

**TO19 DATA VERIFICATION SUMMARY REPORT**  
**for samples collected from**  
**CAMP STANLEY STORAGE ACTIVITY**  
**BOERNE, TEXAS**

Data Verification by: Katherine LaPierre and Tammy Chang  
Parsons - Austin

**INTRODUCTION**

The following data verification summary report covers soil and rock samples and the associated field quality control (QC) samples collected from Camp Stanley Storage Activity (CSSA) under Task Order 0019 on January 6, 2004. The samples in the following Sample Delivery Group (SDG) were analyzed for total semivolatile organic compounds (SVOCs) and copper:

43484

All samples were soil in matrix except for B23A-BOT01 and B23A-SW02 which consisted of rock.

The field QC samples collected in this SDG included one field duplicate (FD) sample and one set of matrix spike/matrix spike duplicate (MS/MSD) samples. No ambient blanks were collected. During the initiation of this project, it was determined that ambient blanks were not necessary due to the absence of a source at these sites.

All samples were collected by Parsons and analyzed by APPL Inc. following the procedures outlined in the Statement of Work and CSSA QAPP, version 1.0. There were two coolers associated with this SDG. Both coolers were received by the laboratory at a temperature of 3<sup>0</sup>C which is within the 2-6<sup>0</sup>C range recommended by the QAPP.

**EVALUATION CRITERIA**

The data submitted by the laboratory has been reviewed and verified following the guidelines outlined in the CSSA QAPP, version 1.0. Information reviewed in the data packages included sample results; MS/MSD results; laboratory quality control results; method blanks; calibrations; case narrative; raw data; and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the CSSA QAPP, version 1.0, were met.

**SVOC**

**General**

The SVOC portion of this SDG consisted of five (5) environmental soil and rock samples. The samples were collected on January 6, 2004 and were analyzed for SVOCs using United States Environmental Protection Agency (USEPA) SW846 Method 8270C.

All samples in this SDG were analyzed following the procedures outlined in the CSSA QAPP. All samples were prepared and analyzed within the holding time required by the method.

### Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control spike (LCS) sample, MS/MSD samples, and the surrogate spikes. Sample B23A-SW03 (a soil sample) was designated for MS/MSD analysis on the COC.

All LCS recoveries were within acceptance criteria.

All MS/MSD recoveries were within acceptance criteria, except for the following:

Analyte	MS %R	MSD %R	Criteria
2,4-Dinitrophenol	22.8	(25.1)	25-161%
3,3'-Dichlorobenzidine	19.2	18.6	25-175%
Benzoic acid	16.2	18.6	25-172%

( ) indicates the recovery met criteria.

The results for these analytes were flagged "M" in all soil samples due to the low bias demonstrated by the MS/MSD. No flags were applied to the rock samples since these samples were of a different matrix.

All surrogate spike recoveries were within acceptance criteria.

### Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the MS/MSD and field duplicate samples. Sample B23A-SW04 was collected in duplicate. The second sample was submitted and analyzed as a field duplicate.

All MS/MSD RPDs were within acceptance criteria.

No analytes were detected above the RL in either the parent or field duplicate, so the RPD calculation was not applicable.

### Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the CSSA QAPP;
- Comparing actual analytical procedures to those described in the CSSA QAPP;
- Evaluating holding times; and
- Examining laboratory blank for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the CSSA QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All instrument check criteria were met.
- All initial calibration criteria were met.

- All second source verification criteria were met.
- All calibration verification criteria were met.
- All internal standard criteria were met.

There was one method blank associated with the SVOC analyses in this SDG. The method blank was free of any target SVOCs at or above the RL.

### **Completeness**

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All SVOC results for the samples in this SDG were considered usable. The completeness of the SVOC portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.

### **Copper**

#### **General**

The copper portion of this SDG consisted of five (5) environmental soil and rock samples. The samples were collected on January 6, 2004 and were analyzed for copper using USEPA SW846 Method 6010B.

The samples in this SDG were analyzed following the procedures outlined in the CSSA QAPP. The samples were prepared and analyzed within the holding time required by the method.

#### **Accuracy**

Accuracy was evaluated using the %R obtained from the LCS/LCSD samples and MS/MSD samples. Sample B23A-SW03 was designated for MS/MSD analysis on the COC.

All LCS/LCSD and MS/MSD recoveries were within acceptance criteria.

#### **Precision**

Precision was evaluated using the RPD obtained from the LCS/LCSD, MS/MSD and field duplicate samples. Sample B23A-SW04 was collected in duplicate. The second sample was submitted and analyzed as a field duplicate

The LCS/LCSD and MS/MSD RPDs were both within acceptance criteria.

The field duplicate RPD failed to meet criteria, as follows:

<b>Metal</b>	<b>Parent Conc. (mg/kg)</b>	<b>FD Conc. (mg/kg)</b>	<b>RPD</b>	<b>Criteria</b>
Copper	7.16	9.25	25.5	RPD ≤ 20

All copper results were flagged “J” as estimated due to the high field duplicate RPD.

## **Representativeness**

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the CSSA QAPP;
- Comparing actual analytical procedures to those described in the CSSA QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the CSSA QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All initial and continuing calibration verification criteria were met.
- All second source calibration criteria were met. The ICV was prepared using a secondary source.
- All interference check criteria were met.
- The dilution test was analyzed on the field duplicate of sample B23A-SW04. The percent difference (%D) failed to meet criteria at 26.4%. All sample results were previously flagged “J” due to the non-compliant field duplicate RPD, so no additional corrective action was necessary.
- The laboratory also performed a post digestion spike (PDS) on the field duplicate of sample B23A-SW04. The recovery for the PDS met criteria at 103%.

One method blank and several calibration blanks were analyzed in association with the copper analyses in this SDG. All blanks were free of copper at or above the RL.

It should be noted that copper was recovered slightly low in the Reporting Limit Check Standard at 65% (acceptance criteria is 70-130%). However, all copper results were already flagged as estimated due to the high field duplicate RPD, so no additional corrective action was necessary.

## **Completeness**

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All copper results for the samples in this SDG were considered usable. The completeness for the ICP metals portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.