

LDC Report# 1804C4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 9, 1996

LDC Report Date: April 9, 1996

Matrix: Water
Parameters: TCL Metals
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600786

Sample Identification

097RO6261
097GO6361
097GO6961
097GO6661
097GO6561
097GO6861
097RO6161
097GO6161
097GO6261
097DO1061
097GO5761
097GO5861
097GO7061
097GO6465
097RO6261S
097RO6261D

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. **The analyses were per EPA** Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration,. D.N. ILM04.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section 111.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

111. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the iDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Barium	0.8 ug/L	All samples in SDG K9600786
	Zinc	1.5 ug/L	
CCB1	Barium	0.8 ug/L	All samples in SDG K9600786
	Copper	-0.6 ug/L	
CCB2	Zinc	2.0 ug/L	All samples in SOG K9600786
	Barium	0.6 ug/L	
	Chromium	3.6 ug/L	
	Copper	-1.5 ugtL	
CCB3	Mercury	0.1 ug/L	All samples in SOG K9600786
	Zinc	2.0 ug/L	
	Barium	0.8 ug/L	
	Chromium	2.8 ugtL	
PB (prep blank)	Copper	-1.9 ug/L	All samples in SDG K9600786
	Mercury	0.1 ug/L	
	Zinc	2.5 ug/L	
	Barium	0.800 ugtL	
	Chromium	1.940 ug/L	
	Copper	-0.620 ug/L	
	Zinc	2.470 ug/L	

Method Blank ID	Analyte	Concentration	Associated Samples
CCB1	Barium	0.8 ugtL	All samples in SDG K9600786
	Beryllium	0.3 ug/L	
	Zinc	2.0 ug/L	
CC82	Beryllium	0.3 ug/L	All samples in SDG K9600786
	Chromium	2.4 ug/L	
	Copper	0.7 ugtL	
	Selenium	1.3 ug/L	
	23nc	1.5 ug/L	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCBIPBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
097RO5261	Barium	2.6 ug/L	ZOU ug/L
	Beryllium	0.31 ug/L	0.311.1 ug/L
	Zinc	7.0 ug/L	7.01.1 ug/L
097GO636i	Copper	1.6 ug/L	1.6u ug/L
	Zinc	4.4 ug/L	4.41.1 ug/L
097GO8961	Copper	1.4 ug/L	i.4U ug/L
	Zinc	6.4 ug/L	6.41.1 ug/L
097GOW61	Beryllium	0.30 ug(L	0.301.1 ugtL
	Copper	2-4 ug/L	2AU ug(L
	Zinc	4.9 u%tL	4.91.1 ug/L
097GO6561	Copper	5.4 ug/L	5AU ug/L
097GO6861	Beryllium	0.30 ug/L	0.30U ug/L
	Copper	3.1 ug(L	3.1 U ug/L
	Zinc	2;4 ug/L	2.41.1 ug/L
097ROB161	Barium	1.1 ug/L	1. 1 U ug/L
	Zinc	7.4 ug/L	7AU ug/L
097GO61 61	Beryllium	0.74 ug/L	0.74U ugtL
	Copper	1.1 ug/L	1.1 U ug/L

Sample	Analyte	Reported concentration	Modified Final Concentration
097GO6261	Beryllium	0.73 ug/L	0.73U ug/L
097DO1061	Copper	1.4 ug/L	1AU ug/L
097GO5761	Copper	1.6 ug/L	1.6U ug/L
	Zinc	6.9 ug/L	6.9U ug/L
097GO5861	Copper	1.1 ug/L	1.1 U ug/L
097GO7061	Copper	1.6 ug/L	1.6U ug/L
	Zinc	7.3 ug/L	7.3U ug/L
097,GO6465	Beryllium	0.68 ug/L	0.68U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125%.

VIII. Internal Standard (ICP-MS)

Raw data were not reviewed for this SDG. IV. **Furnace Atomic Absorption QC** All reported MSAs were reviewed and found acceptable. Raw data were not reviewed for this SDG. X. **ICP Serial Dilution** The frequency of analysis was met. The criteria for analysis were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag
097GO6465L	Barium 110.1 (:510) Zinc	All samples in SOG 13.2 (:s 10)	J (all detects) K9600786	A J (all detects)

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XII. Field Duplicates

Samples 097GO6261 and 097DO1061 were identified as field duplicates. No TCL metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	097GO6261	097DO1061	
Arsenic	1.0U	1.3	Not calculable
Barium	16.0	15.4	4
Beryllium	0.73	0.30U	Not calculable
Copper	0.60U	1.4	Not calculable
Vanadium	7.2	8.4	15

1 &XC4.BC3

6

Analyte	Concentration NO/L		RPD
	097GO6261	097DO1061	
Zinc	17.4	15.9	9
Molybdenum	38.3	37.3	3

X111. Field Blanks

Samples 097RO6261 and 097RO6161 were identified as rinsates. No TCL metal contaminants were found in these blanks with the following exceptions:

Rinsate ID	Analyte	Concentration (ug/L)
097RO6261	Barium	2.6
	Beryllium	0.31
	Zinc	7.0
097RO6161	Barium	1.1
	Zinc	7.4
1804C4.BC3		

Salton Sea Test Base, CTO 097
 TCL Metals - Data Qualification Summary - SDG K9600786

SDG	Sample	Ana"	Flag	AorP	Reason
K96W7W	097GO6861	MolyWenum	i	A	ICP interferenc: check
K96W786	097GO7061				sample analpi:
	097ROB261	Barium	J (all detects)	A	ICP serial dilution (%D)
	097GO6361	Zinc	J (all detects)		
	097GO6961				
	097GO6661				
	097GO6561				
	097GOSWI				
	097RO51 81				
	097GO61 61				
	097GO6261				
	097DO1 061				
	097GO5761				
	097GOSS81				
	097GO7081				
	097GO6465				

Salton Sea Test Base, CTO 097
 TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9600786

SDG	sample	Analyte	Modified Final Concentration	AorP
K9600785	097RO6261	Barium	2.61.1 ugtL	A
		Beryllium	0.31 U ug/L	
		Zinc	7.01.1 ugtL	
K9600786	097GO6361	Copper	1.81.1 ug/L	A
		Zinc	4AU ug/L	
K96W786	097GO6961	Copper	1.41.1 ugIL	A
		Zinc	6AU ug/L	
K9600788	097GO6681	Beryllium	0.30U ug/L	A
		Copper	2AU ug/L	
		Zinc	4.91.1 ugtL	
K9600788	097GO6561	Copper	5AU ug/L	A
K9600786	097GO6861	Beryllium	0.30U ug/L	A
		Copper	3.1 U ug/L	
		Zinc	2.41.1 ug/L	
600	097RO6161	Barium	1. 1 U ug/L	A
		Zinc	7.41.1 ugtL	

1804C4.BC3

a

SDG	Sample	Analyte	Modiflod Final Concentradon	A or PI
K9600786	097GO6161	Beryllium	0.741.1 ug/L	A
		Copper	1.11.1 ug/L	
K9600788	097GO6261	Beryllium	0.731.1 ug/L	A
K9600786	097DO1081	Copper	1.41.1 ug/L	A
K9600786	097GO5761	Copper	1.6U ug/L	A
		Zinc	6.91.1 ug/L	
K9600785	097GO5861	Copper	1.11.1 ugi/L	A
K96007S6	097GO7061	Copper	1.61.1 ug/L	A
		Zinc	7.3U ug/L	
K9600786	097GO6465	Beryllium	0.681.1 ug/L	A
18NC4.BC3				

LDC Report# 1804D4

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 12, 1996
LDC Report Date: April 9, 1996
Matrix: Water
Parameters: TCL Metals
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600837

Sample Identification

097GO7761
097RO6361
097GO7161
097GO7661
097GO7361
097GO7261
097GO7361S
097GO7361D

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILIVI04.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section 111.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the I DL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Barium	0.8 ug/L	All samples in SDG K9600837
CC131	Chromium	3.5 ug/L	All samples in SDG K9600837
CCB2	Mercury	0.1 ug/L	All samples in SOG K9600837
	Beryllium	0.4 ug/L	
	Chromium	2.1 ug/L	
CCB3	Thallium	2.7 ug/L	All samples in SDG K9600a37
	Zinc	2.1 ug/L	
	Beryllium	0.4 ug/L	
	Chromium	3.5 ug/L	
	Copper	-0.8 ug/L	
PB (prep blank)	Thallium	2.2 ug/L	All samples in SDG K9600837
	Beryllium	0.650 ug/L	
	Mercury	0.100 ug/L	
CCB1	Chromium	3.2 ug/L	All samples in SDG K9600837
	Thallium	1.4 ug/L	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
097GO7761	Thallium	3.3 ug/L	3.31.1 ug/L
	Zinc	3.7 ug/L	3.71.1 ug/L
097RO6361	Chromium	2.1 ug/L	2.1 U ug/L
	Thallium	2.9 ug/L	2.91.1 ug/L
097GO71 61	Zinc	6.4 ug/L	BAU ug/L
	Zinc	6.3 ug/L	6.3U ug/L
097GO7661	Zinc	2.5 ug/L	2.5U ug/L
097GO7361	Beryllium	0.41 ug/L	0.41 U ug/L
	Thallium	3.1 ug/L	3.1 U ug/L
097GO7261	Zinc	4.7 ug/L	4.7U ug/L
	Beryllium	0.63 ug/L	0.63U ug/L

IV. ICIP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	FAnalyte	Finding	Criteria	FlagAorP
097GO7761 097GO7261	Molybdenum	This metal was not spiked in ICSAB. The concentration of the common interferences in these samples approximated the spike values.	This metal is potentially affected by common interferences and should be spiked in ICSAB.	A

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix -as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% with the following exceptions:

Sample (Associated Sample\$)	Analyte	%R	Flag	A or P
097GO7361S (All samples in SDG K9600837)	Arsenic	71.2	J (ail detects)	A
097GO7361 S (All samples in SOG K9600837)	Thalliurn	55.6	1	
	Selenium	0.0	J (all detects) R (all non-detects)	A

VIII. Internal Standard (ICP-MS)

Raw data were not reviewed for this SDG.

IX Furnace Atomic Absorption QC

All reported MSAs were reviewed and found acceptable.

Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

The frequency of analysis was met. The criteria for analysis were met. XI. **Sample Result Verification**

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report. XIII. **Field Duplicates**

No field duplicates were identified in this SDG.

XIV. Field Blanks

Sample 097RO6361 was identified as a rinsate. No TCL metal contaminants were found in this blank with the following exceptions:

Rinsate ID	Analyte	Concentration (ug/L)
097ROB361	Chromium	2.1
	Thallium	2.9
	Zinc	6.4
1804D4.BC3	6	

Salton Sea Test Base, CTO 097
 TCL Metals - Data Qualification Summary - SDG K9600837

SDG	Sample	Analyte	Flag	A or P	Reason
K9600837	097GO7761	Molybdenum	i	A	ICP interference check
K96MB37	097GO7261				sample analysis
	097GO7761	Arsenic	i	A	Matrix spike analysis (%R)
	097RO6361	Thallium			
	097GO7161				
	097GO7661				
	097GO7361				
K9600837	097GO7261				
	097GO7761	Selenium	J (all detects)	A	Matrix spike analysis (%R)
	097RO6361		R (all non-detects)		
	097GO71 61				
	097GO7561				
	097GO7361				
	097GO7261				

Salton Sea Test Base, CTO 097
 TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9600837

SDG	Sample	Analyte	Modified Final Concentration	A or P
K9600837	097GO7761	Thallium	3.3U ug/L	A
		Zinc	3.7U ug/L	
K96001137	097RO6361	Chromium	2.1 U ug/L	A
		Thallium	2.9U ug/L	
		Zinc	6.41.1 ug/L	
K9600837	097GO71 61	Zinc	6.3U ug/L	A
K9600837	097GO7661	Zinc	2.5U ug/L	A
K9600837	097GO7361	Beryllium	0.41 U ug/L	A
		Thallium	3.1 U ug/L	
		Zinc	4.7U ug/L	
K9 837	097GO7251	Beryllium	0.63U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 13, 1996
LDC Report Date: April 9, 1996
Matrix: Water
Parameters: TCL Metals
Laboratory: Columbia Analytical Services, Inc.
Sample Delivery Group (SDG): K9600872

Sample Identification

097RO7861
097GO7861
097GO8061
097GO7961
097DO1161
097GO8161
097RO7861S
097RO7861D

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILIV104.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- Ui indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

111111. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Barium	0.8 ug/L	All samples in SDG K9600872
	Copper	1.2 ug/L	
	Mercury	0.1 ug/L	
	Selenium	1.4 ug/L	
	Vanadium	1.6 ug/L	
	MolyWenum	5.0 ug/L	
CCB1	Beryllium	0.5 ugtL	All samples in SDG K9600872
	Chromium	2.7 ug/L	
	Copper	0.9 ug/L	
	Mercury	0.1 ug/L	
	Selenium	1.4 ug/L	
CC32	Beryllium	0.5 ug/L	All samples in SDG K9600872
	Copper	0.7 ug/L	
	Selenium	1.3 ug/L	
	Vanadium	1.6 ug/L	
CCB3	Barium	0.6 ug/L	All samples in SDG K9600872
	Beryllium	0.5 ug/L	
	Chromium	2.4 ug/L	
	Selenium	1.8 ug/L	
	Zinc	2.2 ug/L	

Method Blank ID	Ana"	Concentration	Associated Samples
blank)	Chromium	2.170 ug/L	All samples in SDG K9600872
[-Prep	Vanadium	1.550 ugVL	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Ana"	Reported Concentration	Modified Final Concentration
097RO7W1	Barium	1.2 ug/L	1.21.1 ugtL
	Chromium	2.7 ug(L	2-7U ug/L
	Copper	1.2 ugtL	1.2U ug/L
	Selenium	1.2 ug/L	1.21.1 ug/L
	Zinc	3.9 ug/L	3.9U ug/L
097GO7861	Copper	2.3 ug/L	2.3U ug/L
	Molybdenum	5.2 ug(L	5.2U ug/L
	Selenium	1.4 ugtL	1.4U ug/L
	Vanadium	5.8 ugtL	5.8U ug/L
097GO8081	Vanadium	4.4 ugtL	4.4U ug/L
097GO7961	Vanadium	1.9 ug/L	1.9U ugtL
	Zinc	2-2 ugtL	2.2U ugtL
097001161	MolyWenum	10.2 ugtL	10.2U ug/L
	Vanadium	2.8 ugtL	2.81.1 ugtL
	Zinc	2-2 ug(L	2.2U ug/L
097GO8161	Vanadium	5.6 ug/1-	5.61.1 ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte,	Finding	Criteria	Flag	A or P
097GO81 61	Molybdenum	This metal was not spiked in ICSAB. The concentration of the common interferences in these samples approximated the spike values.	This metal is potentially affected by common interferences and should be spiked in ICSAB.		A

P11

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% .

VIII. Internal Standards (ICP-MS)

Raw data were not reviewed for this SDG.

IX Furnace Atomic Absorption OC

All reported MSAs were reviewed and found acceptable.

Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

X11. Overall Assessment of Data

Data flags have been summarized at the end of this report.

X111. Field Duplicates

Samples 097GO7961 and 097DO1 161 were identified as field duplicates. No TCL metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	097GO7961	097DO1161	
Arsenic	1.1	1.01.1	Not calculable
Barium	24.4	24.4	0
Vanadium	1.9	2.8	38
Zinc	2.2	2.2	0
Molybdenum	12.8	10.2	23

T

XIV. Field Blanks

Sample 097RO7861 was identified as a rinsate. No TCL metal contaminants were found in this blank with the following exceptions:

Rinsate ID	Analyte	Concentration (ug/L)
097RO7861	Barium	1.2
	Chromium	2.7
	Copper	1.2
	Selenium	1.2
	Zinc	3.9

1804E4.BC3

Salton Sea Test Base, CTO 097

TCL Metals - Data Qualification Summary - SDG K9600872

SDG	Sample	Analyte	Flag	-TAorP	Reason
K9600872	097GO81 61	MoWenurn			ICP interference check sample analysis

Salton Sea Test Base, CTO 097

TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9600872

SOG	Sample	Analyte	Modified Final Concentration	AcrP
K9600872	097RO7861	Barium	1.21.1 ugtL	A
		Chromium	2.7U ug/L	
		Copper	1.2U ug/L	
		Selenium	1.21.1 ug/L	
		Zinc	3.9U ug/L	
K9600872	097GO7861	Copper	2.3U ug/L	A
		molybdenum	5.21.1 ug/L	
		Selenium	1.41.1 ug/L	
		Vanadium	5.81.1 ug/L	
K9600872	097GO8061	Vanadium	4AU ug/L	A
K9600872	097GO7961	Vanadium	1.91.1 ug/L	A
		Zinc	2.2U ug/L	
K9600872	097001161	Molybdenum	10.2U ug/L	A
		Vanadium	2.8U ug/L	
		Zinc	2.2U ug/L	
K9600872	097GO81 61	Varied um	5.6U ugtL	A

INXE4.BC3

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 14, 1996
LDC Report Date: April 9, 1996
Matrix: Water

Parameters: TCL Metals

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600898

Sample Identification

097RO5561
097GO5561
097GO6761
097RO5561S
097RO5561D

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and **reanalysis as applicable**. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILM04.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section 111.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Thallium	2.8 ug/L	All samples in SOG K9600898
	Molybdenum	4.7 ug/L	
CCB1	Barium	0.9 ug/L	All samples in SDG K9600898
	Chromium	2.9 ug/L	
	Copper	-1.4 ug/L	
	Thallium	2.3 ug/L	
CCB2	Barium	2.4 ug/L	All samples in SDG K9600898
	Chromium	2.5 ug/L	
	Copper	-1.1 ug/L	
	Thallium	2.4 ug/L	
	Zinc	1.7 ug/L	
CCB3	Barium	1.8 ug/L	All samples in SDG K9600898
	Beryllium	0.5 ug/L	
	Chromium	2.0 ug/L	
	Copper	-1.3 ug/L	
PB (prep blank)	Barium	1.760 ug/L	All samples in SDG K9600898
	Copper	-0.820 ug/L	
	Zinc	2.720 ug/L	

Method Blank ID	Analyte	Concentration	Associated Samples
CCB1	Barium	1.8 ug/L	All samples in SDG K9600895
	Beryllium	0.5 ug/L	
	Copper	-0.6 ug/L	
	Thallium	1.6 ug/L	
CCB2	Barium	1.8 ug/L	All samples in SDG K9600898
	Beryllium	0.7 ug/L	
	Copper	-0.6 ug/L	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Ana"	Reported Concentration	Modified Final Concentration
097RO5561	Barium 23nc	3.0 ug/L	3.01.1 ug/L
		?-8 ug/L	2.81.1 ug/L
097GO5561	Thallium	1.2 ugtL	1.21.1 ug(L
097GO6761	Zinc	2.2 ug/L	2.21.1 ugtL
	Beryllium Thallium	0.70 ugtL 1.7 ug/L	OJOU ugtL 1.71.1 ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125%.

VIII. Internal Standard (ICP-MS)

Raw data were not reviewed for this SDG.

IV. Furnace Atomic Absorption QC

All reported MSAs were reviewed and found acceptable.

Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met.

X1. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

Sample 097RO5561 was identified as a rinsate. No TCL metal contaminants were found in this blank with the following exceptions:

F7	Rinsate ID	Analyte	Concentration (ug/L)
	097RO5561	Barium	3.0
		Cadmium	3.1
		Zinc	2.8
	1804F4.BC3	5	

Salton Sea Test Base, CTO 097
TCL Metals - Data Qualification Summary - SDG K9600898

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9600898

SOG	Sample	Analyte
K9600898	097RO5561	Barium 23nc
K9600898	097GO5561	Thallium Zinc
K9600898	097GO6761	Beryllium Thallium

1 &XF4.BC3

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 15, 1996
LDC Report Date: April 9, 1996
Matrix: Water
Parameters: Lead
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600927

Sample Identification

097GO8861
097GO8961
097RO8961
097GO9561
097GO9661
097GO8861S
097GOSS61D

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILM104.0 for Lead. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for Lead.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

111. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
CCB1	Lead	1.2 ug/L	All samples in SDG K9600927
CCB2	Lead	2.0 ug/L	All samples in SDG K9600927
CCB3	Lead	1.2 ug/L	All samples in SDG K9600927

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
61	Lead	7.6 ug/L	7.6 ug/L

F

1804H4.BC3

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125%.

VIII. Internal Standards (ICP-MS)

Not required by the method.

IV. Furnace Atomic Absorption

All reported MSAs were reviewed and found acceptable. Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

CP was not utilized in

XI. Sample Result Verification

Raw data were not reviewed for

XII. Overall Assessment of Data

Data flags have been summarized

XIII. Field Duplicates

No field duplicates were

XIV. Field Blanks

Sample 097ROB961 was identified as a rinsate. No metal contaminants were found in this blank.

.Salton Sea Test Base, CTO 097

Lead - Data Qualification Summary - SDG K9600927.

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097

Lead - Laboratory Blank Data Qualification Summary - SDG K9600927

SDG	Sample	Analyte	Modified Final Concentration	AorP
K9600927	097GO8861	Lead	7.6U ug/L	A
1804H4.BC3		6		

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 20, 1996
LDC Report Date: April 9, 1996
Matrix: Water

Parameters: TCL Metals

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9601003

Sample Identification

097G09761
097R104611
097GO7561
097GO7561S
097GO7561D

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILM04.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section 111.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

111. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PE3s) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Copper	-1.0 ug/L	All samples in SDG 1<96oiow
	Mercury	0.1 ug/L	
	Molybdenum	8.0 ug/L	
CCBI	Chromium	2.9 ug/L	All samples in SDG K960low
	Copper	-0.8 ug/L	
	Mercury	0.1 ug/L	
CCB2	Molybdenum	4.2 ug/L	All samples in SDG K9601003
	Barium	0.8 ug/L	
	Chromium	3.1 ug/L	
	Copper	-1.2 ug/L	
	Lead	-1.0 ug/L	
CCB3	Mercury	0.1 ug/L	All samples in SDG K9601003
	Molybdenum	2.8 ug/L	
	Barium	0.6 ug/L	
	Chromium	4.0 ug/L	
	Copper	-0.8 ug/L	
	Lead	-1.3 ug/L	

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Barium	0.1500 ug/L	All samples in SDG K9601 003
	Chromium	2.490 ug/L	
	Mercury	0.100 ug/L	
	Zinc	1.500 ug/L	
	Molybdenum	3.810 ug/L	
CCB1	Beryllium	1.0 ug/L	All samples in SDG K9601003
	Chromium	3.3 ug/L	
	Copper	-1.4 ug/L	
CCB2	Chromium	4.6 ug/L	All samples in SDG K9601 003
	Selenium	1.1 ug/L	
	Zinc	3.9 ug/L	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the 1CB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
097GO7561	Beryllium	0.80 Ug/L	0.80U ug/L
	Chromium	4.4 ug/L	4.4U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag
097GO7S61	Molybdenum	This metal was not spiked in ICSAB. The concentration of the common interferences in these samples approximated the spike values.	This metal is potentially affected by common interferences and should be spiked in ICSAB."	TA 7,rP A

The criteria for analysis were met.

180".BC3

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% with the following exceptions:

Sample (Associated Samples)	Analyte	%R	Flag	A or P
097GO7581 S (097GO7561)	Arsenic	46.2	1	A
	Beryllium	66.2		
	Cobalt	68.0		
	Nickel	70.2		
	Vanadium	72.5		
097GO7561 S (097GO7561)	Barium	28.2	1	A
			J (all detects)	
			R (all non-detects)	
	Selenium	15.0	J (all detects) R (all non-detects)	

VIII. Internal Standard (ICP-MS)

Raw data were not reviewed for this SDG

IX Furnace Atomic Absorption OC

All reported MSAs were reviewed and found acceptable. Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	7Associated Samples	T Flag	A-O-P
097GO7561 L	Barium	1 24.3 (:s 10)	097GO7561	J (all detects)	A
1804J4.BC3		5			

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

X11. Overall Assessment of Data

Data flags have been summarized at the end of this report.

X111. Field Duplicates

No field duplicates were identified in this SDG.

XIII. Field Blanks

Sample 097R10461 was identified as a rinsate. No TCL metal contaminants were found in this blank.

Salton Sea Test Base, CTO 097
 TCL Metals - Data Qualification Summary - SDG K9601003

SDG	Sample	Analyte	Flag	AorP	Reason
K9601003	097GO7561	Molybdenum	i	A	ICP interference check sample analysis
K9601003	097GO7561	Arsenic Beryllium Cobalt Nickel Vanadium		A	Matrix spike analysis (%R)
K9601003	097GO7561	Barium Selenium	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A	Matrix spike analysis (%R)

E:003

: 097GO7561

Barium

J (all detects) A

ICP serial dilution (%D)

Salton Sea Test Base, CTO 097
 TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9601003

SOG	Sample	Analyte	Concentration	Aor P
K9601003	097GO7561	Beryllium Chromium	0.80U ug/L 4AU ug/L	A

1804J4.BC3

LDC Report# 1804K4

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 21, 1996

LDC Report Date: April 9, 1996

Matrix: Water

Parameters: TCL Metals

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9601039

Sample Identification

097RO5461 097GO5461 097GO5261 097DO1261 097GO8261 097BOO861 097BOO961 097G10861
097DO1761 097G10961 097RO5461S 097RO5461D 097BOO961S 097BOO961D

Introduction

This **data review covers 14 water samples listed** on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multiconcentration, D.N. ILIV104.0 for TCL Metals including Molybdenum and EPA Method 200.8 for Antimony, Cadmium, Lead, Nickel, and Uranium. Data validation review was based on EPA Contract Laboratory Program Statement of Work (SOW), ILM03.0 for TCL Metals and EPA Method 200.8 for Antimony, Cadmium, Lead, Nickel, and Uranium.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM03.0); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section 111.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

J. All technical holding time requirements were met.

11. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICIP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the initial, continuing and preparation blanks with the following exceptions:

Method Blank	Analyte	Concentration	Associated Samples
Method Blank 10 ICB	Copper Mercury Selenium Molybdenum	-2.3 ug/L 0.1 ugtL -1.2 ug/L 4.1 ug/L	All samples in SDG K9601039
CCBI	Chromium Copper Mercury	3.3 ug/L -2.3 ug/L 0.1 ugtL	All samples in SDG K9601039
CCB2	Chromium Copper Mercury	3.3 ug/L 2.8 ug/L 0.1 ug/L	All samples in SDG K9601039
CCB3	Barium Chromium Copper	0.7 ug/L 4.3 ug/L 4.0 ug/L	All samples in SDG K9601039
PB (prep blank)	Beryllium Cobalt Copper Mercury	0.300 ug/L 3.240 ug/L -2.270 ug/L 0.100 ug/L	All samples in SDG K9601 039

Method Blank ID	Analyte	T- Concentration	Associated Samples
CCB1	Barium	0.7 ug/L	All samples in SDG K9601039
	Chromium	4.1 ug/L	
	Copper	3.7 ug/L	
CCB2	Barium	1.0 ug/L	All samples in SDG K96=39
	Beryllium	-0.4 ug/L	
	Copper	3.4 ug/L	

No metal contaminant concentrations were found above the CRDL in the initial, continuing and preparation blanks.

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
097GOS461	Beryllium	0.51 ug/L	0.51 U ug/L
097GO5261	Beryllium	0.52 ug/L	0.52U ug/L
097GO8261	Cobalt	6.6 ug/L	6.6U ug/L
	Copper	5.2 ug/L	5.2U ug/L
	Molybdenum	10.2 ug/L	10.2U ug/L
097BOO861	Chromium	2.1 ug/L	2.1 U ug/L
097BOO961	Copper	7.6 ' ug/L	7.6U ug/L
	Molybdenum	7.4 ug/L	7AU ug/L
097G10861	Cobalt	3.3 ug/L	3.3U ug/L
	Molybdenum	6.1 ugtL	6.1U ug/L
097DO1761	Molybdenum	5.5 ug/L	5.5U ug/L
097G1 0961	MolyWenum	7.9 ug/L	7.9U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

1804K4.BC3

Sample	Ana"	T Finding	Criteria	Flag
097G1 0861 097DO1761 097G1 0961	Molybdenum	This metal was not spiked in ICSAB. The concentration of the common interferences in these samples approximated the spike values.	This metal is potentially affected by common interferences and should be spiked in ICSAB.	A

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VIII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125%.

VIII. Internal Standards (ICP-MS)

Raw data were not reviewed for this SDG.

IX Furnace Atomic Absorption OC

All reported MSAs were reviewed and found acceptable.

Raw data were not reviewed for this SDG.

X. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met.

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

X11. Overall Assessment of Data

Data flags have been summarized at the end of this report.

X111. Field Duplicates

Samples 097GO5261 and 097DO1261 and samples 097G10861 and 097DO1761 were identified as field duplicates. No TCL metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	097GO5261	097DO1261	
Barium	22.4	22.1	1
Cobalt	0.52	0.30U	Not calculable
Zinc	1.7	2.8	49
Molybdenum	54.2	63.0	2

1

Analyte	Concentration (ug/L)		RPD
	097G10861	097DO1761	
Barium	58.3	54.1	7
Cobalt	3.3	2.9U	Not calculable
Vanadium	5.0	5.7	13
Zinc	8.0	6.9	15
Molybdenum	6.1	5.5	10

XIV. Field Blanks

Sample 097RO5461 was identified as a rinsate. No TCL metal contaminants were found in this blank with the following exceptions:

Rinsate 10	Analyte	concentration (ug/L)
097RO5461	Antimony	0.01
	Cadmium	0.06
	Lead	0.06

Samples 097BOO861 and 097BOO961 were identified as source blanks. No TCL metal contaminants were found in these blanks with the following exceptions:

source Blank ID	Analyte	Concentration (ug/L)
097BOO861 (ICP-MS)	Cadmium	0.05
	Lead	0.14
		2.1
		1.1
097BOO861 (ICP)		2.3
097BOO961 (ICP-MS)	Chromium	
	Thallium	
	Zinc	
	Antimony	0.30
	Cadmium	0.12
097BOO961 (ICP)	Lead	0.47
	Nickel	2.2
	Uranium	5.35
	Arsenic	4.3
	Barium	101
	Copper	7.6
	Selenium	1.8
	Vanadium	2.4
	Zinc	15.4
	Molybdenum	7.4

1804K4.BC3

Salton Sea Test Base, CTO 097
 TCL Metals - Data Qualification Summary - SDG K0601030

SDG	Sample	Analyte	Flag	A or P	Reason
K9601039	097GIO861 097DO1761 097GIO961	Molybdenum	i	A	ICP interference check sample analysis

Salton Sea Test Base, CTO 097
 TCL Metals - Laboratory Blank Data Qualification Summary - SDG K9601039

Modified Final

SDG	Sample	T Analyte	Concentration	Aorl?
K9601039	097GO5461	Beryllium	0.51 U ug/L	A
K9601039	097GO5261	Beryllium	0.52U ug/L	A
K9601039	097GO8261	Cobalt	6.6U ug/L	A
		Copper	5.2U ug/L	
		Molybdenum	10.21.1 ug/L	
K9601039	097BOO861	Chromium	2.1 U ug/L	A
K9601039	097BOO961	Copper	7.6U ug/L	A
		Molybdenum	7AU ug/L	
K9601039	097G10861	Cobalt	3.31.1 ug/L	A
		Molybdenum	E5.1 U ug/L	
K9601039	097DO1761	Molybdenum	5.5U ug/L	A
K9601039	097G1 0961	Molybdenum	7.91.1 ug/L	A

1804K4.BC3

E3

Salton Sea Test Base, CTO 097
Data Validation Reports
LDC# 1804

Wet Chemistry

LDC Report# 1804A6

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 6, 1996
LDC Report Date: April 4, 1996
Matrix: Water
Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600753**

Sample Identification

097BOO665
097GO5165
097GO7465
097RO6065
097GO6065
097BOO665DUP

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 6 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section W.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Days From Sample Collection Until Analysis	Required Holding Time* (in Days) From Sample Collection Until Analysis	Flag	AorP
097500665	Total dissolved solids	10	7		A
097800665DUP	Total dissolved solids	10	7		A

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration- verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

V. Sample Result Verification

All sample result verifications were within validation criteria.

V1. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

Sample 097B00665 was identified as a source blank. No contaminant concentrations were found in this blank with the following exceptions:

Source Blank ID	F	Analyt*	Concentration (mg/L)
C97B00WS		Total dissolved solids	13

Sample 097R06065 was identified as a rinsate. No contaminant concentrations were found in this blank with the following exceptions:

Rinsate ID	I	Analyte	Concentration (mg/L)
097R06065		I-Total dissolved solids	14
1804A6.BC4			4

Salton Sea Test Base, CTO 097

Wet Chemistry - Data Qualification Summary - SDG K9600753**

SDG	Sample	Analyte	Flag	AorP	Reason
K9600753	097BOO665	Total dissolved solids		A	Technical holding times

Salton Sea Test Base, CTO 097

Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600753**

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Salton Sea Test Base, CTO 097
Collection Date:	February 7, 1996
LDC Report Date:	April 4, 1996
Matrix:	er
Parameters: Wet Chemistry	
Laboratory:	Columbia Analytical Services, Inc.
very Group (S	K9600765

Sample Identification

097GO5365
097GO5665
097GO5965
097BOO765
097GO5365DUP

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section V11.

Raw data were not reviewed for this SDG. The review was based on OC data.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

Sample 097BO0765 was identified as a source blank. No contaminant concentrations were found in this blank with the following exceptions:

Source Blank ID	Analyte	Concentration (mg/L)
~~BO0765	Total dissolved solids	555
18NB6.BC3	4	

Salton Sea Test Base, CTO 097
Wet Chemistry - Data Qualification Summary - SDG K9600765

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600765

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 8 through February 9, 1996
LDC Report Date: April 4, 1996
Matrix: Water
Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600786

Sample Identification

097RO6265 097GO6365 097GO6965 097GO6665 097GO6565 097GO6865 097RO6165 097GO6165
097GO6265 097DO1065 097GO5765 097GO5865 097GO7065 097GO6465 097RO6265DUP
097RO6165DUP

Introduction

This data review covers 15 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section \A\.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Ana"	Total Days From Sample Collection Until Analysis	Required Holding Time (in Days) From Sample Collection Until Analysis	FI	AofP
EE1	65	Total dissolved solids	8	7	J=

11. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

Samples 097GO6265 and 097DO1055 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mgM)		RPD
	097GO6265	097DO1055	
Edissolved solids	5080	5030	

VIII. Field Blanks

Samples 097RO6265 and 097RO6165 were identified as rinsates. No contaminant concentrations were found in these blanks with the following exceptions:

Rinsate 10	Ans"	Concentration (mg/L)
097RO6265	Total dissolved solids	11
097RO6165	Total dissolved solids	10
1 WXC.BC3		4

Salton Sea Test Base, CTO 097

Wet Chemistry - Data Qualification Summary - SDG K9600786

SOG	Sample	Ana"	Flag	A or P	Ronson
[Z;;78(3	097RO6165	Total dissolved solids	j		~±echnicall holding times

Salton Sea Test Base, CTO 097

Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600786

No Sample Data Qualified in this SDG

1804C6.BC3

5

LD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 12, 1998
LDC Report Date: April 4, 1996
Matrix: Water

Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600837

Sample Identification

097GO7765
097RO6365
097GO7165
097GO7665
097GO7365
097GO7265
097GO7765DUP

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section VII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

Sample 097RO6365 was identified as a rinsate. No contaminant concentrations were found in this blank with the following exceptions:

Rinsate ID	Analyte	T 1	Concentration (mg/L)
097RO6365	Total dissolved solids		24
180406.BC3		4	

Salton Sea Test Base, CTO 097
Wet Chemistry - Data Qualification Summary - SDG K9600837

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600837

No Sample Data Qualified in this SDG

LD

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 13, 1996
LDC Report Date: April 8, 1996
Matrix: Water

Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600872

Sample Identification

097RO7865
097GO7865
097GO8065
097GO7965
097DO1165
097GO8165
097RO7865DUP
097GO7865DUP

Introduction

This data review covers **8 water samples listed** on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of - the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section \A\.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were -met.

11. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC: limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

Samples 097GO7965 and 097DO1 165 were identified as field duplicates. No contaminant

VII. Field Duplicates

Samples 097GO7965 and 097DO1165 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

An&W@	Concentration (mg/L)		RPO
	097GO7965	097DO1165	
Total dissolved solids	2010	2000	0.5

VIII. Field Blanks

Sample 097RO7865 was identified as a rinsate. No contaminant concentrations were found in this blank.

Salton Sea Test Base, CTO 097
Wet Chemistry - Data Qualification Summary - SDG K9600872

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600872

No Sample Data Qualified in this SDG

LDC Report# 1804F6

1

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 14, 1996
LDC Report Date: April 4, 1996
Matrix: Water
Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9600898

Sample Identification

097RO5565
097GO5565
097GO6765
097RO5565DUP
097GO5565DUP

1804F6.BC3

1

Introduction

This data review covers 5 **water samples listed on the cover** sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section W.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

111. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these methods.

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. The relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

V1. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

Vill. Field Blanks

Sample 097RO5565 was identified as a rinsate. No contaminant concentrations were found in this blank.

Salton Sea Test Base, CTO 097
Wet Chemistry - Data Qualification Summary - SDG K9600898

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9600898

No Sample Data Qualified in this SDG

LD

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 20, 1996
LDC Report Date: April 4, 1996
Matrix: Water
Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9601003

Sample Identification

097GO7565
097GO7565DUP

1504J6.BC3

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VI.

Raw data were not reviewed for this SDG. The review was based on OC data.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

1. Technical Holding Times

All technical holding time requirements were met.

11. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable to these

b. Matrix Spike/(Matrix Spike) Duplicates

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits. Matrix spike analyses are not applicable to this method.

c. Laboratory Control Samples

Laboratory control samples recoveries were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for

VI. Overall Assessment of Data

Data flags are summarized at the

VII. Field Duplicates

No field duplicates were

VIII. Field Blanks

No field blanks were identified in this SIDG.

18W6.BC3

Salton Sea Test Base, CTO 097
Wet Chemistry - Data Qualification Summary - SDG K9601003

No Sample Data Qualified in this SDG

Salton Sea Test Base, CTO 097
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG K9601003

No Sample Data Qualified in this SDG

v

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Salton Sea Test Base, CTO 097
Collection Date: February 21, 1996
LDC Report Date: April 4, 1996
Matrix: Water

Parameters: Wet Chemistry
Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K9601039

Sample Identification

097RO5465 097GO5465 097GO5265 097DO1265 097GO8265 097BOO865 097BOO965
097G10865 097DO1765 097G10965 097RO5465DUP

Introduction

This data review covers 11 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids and EPA Method 150.1 for pH.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section 111.

Field duplicates are summarized in Section VII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- i Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected, The sample detection limit is an estimated value.