



LABORATORY DATA CONSULTANTS, INC.

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Northgate Environmental Management, Inc.
1100 Quail Street Ste. 102
Newport Beach, CA 92660
ATTN: Ms. Cindy Arnold

July 26, 2010

SUBJECT: Tronox LLC Facility, PCS, Henderson, Nevada,
Data Validation

Dear Ms. Arnold,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on July 22, 2010. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 23618:

<u>SDG #</u>	<u>Fraction</u>
137820, 137822	Asbestos

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Standard Operating Procedures (SOP) 40, Data Review/Validation, BRC 2009
- Quality Assurance Project Plan Tronox LLC Facility, Henderson Nevada, June 2009
- NDEP Guidance, May 2006
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004

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

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

EDD CHECKLIST

LDC #: 23618
 SDG #: 137820, 137822

Page: 1 of 1
 Reviewer: BC
 2nd Reviewer: JE

Tronox Northgate Henderson Worksheet

EDD Area	Yes	No	NA	Findings/Comments
I. Completeness				
Is there an EDD for the associated Tronox validation report?	X			
II. EDD Qualifier Population				
Were all qualifiers from the validation report populated into the EDD?	X			
III. EDD Lab Anomalies				
Were EDD anomalies identified?	X			
If yes, were they corrected or documented for the client?	X			See EDD_discrepancy_form LDC23618 072610.doc
IV. EDD Delivery				
Was the final EDD sent to the client?	X			

**Tronox LLC Facility, PCS, Henderson
Data Validation Reports
LDC #23618**

Asbestos

LDC

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Tronox LLC Facility, PCS, Henderson, Nevada
Collection Date: May 11, 2010
LDC Report Date: July 26, 2010
Matrix: Soil
Parameters: Asbestos
Validation Level: Stage 2B
Laboratory: EMS Laboratories

Sample Delivery Group (SDG): 137820

Sample Identification

SSAK5-04-0.33BPC
SSAK5-04-0.00BPC_FD
SSAK5-04-0.00BPC
SSA07-02-0.00BPC
SSAR8-01-0.00BPC
SSAL3-03-0.00BPC

Introduction

This data review covers 6 soil samples listed on the cover sheet. The analyses were per NIOSH Method 7402/ISO for Asbestos.

This review follows the Standard Operating Procedures (SOP) 40, Data Review/Validation (BRC 2009), the Quality Assurance Project Plan Tronox LLC Facility, Henderson, Nevada (June 2009), NDEP guidance (May 2006), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

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 VII.

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.
- B The analytical result may be a false positive totally attributable to blank contamination. This qualifier is applicable to radiochemistry analysis only.
- JB The analytical result may be biased high and partially attributable to blank contamination. This qualifier is applicable to radiochemistry analysis only.
- JK The analytical result is an estimated maximum possible concentration (EMPC).
- X The analytical result is not used for reporting because a more accurate and precise result is reported in its place.
- J-TDS The analytical result is estimated based on failure of the Total Dissolved Solids (TDS) correctness check performed in accordance with the Standard Method 1030E.
- J-CAB The analytical result is estimated based on failure of the cation-anion balance correctness check performed in accordance with Standard Method 1030E.
- J-TDS & CAB The analytical result is unreliable based on the failure of the cation-anion balance and TDS correctness check performed in accordance with standard Method 1030E.
- 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

No holding time requirement is specified for asbestos.

No cooler temperature requirement is specified for asbestos.

II. Calibration

A NIST standard reference material containing Chrysotile, Amosite, and Crocidolite asbestos was analyzed. The calibration identified the proper constituents.

III. Blanks

The blank analyses showed no asbestos contamination.

No field blanks were identified in this SDG.

IV. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

V. Sample Result Verification

All analytes reported below the PQL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 137820	All analytes reported below the PQL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VI. Overall Assessment

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

VII. Field Duplicates

Samples SSAK5-04-0.00BPC_FD and SSAK5-04-0.00BPC were identified as field duplicates. No asbestos was detected in any of the samples with the following exceptions:

Structure Class	Concentration (Str/g PM10)		Difference (Limits)	Flag	A or P
	SSAK5-04-0.00BPC_FD	SSAK5-04-0.00BPC			
Asbestos Structures > 5 μm , \leq 10 μm	8110000U	2820000	5290000 (\leq 1570000)	-	-
Asbestos Structures > 5 μm , \leq 10 μm (Chrys)	8110000U	2820000	5290000 (\leq 1570000)	-	-
Asbestos Structures > 10 μm (Long)	2710000	8450000U	5740000 (\leq 1510000)	-	-
Asbestos Structures > 10 μm (Amph)	2710000	8450000U	5740000 (\leq 1510000)	-	-
Total Protocol Asbestos Structures	2710000	2820000	110000 (\leq 1570000)	-	-
Protocol Asbestos Structures (Chrys)	8110000U	2820000	5290000 (\leq 1570000)	-	-
Protocol Asbestos Structures (Amph)	2710000	8450000U	5740000 (\leq 1510000)	-	-

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Data Qualification Summary - SDG 137820**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
137820	SSAK5-04-0.33BPC SSAK5-04-0.00BPC_FD SSAK5-04-0.00BPC SSA07-02-0.00BPC SSAR8-01-0.00BPC SSAL3-03-0.00BPC	All analytes reported below the PQL.	J (all detects)	A	Sample result verification (sp)

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Laboratory Blank Data Qualification Summary - SDG 137820**

No Sample Data Qualified in this SDG

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Field Blank Data Qualification Summary - SDG 137820**

No Sample Data Qualified in this SDG

Tronox Northgate Henderson

VALIDATION COMPLETENESS WORKSHEET

LDC #: 23618A6

SDG #: 137820

Laboratory: EMS Laboratories

Stage 2B

Date: 7/23/10

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Asbestos (NIOSH 7402/ISO Method)

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: 5/11/10
II.	Calibration verification	A	
III.	Blanks	A	filter blank
IV.	Matrix Duplicates	N	chart specified
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	SW	(2,3)
VIII.	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:

1	SSAK5-04-0.33BPC AMEND	11	21	31
2	SSAK5-04-0.00BPC FD	12	22	32
3	SSAK5-04-0.00BPC	13	23	33
4	SSA07-02-0.00BPC	14	24	34
5	SSAR8-01-0.00BPC	15	25	35
6	SSAL3-03-0.00BPC	16	26	36
7		17	27	37
8		18	28	38
9		19	29	39
10		20	30	40

Notes: _____

LDC# 23618A6
SDG#: See Cover

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Structure Class	Concentration (Str/g PM10)		Difference	Limits	Qualifications (Parent Only)
	2	3			
Asbestos Structures > 5 µm, ≤ 10 µm	8.11e+06U	2.82e+06	5.29e+06	(≤ 15.7e+06)	
Asbestos Structures > 5 µm, ≤ 10 µm (Chrys)	8.11e+06U	2.82e+06	5.29e+06	(≤ 15.7e+06)	
Asbestos Structures > 10 µm (Long)	2.71e+06	8.45e+06U	5.74e+06	(≤ 15.1e+06)	
Asbestos Structures > 10 µm (Amph)	2.71e+06	8.45e+06U	5.74e+06	(≤ 15.1e+06)	
Total Protocol Asbestos Structures	2.71e+06	2.82e+06	1.10e+05	(≤ 15.7e+06)	
Protocol Asbestos Structures (Chrys)	8.11e+06U	2.82e+06	5.29e+06	(≤ 15.7e+06)	
Protocol Asbestos Structures (Amph)	2.71e+06	8.45e+06U	5.74e+06	(≤ 15.1e+06)	

V:\FIELD DUPLICATES\FD_inorganic\23618A6.wpd

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

Project/Site Name: Tronox LLC Facility, PCS, Henderson, Nevada

Collection Date: May 13, 2010

LDC Report Date: July 23, 2010

Matrix: Soil

Parameters: Asbestos

Validation Level: Stage 2B

Laboratory: EMS Laboratories

Sample Delivery Group (SDG): 137822

Sample Identification

SSAL5-02-0.00BPC

Introduction

This data review covers one soil sample listed on the cover sheet. The analyses were per NIOSH Method 7402/ISO for Asbestos.

This review follows the Standard Operating Procedures (SOP) 40, Data Review/Validation (BRC 2009), the Quality Assurance Project Plan Tronox LLC Facility, Henderson, Nevada (June 2009), NDEP guidance (May 2006), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

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Field duplicates are summarized in Section VII.

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

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- R Data are qualified as rejected. There is a significant potential for the reporting of false negatives or false positives.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- B The analytical result may be a false positive totally attributable to blank contamination. This qualifier is applicable to radiochemistry analysis only.
- JB The analytical result may be biased high and partially attributable to blank contamination. This qualifier is applicable to radiochemistry analysis only.
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- J-TDS & CAB The analytical result is unreliable based on the failure of the cation-anion balance and TDS correctness check performed in accordance with standard Method 1030E.
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- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

No holding time requirement is specified for asbestos.

No cooler temperature requirement is specified for asbestos.

II. Calibration

A NIST standard reference material containing Chrysotile, Amosite, and Crocidolite asbestos was analyzed. The calibration identified the proper constituents.

III. Blanks

The blank analyses showed no asbestos contamination.

No field blanks were identified in this SDG.

IV. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

V. Sample Result Verification

All analytes reported below the PQL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 137822	All analytes reported below the PQL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VI. Overall Assessment

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

VII. Field Duplicates

No field duplicates were identified in this SDG.

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Data Qualification Summary - SDG 137822**

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
137822	SSAL5-02-0.00BPC	All analytes reported below the PQL.	J (all detects)	A	Sample result verification (sp)

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Laboratory Blank Data Qualification Summary - SDG 137822**

No Sample Data Qualified in this SDG

**Tronox LLC Facility, PCS, Henderson, Nevada
Asbestos - Field Blank Data Qualification Summary - SDG 137822**

No Sample Data Qualified in this SDG

LDC #: 23618B6
 SDG #: 137822
 Laboratory: EMS Laboratories

Tronox Northgate Henderson
VALIDATION COMPLETENESS WORKSHEET
 Stage 2B

Date: 7/23/10
 Page: 1 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Asbestos (NIOSH 7402/ISO Method)

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: 5/13/10
II.	Calibration verification	A	
III.	Blanks	A	filter blank
IV.	Matrix Duplicates	N	client specific
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	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: 501

1	SSAL5-02-0.00BPC	11		21		31	
2		12		22		32	
3		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	

Notes: _____

