

LABORATORY DATA CONSULTANTS, INC.

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ERM
2525 Natomas Park Drive, Suite 350
Sacramento, CA 95833
ATTN: Ms. Maria Barajas-Albalawi

August 20, 2008

SUBJECT: BRC Tronox Parcel F, Data Validation

Dear Ms. Barajas-Albalawi

Enclosed are the final validation reports for the fractions listed below. This SDG was received on August 14, 2008. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 19307:

<u>SDG #</u>	<u>Fraction</u>
IRF0782	2,2'-/4,4'-Dichlorobenzil, Hexavalent Chromium & Chlorite

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

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

Project/Site Name: Tronox Parcel F
Collection Date: June 4, 2008
LDC Report Date: August 19, 2008
Matrix: Soil
Parameters: 2,2'-/4,4'-Dichlorobenzil
Validation Level: EPA Level III
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): IRF0782

Sample Identification

TSB-FR-02-02-0'
TSB-FJ-02-02-0'
TSB-FJ-06-02-0'

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for 2,2'-/4,4'-Dichlorobenzil.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. 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 V.

Field duplicates are summarized in Section XVI.

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

The following are definitions of the data qualifiers:

- J+ Data are qualified as estimated, with a high bias likely to occur. False positives or false negatives are unlikely to have been reported.
- J- Data are qualified as estimated, with a low bias likely to occur. False positives or false negatives are unlikely to have been reported.
- J Data are qualified as estimated; it is not possible to assess the direction of the potential bias. False positives or false negatives are unlikely to have been reported.
- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- R Data are qualified as rejected. There is a significant potential for the reporting of false negatives or false positives.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for 2,2'-/4,4'-Dichlorobenzil .

Average relative response factors (RRF) for 2,2'-/4,4'-Dichlorobenzil were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% .

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% .

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 2,2'-/4,4'-Dichlorobenzil was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

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

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

**Tronox Parcel F
2,2'-/4,4'-Dichlorobenzil - Data Qualification Summary - SDG IRF0782**

No Sample Data Qualified in this SDG

**Tronox Parcel F
2,2'-/4,4'-Dichlorobenzil - Laboratory Blank Data Qualification Summary - SDG
IRF0782**

No Sample Data Qualified in this SDG

**Tronox Parcel F
2,2'-/4,4'-Dichlorobenzil - Field Blank Data Qualification Summary - SDG IRF0782**

No Sample Data Qualified in this SDG

LDC #: 19307A2 b

VALIDATION COMPLETENESS WORKSHEET

Date: 8/18/08

SDG #: IRF0782

Level III

Page: 1 of 1

Laboratory: Test America

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS 2,2'-/4,4'-Dichlorobenzil (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/4/08
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	NO ecc & spec
IV.	Continuing calibration/ICV	A	ICV = 25% ↓
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	100%
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected D = Duplicate
 R = Rinsate TB = Trip blank
 FB = Field blank EB = Equipment blank

Validated Samples:

1	TSB-FR-02-02-0' S	11	SF11064-Bak	21		31	
2	TSB-FJ-06-02-02-0' ↓	12		22		32	
3	TSB-FJ-06-02-0' ↓	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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

Project/Site Name: BRC Tronox Parcel F
Collection Date: June 4, 2008
LDC Report Date: August 20, 2008
Matrix: Soil
Parameters: Hexavalent Chromium & Chlorite
Validation Level: EPA Level III
Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IRF0782

Sample Identification

TSB-FR-02-02-0'
TSB-FJ-02-02-0'
TSB-FJ-06-02-0'
TSB-FR-02-02-0'MS
TSB-FR-02-02-0'MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.1 for Chlorite and EPA SW 846 Method 7196A for Hexavalent Chromium.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. 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 X.

Raw data were not reviewed for this SDG. The review was based on QC data. The following are definitions of the data qualifiers:

- J+ Data are qualified as estimated, with a high bias likely to occur. False positives or false negatives are unlikely to have been reported.
- J- Data are qualified as estimated, with a low bias likely to occur. False positives or false negatives are unlikely to have been reported.
- J Data are qualified as estimated; it is not possible to assess the direction of the potential bias. False positives or false negatives are unlikely to have been reported.
- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- R Data are qualified as rejected. There is a significant potential for the reporting of false negatives or false positives.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

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 chlorite or hexavalent chromium was found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

IV. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the 300.1 method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
TSB-FR-02-02-0'MS/MSD (All samples in SDG IRF0782)	Chlorite	0 (75-125)	19 (75-125)	-	J- (all detects) R (all non-detects)	A

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

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

VIII. Sample Result Verification

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

**BRC Tronox Parcel F
Hexavalent Chromium & Chlorite - Data Qualification Summary - SDG IRF0782**

SDG	Sample	Analyte	Flag	A or P	Reason
IRF0782	TSB-FR-02-02-0' TSB-FJ-02-02-0" TSB-FJ-06-02-0'	Chlorite	J- (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

**BRC Tronox Parcel F
Hexavalent Chromium & Chlorite - Laboratory Blank Data Qualification Summary -
SDG IRF0782**



No Sample Data Qualified in this SDG

**BRC Tronox Parcel F
Hexavalent Chromium & Chlorite - Field Blank Data Qualification Summary - SDG
IRF0782**

No Sample Data Qualified in this SDG

LDC #: 19307A6
 SDG #: IRF0782
 Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
 Level III

Date: 8/18/08
 Page: 1 of 1
 Reviewer: 
 2nd Reviewer: 

METHOD: (Analyte) Chlorite (EPA Method 300.1), Hexavalent Chromium (EPA SW846 Method 7196A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/4/08
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicates	SW	} MS/MSD
VI.	Duplicates	N	
VII.	Laboratory control samples	A	LLS
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Am coil

1	TSB-FR-02-02-0'	11		21		31	
2	TSB-FJ-06-02-0' / 02-0'	12		22		32	
3	TSB-FJ-06-02-0'	13		23		33	
4	TSB-FR-02-02-0'MS	14		24		34	
5	TSB-FR-02-02-0'MSD	15		25		35	
6	PR	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

