with sampling events are given below.

4.1.1 Drinking Water Reports

Drinking water analytical data are to be provided by the laboratory to the prime contractor within 21 calendar days of the last sampling day.

Unvalidated off-post drinking water analytical data generated by each approved laboratory will be provided in 21 calendar days and distributed to CSSA immediately thereafter. The laboratory will provide the finalized analytical data in 30 calendar days.

To the maximum extent practicable, data validation reports, draft quarterly on- and off-post groundwater monitoring reports, and letters to off-post well owners will be provided to CSSA and the AFCEE, where applicable, 60 days from the sample date.

Off-post analytical groundwater data – (for up to 30 samples collected), data packages will be validated and submitted to AFCEE for their approval simultaneously with the Draft Quarterly Groundwater Monitoring Report, 60 days from the sample date. If more than 30 samples are collected, Parsons will contact CSSA and discuss acceptable turn-around times for data validation.

On-post analytical groundwater data – (for up to 40 samples collected), data packages will be validated and submitted to AFCEE for approval simultaneously with the Draft Quarterly Groundwater Monitoring Report, 60 days from the sample date. If more than 40 samples are collected, Parsons will contact CSSA and discuss acceptable turn-around times.

CSSA, AFCEE, and third party chemists will provide comments to the draft report and letters within 10 days.

Quarterly Groundwater Monitoring Reports and well owner notification letters will be finalized after CSSA and AFCEE approval within 80 days of sampling date.

Note: These time frames allow for adequate planning for the next quarterly sampling event, which will take place within 90 days from previous sampling date.

4.1.2 Monitoring Well Reports

Monitoring well analytical data are to be provided by the laboratory to the prime contractor within 21 days of the sampling event.

Data validation report, draft quarterly on-post groundwater monitoring report will be provided to CSSA and AFCEE, where applicable, 60 days from the sample date.

CSSA, AFCEE, and third party chemists will provide comments to the draft report within 10 days.

The On-post Quarterly Groundwater Monitoring Well Report will be finalized within 80 days of sampling date.

Note: These time frames allow for adequate planning for the next quarterly sampling event, which will take place within 90 days from previous sampling date.

4.1.3 Screening Level Reports (Discrete interval, soil/rock, and IDW samples)

Preliminary results for discrete interval analytical data collected during well installations are to be provided by the laboratory to the prime contractor within 24 hours of receipt of the samples by the laboratory.

Prime contractor will review and provide approved preliminary discrete interval data to CSSA within two days of the receipt of the preliminary data from the laboratory.

Investigation derived waste (IDW) analytical data are to be provided by the laboratory to the prime contractor within 24 hours, three days, or seven days of receipt of the samples by the laboratory, depending on the purpose of sampling. IDW will be sampled in accordance with the provisions of the *Draft RFI and Interim Measures Waste Management Plan* (Parsons, currently draft).

The prime contractor will review and provide approved IDW data to CSSA within 14 days of the receipt of the data package from the laboratory.

Off-post GAC preliminary data are to be provided to the prime contractor within seven days of receipt of the samples by the laboratory.

Prime contractor will review and provide approved GAC screening sample data to CSSA within 14 days of the receipt of the data package from the laboratory.

4.1.4 Westbay® Multi-Level Sampling Device Reports

Discrete interval analytical screening data are to be provided by the laboratory to the prime contractor within 21 days of receipt of the samples by the laboratory.

Prime contractor will review and provide approved discrete interval data to CSSA within 30 days of receipt of the preliminary data from the laboratory. The evaluation of screening data will include a check on sample integrity, method blank, and LCS.

Pressure/transducer data shall be collected from the Westbay® device and provided to CSSA within 15 days of the sampling event.