

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 collected from Camp Stanley Storage Activity (CSSA) under Task Order 0019 on January 13, 2004. The samples in the following Sample Delivery Group (SDG) were analyzed for metals:

43515

The field quality control (QC) samples collected in association with this SDG included two matrix spike/matrix spike duplicate (MS/MSD) pair and four field duplicates (FD). 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. The cooler associated with this SDG was received by the laboratory at a temperature of 3.0⁰ C which is within the 2-6⁰ C range recommended by the QAPP.

The samples in this SDG consisted of two matrices, rock and soil, as follows:

ROCK	SOIL
B30-BOT1	AOC50-BOT01 (+FD)
B30-BOT02	AOC50-BOT02
B30-SW01 (+ FD)	AOC50-BOT03
B30-SW02 (+ MS/MSD)	AOC50-SW01
B30-SW03 (+ FD)	AOC50-SW02
B30-SW04	AOC50-SW03
	AOC50-SW04 (+MS/MSD)
	AOC50-SW05 (+FD)
	AOC50-SW06

The samples were divided into these two matrix groups for the purposes of flagging.

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; laboratory quality control results; MS/MSD samples; field duplicate 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.

ICP METALS

General

The ICP metals portion of this SDG consisted of twenty-three (23) samples, including fifteen environmental soil and rock samples, two MS/MSD pairs and four field duplicates. The samples were collected on January 13, 2004 and were analyzed for a reduced list of ICP metals. The COC indicated that the samples collected from AOC50 required analysis for chromium, copper and zinc only, and samples from B30 required analysis for copper, nickel and zinc only.

The ICP metals analyses were performed using United States Environmental Protection Agency (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.

Sample AOC50-SW06 required a 5x dilution for zinc only due to the high concentration present.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control spike (LCS) and LCS duplicate (LCSD) samples and the MS/MSD samples. Rock sample B30-SW02 and soil sample AOC50-SW04 were designated for MS/MSD analysis on the COC.

There were two LCS/LCSD pair analyzed in this SDG, one LCS/LCSD pair for each analytical batch. All LCS/LCSD recoveries were within acceptance criteria.

All recoveries were within acceptance criteria for the MS/MSD analyzed on soil sample AOC50-SW04. All recoveries for the MS/MSD analyzed on rock sample B30-SW02 failed to meet criteria as follows:

Parent	Metal	MS %R	MSD %R	Criteria
B30-SW02	Copper	72.2	73.2	75-125%
	Nickel	65.0	65.2	
	Zinc	64.9	63.8	

All rock sample results for copper, nickel and zinc were flagged “M” due to the non-compliant MS/MSD recoveries.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD samples, the MS/MSD samples, and the field duplicate samples. The following samples were collected in duplicate: AOC50-BOT01, AOC50-SW05, B30-SW01, and B30-SW03.

The second sample collected from each location was submitted and analyzed as a field duplicate.

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

The field duplicate RPDs were as follows:

Parent	Metal	FD RPD	Criteria
AOC50-BOT01	Chromium	6.19	RPD ≤ 20
	Copper	49.8	
	Zinc	13.0	
AOC50-SW05	Chromium	3.29	RPD ≤ 20
	Copper	1.81	
	Zinc	8.01	
B30-SW01	Copper	4.19	RPD ≤ 20
	Nickel	9.93	
	Zinc	12.8	
B30-SW03	Copper	16.5	RPD ≤ 20
	Nickel	2.36	
	Zinc	28.4	

All field duplicate RPDs met criteria, with the exception of copper in the FD pair analyzed on sample AOC50-BOT01 and zinc in the FD pair analyzed on sample B30-SW03. All samples in this SDG were collected on the same day (January 13, 2004), so the results for copper and zinc were flagged “J” if detected in all soil samples. No corrective action was necessary for the rock samples because the copper and zinc results were previously flagged “M” due to the failing MS/MSD recoveries. (The “M” flag supercedes the “J” flag in the CSSA QAPP flag hierarchy.)

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. There were two ICALs associated with this SDG.
- All initial and continuing calibration verification criteria were met.
- All second source calibration criteria were met. The ICV samples were prepared using a secondary source.

- All interference check criteria were met.
- A dilution test (DT) was analyzed on rock sample B30-SW02 and on soil sample AOC50-SW04. For the DT analyzed on rock sample B30-SW02, all three metals failed as follows:

Metal	%D	Criteria
Copper	82.8	%D ≤ 10
Nickel	28.3	
Zinc	36.8	

These metals also failed criteria in the rock MS/MSD, so all associated sample results were already flagged “M” and no corrective action was necessary. (The “M” flag supercedes the “J” flag in the CSSA QAPP flag hierarchy.)

For the DT analyzed on soil sample AOC50-SW04, chromium and copper met criteria, but zinc failed as follows:

Metal	%D	Criteria
Chromium	9.3	%D ≤ 10
Copper	7.8	
Zinc	13.6	

Zinc met criteria in the soil MS/MSD, so all soil sample results for zinc were flagged “J” if detected in accordance with the CSSA QAPP.

- The laboratory also analyzed a post digestion spike (PDS) on rock sample B30-SW02 and on soil sample AOC50-SW04. All recoveries met criteria for the PDS analyzed on soil sample AOC50-SW04. For the PDS analyzed on rock sample B30-SW02, copper met criteria, but nickel and zinc failed as follows:

Metal	%R	Criteria
Copper	80.3	75-125%
Nickel	72.0	
Zinc	69.3	

These metals also failed criteria in the rock MS/MSD, so all associated sample results were already flagged “M” and no corrective action was necessary. (The “M” flag supercedes the “J” flag in the CSSA QAPP flag hierarchy.)

Two method blanks and several calibration blanks were analyzed in association with the ICP analyses in this SDG. All blanks were free of target metals 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 ICP metals 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%.

CADMIUM

General

The cadmium portion of this SDG consisted of thirteen (13) samples, including nine environmental soil and rock samples, one MS/MSD pair and two field duplicates. The samples were collected on January 13, 2004 and were analyzed for cadmium using USEPA SW846 Method 7131A. Only the samples collected from AOC50 required analysis for cadmium.

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.

It should be noted that all of the samples were analyzed at a dilution due to the high levels of cadmium present. The samples in this SDG were analyzed in three batches on a single instrument.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS/LCSD samples and the MS/MSD samples. Soil sample AOC50-SW04 was designated for MS/MSD analysis on the COC.

There were two LCS/LCSD pair analyzed for this SDG. All LCS/LCSD recoveries were within acceptance criteria.

The MS failed to meet criteria, but the MSD passed as follows:

Parent	Metal	MS %R	MSD %R	Criteria
AOC50-SW04	Cadmium	126.7	(93.3)	80-122%

() indicates the recovery met criteria.

The parent sample for this MS/MSD was soil in matrix, so the cadmium results for all soil samples were flagged "M".

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD samples, the MS/MSD samples, and the field duplicate analyte results. Samples AOC50-BOT01 and AOC50-SW05 were collected in duplicate. The second sample from each of these locations was submitted and analyzed as a field duplicate.

All LCS/LCSD and MS/MDS RPD were within acceptance criteria.

The field duplicate RPDs met acceptance criteria as follows:

Parent	Metal	FD RPD	Criteria
AOC50-BOT01	Cadmium	8.7	RPD \leq 25
AOC50-SW05	Cadmium	10.3	RPD \leq 25

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. There were three ICALs associated with this SDG.
- All initial and continuing calibration verification criteria were met.
- All second source calibration criteria were met. The ICV samples were prepared using a secondary source.
- The dilution test was analyzed on soil samples AOC50-SW04 and AOC50-SW06. For the DT analyzed on sample AOC50-SW04, cadmium met criteria with a %D of 6.6. For the DT analyzed on sample AOC50-SW06, cadmium failed criteria as follows:

Metal	%D	Criteria
Cadmium	18.4	%D ≤ 10

No corrective action was necessary because all soil sample results for cadmium were previously flagged “M” due to the failing MS/MSD recoveries.

- The laboratory also analyzed a PDS on soil samples AOC50-SW04 and AOC50-SW06. Cadmium failed criteria in both PDS samples as follows:

Parent	Metal	%R	Criteria
AOC50-SW04	Cadmium	136	85-115%
AOC50-SW06	Cadmium	20.2	85-115%

No corrective action was necessary because all soil sample results for cadmium were previously flagged “M” due to the failing MS/MSD recoveries.

Two method blanks and several calibration blanks were analyzed in association with the cadmium analyses in this SDG. All blanks were free of cadmium 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 cadmium results for the samples in this SDG were considered usable. The completeness for the cadmium portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.

LEAD

General

The lead portion of this SDG consisted of twenty-three (23) samples, including fifteen environmental soil and rock samples, two MS/MSD pair and four field duplicates. The samples were collected on January 13, 2004 and were analyzed for lead using USEPA SW846 Method 7421.

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. The lead analyses were performed in two batches analyzed on a single instrument.

It should be all samples required a dilution due to the high level of lead present.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS/LCSD samples and MS/MSD samples. Rock sample AOC50-SW04 and soil sample B30-SW02 were designated for MS/MSD analysis on the COC.

There were two LCS/LCSD pair analyzed, one for each batch. All LCS/LCSD recoveries were within acceptance criteria.

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

Parent	Metal	MS %R	MSD %R	Criteria
AOC50-SW04	Lead	(112.4)	374.8	74-124%
B30-SW02	Lead	-192.4	-46.4	74-124%

() indicates the recovery met criteria.

The anomalous recoveries in the MS/MSD samples were due to the parent sample concentration being significantly higher than (greater than ten times) the spike amount. The lead results for all samples were flagged "M" due to the non-compliant MS/MSD results.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD samples, the MS/MSD samples, and the field duplicate analyte concentrations. Samples AOC50-BOT1, AOC50-SW05, B30-SW01 and B30-SW03 were collected in duplicate. The second sample from this location was submitted and analyzed as a field duplicate.

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

All field duplicate RPDs met criteria as follows:

Parent / FD	RPD	Criteria
AOC50-BOT01 / DUP	10.9	RPD ≤ 25
AOC50-SW05 / DUP	22.6	
B30-SW01 / DUP	6.9	
B30-SW03 / DUP	18.4	

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.
- The dilution test was performed on soil sample AOC-SW04 and rock sample B30-SW02. The DT analyzed on soil sample AOC50-SW04 met criteria with a %D of 3.6. The DT analyzed on rock sample B30-SW02 failed to meet criteria as follows:

Metal	%D	Criteria
Lead	20.2	%D ≤ 10

Lead also failed criteria in the rock MS/MSD. All sample results were previously flagged “M” so no corrective action was necessary since the “M” flag supercedes the “J” flag in the CSSA QAPP flag hierarchy.

- The laboratory analyzed a PDS on soil sample AOC50-SW04 and rock sample B30-SW02. Lead met criteria in the soil PDS with a recovery of 93.5% and met criteria in the rock PDS with a recovery of 101%.

Two method blanks and several calibration blanks were analyzed in association with the lead analyses in this SDG. All blanks were free of lead 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 lead results for the samples in this SDG were considered usable. The completeness for the lead portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.

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 collected from Camp Stanley Storage Activity (CSSA) under Task Order 0019 on May 21, 2004. The samples in the following Sample Delivery Group (SDG) were analyzed for volatile organic compounds (VOCs) and metals:

44537

The only field quality control (QC) samples collected in association with this SDG was one trip blank (TB). 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. The trip blank was analyzed for volatiles only.

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. The cooler associated with this SDG was received by the laboratory at a temperature of 3.0° C which is within the 2-6° C range recommended by the QAPP.

The samples in this SDG consisted of two matrices, rock and soil, as follows:

ROCK	SOIL
B23-BOT02	B30-SW05
B23-SW05	B30-SW08
B23-SW06	
B23-SW07	
B30-SW06	
B30-SW07	

The samples were divided into these two matrix groups for the purposes of flagging.

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; field and laboratory quality control results; calibrations; case narratives; raw data; chain-of-custody (COC) forms and cooler receipt checklists. 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.

VOLATILES

General

The VOC portion of this SDG consisted of five (5) samples, including four environmental soil and rock samples and one trip blank. The samples were collected on May 21, 2004 and were analyzed for a reduced list of VOCs, which included benzene, toluene, ethylbenzene, m/p-xylenes, o-xylene and dichlorodifluoromethane only. The VOC analyses were performed in accordance with United States Environmental Protection Agency (USEPA) SW846 Method 8260B.

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) and LCS duplicate (LCSD) samples and the surrogate spikes. No sample was designated for MS/MSD analysis on the COC.

The samples were analyzed in two batches, one for soil and rock and one for the water trip blank. The soil batch contained an LCS only. The water batch contained both an LCS and an LCSD. All LCS, LCSD and surrogate spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the relative percent difference (RPD) obtained from the LCS/LCSD analyte results. Precision could only be evaluated for the water batch since the soil batch did not contain any duplicate analyses.

All LCS/LCSD RPDs for the water batch were within acceptance criteria.

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 instrument tune criteria were met.
- Two initial calibrations were analyzed for this SDG, one for soils and one for waters. All initial calibration criteria were met for both.
- All second source verification criteria were met. The LCS and LCSD were prepared using a secondary source.

- No continuing calibration verification samples were required for the water batch because the trip blank was analyzed immediately following the initial calibration. All continuing calibration verification criteria were met for the soil batch.
- All internal standard criteria were met.

Two method blanks (one soil and one water) and one trip blank were analyzed in association with the VOC analyses in this SDG. No target analytes were detected at or above the RL in the method blanks or trip blank.

Completeness

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

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

ICP METALS

General

The ICP metals portion of this SDG consisted of eight (8) environmental soil and rock samples. The samples were collected on May 21, 2004 and were analyzed for a reduced list of ICP metals. Samples collected from B23 were analyzed for barium, copper, nickel and zinc. Samples from B30 were analyzed for copper, nickel and zinc.

The ICP metals analyses were performed 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 in two batches and within the holding time required by the method.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS/LCSD samples. No sample was designated for MS/MSD analysis on the COC.

The samples in this SDG were analyzed in two batches and each contained an LCS/LCSD pair. All LCS/LCSD recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD.

All LCS/LCSD RPDs were within acceptance criteria.

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.

- There were two initial calibration curves analyzed for ICP metals. Both curves met all initial calibration criteria.
- All initial and continuing calibration verification criteria were met.
- All second source calibration criteria were met. The two ICV samples (one for each ICAL) were prepared using a secondary source.
- All interference check criteria were met.
- Three dilution tests (DT) were analyzed. A DT was analyzed on soil sample B23-SW07 in the batch run May 25, 2004. Copper met criteria with a %D of 9.6, but barium, nickel and zinc failed to meet criteria as follows:

Metal	%D	Criteria
Barium	12.3	%D ≤ 10
Nickel	29.4	
Zinc	18.5	

No MS/MSD was analyzed in this SDG, so the results for barium, nickel and zinc were flagged “M” in all soil samples analyzed in the same batch in accordance with the CSSA QAPP.

A DT was analyzed on rock sample B30-SW08 in the batch run May 25, 2004. This DT was applicable for zinc only. All other metals were less than 50x the MDL in all rock samples. Zinc failed to meet criteria as follows:

Metal	%D	Criteria
Zinc	23.5	%D ≤ 10

No MS/MSD was analyzed in this SDG, so the results for zinc were flagged “M” in all rock samples in accordance with the CSSA QAPP.

A DT was analyzed on soil sample B23-SW06 in the batch run May 26, 2004. All metals failed to meet criteria as follows:

Metal	%D	Criteria
Barium	14.9	%D ≤ 10
Copper	12.3	
Nickel	23.3	
Zinc	20.0	

No MS/MSD was analyzed in this SDG, so the results for these metals were flagged "M" in samples B23-SW06 since this was the only sample in this batch.

- No PDS was required as per the CSSA QAPP.

Two method blanks and several calibration blanks were analyzed in association with the ICP analyses in this SDG. All blanks were free of the target metals 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 ICP metals 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%.

LEAD

General

The lead portion of this SDG consisted of eight (8) environmental soil and rock samples. The samples were collected on May 21, 2004 and were analyzed for lead using USEPA SW846 Method 7421.

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

It should be noted that all samples except B30-SW08 required dilution due to the high levels of lead present.

Accuracy

Accuracy was evaluated using the %R obtained from the LCS/LCSD samples. No sample was designated for MS/MSD analysis on the COC.

The samples in this SDG were analyzed in two batches and each contained an LCS/LCSD pair. All LCS/LCSD recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD samples.

Both LCS/LCSD RPDs were within acceptance criteria.

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.

- There were two initial calibrations analyzed for lead. Both curves met all initial calibration criteria.
- All initial and continuing calibration verification criteria were met.
- All second source calibration criteria were met. The two ICV samples (one for each ICAL) were prepared using a secondary source.
- Three dilution tests (DTs) were analyzed for this SDG. A DT was analyzed on rock sample B30-SW08 in the batch run May 25, 2004. DTs were analyzed on soil samples B23-BOT02 and B23-SW06 in the batch analyzed May 26, 2004. All DTs met criteria for lead.
- No PDS was required as per the CSSA QAPP.

One method blank and several calibration blanks were analyzed in association with the lead analyses in this SDG. All blanks were free of lead 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 lead results for the samples in this SDG were considered usable. The completeness for the lead portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.