APPENDIX B
ITIR (Data Report)

DATA VALIDATION SUMMARY REPORT
FOR
CAMP STANLEY STORAGE ACTIVITY
SAMPLES COLLECTED FROM
THE
OXIDATION POND AT CAMP STANLEY
BOERNE, TEXAS

INTRODUCTION

The following data validation summary report covers the oxidation pond (0-1) environmental soil samples and associated field quality control (QC) samples collected from Camp Stanley Storage Activity during the period September 4, 1996 through July 8, 1997. The samples were analyzed for metals by the following laboratory Sample Delivery Groups (SDGs):

D96-9812	D97-4500	D97-5750
D97-8534	D97-8540	

Field quality control samples collected were matrix spike/matrix spike duplicates (MS/MSD) and field duplicates. The field quality control samples were analyzed for the same parameters as their associated samples.

All samples were collected by Parsons Engineering Science (Parsons ES) following the procedures described in the Sampling and Analysis Plan (SAP). All analyses were performed by Intertek Testing Services (ITS) following procedures outlined in the HQ Air Force Center for Environmental Excellence Quality Assurance Project Plan (AFCEE QAPP) (version 1.1).

EVALUATION CRITERIA

The data submitted by the laboratory have been reviewed and validated following the guidelines outlined in the AFCEE QAPP. Information reviewed in the data packages include sample results; the summary of laboratory quality control results; case narrative; and chain-of-custody forms. The analyses and findings presented in this report are based on the reviewed information, meeting guidelines in the AFCEE QAPP (with the exceptions noted below).

The criteria used for data evaluation are as follows:

Accuracy Results

Accuracy is evaluated using the %R results for the MS/MSD samples and LCS samples.

Precision Results

Precision is evaluated using the Relative Percent Difference (RPD) results obtained from MS/MSD %Rs and the field duplicate analyte values.

Completeness

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

The minimum acceptance limit for completeness is 90%.

Representativeness

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

- Comparing the chain-of-custody procedures to those described in the AFCEE QAPP
- Comparing actual analytical procedures to those described in the AFCEE QAPP
- Evaluating holding times
- Examining field and laboratory blanks for cross contamination of samples during collection or analysis.

CHROMIUM SDG D96-9812

General

This SDG consisted of five (5) confirmation environmental soil samples. The samples were collected on September 4, 1996 and analyzed for chromium.

The chromium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 6010A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

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

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the chromium analyses in this SDG. The blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
Method Blank	Chromium	1.47 µg/l	B19-SB6 (19.0-19.0)
			B19-SB6 (35.0-35.0)
			0-1 SB1 (1.0-1.0)
			0-1 SB2 (3.0-3.0)
			SB111
ICB	Chromium	13.60 µg/l	B19-SB6 (19.0-19.0)
			B19-SB6 (35.0-35.0)
			0-1 SB1 (1.0-1.0)
			0-1 SB2 (3.0-3.0)
			SB111
CCB	Chromium	14.50 µg/l	B19-SB6 (19.0-19.0)
			B19-SB6 (35.0-35.0)
			0-1 SB1 (1.0-1.0)
			0-1 SB2 (3.0-3.0)
CCB	Chromium	13.82 µg/l	SB111

The chromium result in the samples 0-1 SB1 (1.0-1.0) and 0-1 SB2 (3.0-3.0) was flagged "B" to indicate that chromium was found in the affected sample and the associated blank. No further flagging was needed for samples B19-SB6 (19.0-19.0), B19-SB6 (35.0-35.0) and SB111 since these samples already had a more severe flag of 'F'.

HEXAVALENT CHROMIUM SDG D96-9812

General

This SDG consisted of two (2) confirmation environmental soil samples. The samples were collected on September 4, 1996 and analyzed for hexavalent chromium.

The hexavalent chromium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7196. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

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

The hexavalent chromium result in the associated samples was considered to be unusable and flagged "R" due to non-compliant holding times. The completeness for this SDG is 0% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. The two samples, 0-1 SB1 (1) and 0-1 SB2 (2) were analyzed at 48 hours, which exceeded the 24 hour holding time. The hexavalent chromium result in these two samples were considered to be unusable and flagged "R".

All initial and continuing calibration criteria were met.

There was one method blank associated with the hexavalent chromium analyses in this SDG. The method blank was free of hexavalent chromium.

METALS SDG D97-4500

General

This SDG consisted of three (3) confirmation environmental soil samples. The samples were collected on April 11, 1997 and analyzed for barium, copper, nickel, silver, zinc and chromium.

The metal analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 6010A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

All ICP serial dilution criteria were met except for barium (14.8% D), copper (11.8% D), nickel (22.1% D) and silver (18.3% D). The barium, copper and nickel results in the

associated samples were considered to be estimated and flagged "J". The silver result already had a more severe qualifier of "F".

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the metal analyses in this SDG. The blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
Method Blank	Copper	6.0 mg/kg	OX-1-97-SEW-1
	Nickel	0.13 mg/kg	OX-1-97-SEW-2
	Silver	0.59 mg/kg	OX-1-97-SEW 3
ICB	Barium	1.72 mg/kg	OX-1-97-SEW-1
	Copper	2.14 mg/kg	OX-1-97-SEW-2
	Nickel	2.03 mg/kg	OX-1-97-SEW-3
	Silver	0.26 mg/kg	
	Zinc	0.39 mg/kg	
CCB	Barium	1.98 mg/kg	OX-1-97-SEW-1
	Copper	2.81 mg/kg	OX-1-97-SEW-3
	Nickel	1.56 mg/kg	
	Silver	0.42 mg/kg	
	Zinc	0.44 mg/kg	
CCB	Barium	1.77 mg/kg	0X-1-97-SEW2
	Copper	4.94 mg/kg	
	Nickel	1.54 mg/kg	
	Silver	0.33 mg/kg	
	Zinc	1.57 mg/kg	

The zinc result in the affected samples was flagged "B" to indicate that the blank analyte was found in the affected sample and the associated blank. The barium, copper and nickel results already had a more severe flag qualifier of "J". The silver result already had a more severe flag qualifier of "F".

SELENIUM SDG D97-4500

General

This SDG consisted of three (3) confirmation environmental soil samples. The samples were collected on April 11, 1997 and analyzed for selenium.

The selenium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7740. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

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

The selenium result in the samples OX-1-97-SEW-1, 0X-1-97-SEW-2 and OX-1-97-SEW3 were considered to be unusable and flagged "R" due to non-compliant continuing calibrations. The completeness for this SDG is 0% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial calibration criteria were met.

All continuing calibration criteria were met except for CCV2 (86.8% D for Se) and CCV3 (86.4% D for Se). The selenium result in samples OX-1-97-SEW-1, OX-1-97-SEW-2 and OX-1-97-SEW-3 was considered to be unusable and flagged "R".

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the selenium analyses in this SDG. The method blank was free of selenium. The calibration blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
ICB	Selenium	3.70 mg/kg	None
CCB2	Selenium	2.20 mg/kg	None
CCB3	Selenium	2.30 mg/kg	None

No action was needed since the associated samples did not contain selenium.

LEAD SDG D97-4500

General

This SDG consisted of three (3) confirmation environmental soil samples. The samples were collected on April 11, 1997 and analyzed for lead.

The lead analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7421. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the lead analyses in this SDG. The method blank and

continuing calibration blanks were free of lead. The initial calibration blank contained the following:

Blank ID	Analyte	Concentration	Affected Samples
ICB	Lead	0.05 mg/kg	OX-1-97-SEW-1
			OX-1-97-SEW-2
			OX-1-97-SEW-3

The lead result in the affected samples was flagged "B" to indicate that lead was found in the affected sample and the associated blank.

CADMIUM SDG D97-4500

General

This SDG consisted of three (3) confirmation environmental soil samples. The samples were collected on April 11, 1997 and analyzed for lead.

The cadmium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 74131A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the cadmium analyses in this SDG. The blanks were free of cadmium.

MERCURY SDG D97-4500

General

This SDG consisted of three (3) confirmation environmental soil samples. The samples were collected on April 11, 1997 and analyzed for mercury.

The mercury analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7471A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

There were no MS/MSD analyses in this SDG. The LCS %Rs were within acceptance criteria.

Precision Results

There were no MS/MSD or field duplicate analyses in this SDG.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the mercury analyses in this SDG. The method blank and continuing calibration blanks were free of mercury. The initial calibration blank contained the following:

Blank ID	Analyte	Concentration	Affected Samples
ICB	Mercury	0.001 mg/kg	OX-1-97-SEW-2
			OX-1-97-SEW-3

No further action was required since the mercury result in the affected samples already had a more severe flag of "F".

CHROMIUM SDG D97-5750

General

This SDG consisted of six (6) samples, including three (3) confirmation environmental soil samples, one field duplicate soil sample and one set of matrix spike/matrix spike duplicate samples. The samples were collected on May 9, 1997 and analyzed for chromium.

The chromium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 6010A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample 01-EX-1 was used as the parent sample for the MS/MSD samples in this SDG.

The MS/MSD %Rs were within acceptance criteria except for as follows:

Sample01-EX-1

Analyte	MS %R	MSD%R	QC
chromium	34.6	41.4	80-120

The chromium result in the associated samples was flagged "M" to indicate matrix interference.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the RPD results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample 01-EX-1 was used as the parent sample for the MS/MSD samples in this SDG. Sample DUP-2 was the field duplicate of sample 01-EX-2.

The MS/MSD RPD was within acceptance criteria.

The field duplicate RPD for chromium of 43.0% was outside the acceptance criteria of 40%. No further flagging was required since chromium result in the affected samples was already qualified with a more severe flag of "M".

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the chromium analyses in this SDG. The blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
Method Blank	Chromium	1.74 µg/l	01-EX-1
			01-EX-2
			DUP-2
			01-EX-3
			01-EX-1 MS
			01-EX-1 MSD
ICB	Chromium	0.19 µg/l	01-EX-1
			01-EX-2
			DUP-2
			01-EX-3
			01-EX-1 MS
			01-EX-1 MSD
CCB1	Chromium	1.56 µg/l	01-EX-1
			01-EX-1 MS
			01-EX-1 MSD
			01-EX-2
CCB2	Chromium	1.22 µg/l	DUP2
			01-EX-3

No further action was required since the chromium result in the affected samples already was qualified with a more severe flag of "M".

CADMIUM SDG D97-5750

General

This SDG consisted of six (6) samples, including three (3) confirmation environmental soil samples, one field duplicate soil sample and one set of matrix spike/matrix spike duplicate samples. The samples were collected on May 9, 1997 and analyzed for chromium.

The cadmium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7131A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample 01-EX-1 was used as the parent sample for the MS/MSD samples in this SDG.

The sample concentration in the unspiked 01-EX-1 was greater than 4x the amount of cadmium spiked in the MS/MSD samples. The MS/MSD %Rs were not used.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the Relative Percent Difference (RPD) results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample 01-EX-1 was used as the parent sample for the MS/MSD samples in this SDG. Sample DUP-2 was the field duplicate of sample 01-EX-2.

The MS/MSD and field duplicate RPDs were within acceptance criteria.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the chromium analyses in this SDG. The blanks were free of cadmium.

CHROMIUM SDG D97-8534

General

This SDG consisted of fifteen (15) samples, including thirteen (13) confirmation environmental soil samples and one set of matrix spike/matrix spike duplicate samples. The samples were collected on July 8, 1997 and analyzed for chromium.

The chromium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 6010A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample OX1-97-SSA1 (1-2) was used as the parent sample for the MS/MSD samples in this SDG.

The MS/MSD %Rs were within acceptance criteria except for as follows:

Sample OX1-97-SSA1 (1-2)

Analyte	MS %R	MSD%R	QC
chromium	210.9	185.5	80-120

The chromium result in the associated samples was flagged "M" to indicate matrix effect.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the Relative Percent Difference (RPD) results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample OX1-97-SSA1 (1-2) was used as the parent sample for the MS/MSD samples in this SDG. There were no field duplicates analyzed in this SDG.

The MS/MSD RPD was within acceptance criteria.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the chromium analyses in this SDG. The blanks were free of chromium.

CADMIUM SDG D97-8534

General

This SDG consisted of fifteen (15) samples, including thirteen (13) confirmation environmental soil samples and one set of matrix spike/matrix spike duplicate samples. The samples were collected on July 8, 1997 and analyzed for cadmium.

The cadmium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7131A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample OX1-97-SSA1 (1-2) was used as the parent sample for the MS/MSD samples in this SDG.

The MS/MSD %Rs were within acceptance criteria except for as follows:

Sample OX1-97-SSA1 (1-2)

Analyte	MS %R	MSD%R	QC
cadmium	37.7	13.3	80-122

The cadmium result in the associated samples was flagged "M" to indicate matrix interference.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the Relative Percent Difference (RPD) results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample OX1-97-SSA1 (1-2) was used as the parent sample for the MS/MSD samples in this SDG. There were no field duplicates analyzed in this SDG.

The MS/MSD RPD was outside acceptance criteria (RPD <15%) for cadmium (95.4% RPD). The cadmium result in the associated samples was flagged "M" to indicate matrix interference.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the cadmium analyses in this SDG. The method blank was free of cadmium. The initial calibration blank and the continuing calibration blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
ICB	Cadmium	0.01 mg/kg	OX1-97-SSA1 (0-1)
			OX1-97-SSA1 (1-2)
			OX1-97-SSA1 (2-3)
			OX1-97-SSA2 (0-1)
			OX1-97-SSA2 (1-2)
			OX1-97-SSA2 (2-3)
			OX1-97-SSA3 (0-1)
			OX1-97-SSA3 (1-2)
			OX1-97-SSA3 (2-3)
			OX1-97-SSA4 (0-1)
			OX1-97-SSA4 (1-2)
			OX1-97-SSA4 (2-3)
			OX1-97-SSA4 (0-4)
			OX1-97-SSA4 (1-2) MS
			OX1-97-SSA4 (1-2) MSD
CCB1	Cadmium	0.04 mg/kg	OX1-97-SSA1 (1-2)
			OX1-97-SSA1 (1-2) MS
			OX1-97-SSA1 (1-2) MSD
CCB3	Cadmium	0.03 mg/kg	OX1-97-SSA4 (1-2)
			OX1-97-SSA4 (0-4)
CCB5	Cadmium	0.02 mg/kg	OX1-97-SSA3 (1-2)

No further action was required since the cadmium result in the affected samples was already qualified with a more severe 'M' flag.

CHROMIUM SDG D97-8540

General

This SDG consisted of fifteen (15) samples, including thirteen (13) confirmation environmental soil samples and one set of matrix spike/matrix spike duplicate samples. The samples were collected on July 8, 1997 and analyzed for chromium.

The chromium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 6010A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample OX1-97-SSA6 (1-2) was used as the parent sample for the MS/MSD samples in this SDG.

The MS/MSD %Rs were within acceptance criteria except for as follows:

Sample OX1-97-SSA6 (1-2)

Analyte	MS %R	MSD%R	QC
Chromium	76.5	68.9	80-120

The chromium result in the associated samples was flagged "M" to indicate matrix interference.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the RPD results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample OX1-97-SSA6 (1-2) was used as the parent sample for the MS/MSD samples in this SDG. There were no field duplicates analyzed in this SDG.

The MS/MSD RPD was within acceptance criteria.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the chromium analyses in this SDG. The blanks were free of chromium.

CADMIUM SDG D97-8540

General

This SDG consisted of fifteen (15) samples, including thirteen (13) confirmation environmental soil samples and one set of matrix spike/matrix spike duplicate samples. The samples were collected on July 8, 1997 and analyzed for cadmium.

The cadmium analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 7131A. Except where indicated in this report, all samples for this SDG were collected and analyzed following the procedures and protocols outlined in the AFCEE QAPP. All samples collected were prepared and analyzed within the holding times required by the respective method.

Accuracy Results

Accuracy was evaluated using the %R results for the MS/MSD samples and LCS samples. Sample OX1-97-SSA6 (1-2) was used as the parent sample for the MS/MSD samples in this SDG.

The MS/MSD %Rs were within acceptance criteria except for as follows:

Sample OX1-97-SSA6 (1-2)

Analyte	MSD %R	QC
Cadmium	135.7	80-120

The cadmium result in the associated samples was flagged "M" to indicate matrix interference.

The LCS %Rs were within acceptance criteria.

Precision Results

Precision was evaluated using the RPD results obtained from MS/MSD %Rs and the field duplicate analyte values. Sample OX1-97-SSA6 (1-2) was used as the parent sample for the MS/MSD samples in this SDG. There were no field duplicates analyzed in this SDG.

The MS/MSD RPD for cadmium at 37.3% was outside acceptance criteria of 15%. The cadmium result in the associated samples was flagged "M" to indicate matrix interference.

Completeness

No reported results for samples in this SDG have been rejected or invalidated (qualified "R"). The completeness for this SDG is 100% compared to the minimum acceptance limit of 90%.

Representativeness

All samples in this SDG were collected and analyzed following the sampling, chain-of-custody (COC) and analytical procedures described in the AFCEE QAPP with the exceptions noted in the introduction of this report. All samples were prepared and analyzed with the holding times required for the respective analysis.

All initial and continuing calibration criteria were met.

There was one method blank, one initial calibration blank and numerous continuing calibration blanks associated with the cadmium analyses in this SDG. The method blank was free of cadmium. The initial calibration blank and the continuing calibration blanks contained the following:

Blank ID	Analyte	Concentration	Affected Samples
ICB	Cadmium	0.01 mg/kg	OX1-97-SSA5 (0-1)
			OX1-97-SSA5 (1-2)
			OX1-97-SSA5 (2-3)
			OX1-97-SSA6 (0-1)
			OX1-97-SSA6 (1-2)
			OX1-97-SSA6 (2-3)
			OX1-97-SSC1 (0-1)
			OX1-97-SSC1 (1-2)
			OX1-97-SSC1 (2-3)
			OX1-97-SSC2 (0-1)
			OX1-97-SSC2 (1-2)
			OX1-97-SSC2 (2-3)
			OX1-97-SSC2 (0-4)
			OX1-97-SSA6 (1-2) MS
			OX1-97-SSA6 (1-2) MSD

No further action was required since a more severe flag of "M" already used for the cadmium result in the affected samples.