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

October 28, 2010

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

Dear Ms. Arnold,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on September 30, 2010. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24098:

SDG #	Fraction
137865, 137866, 138491	Asbestos

The data validation was performed under Stage 2B/4 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,

ERauto

Erlinda T. Rauto
Operations Manager/Senior Chemist

311 pages

Attachment 1

EDD Stage 2B/4

LDC #24098 (Tronox LLC-Northgate, Henderson NV / Tronox PCS Additional Sampling)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Asb. (7402/ ISO)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	137865	09/30/10	10/21/10	0	3																																
B	137866	09/30/10	10/21/10	0	1																																
C	138491	09/30/10	10/21/10	0	2																																
C	138491	09/30/10	10/21/10	0	1																																
Total	T/LR			0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

LDC #: 24098
SDG #: 137865, 137866, 138491

Reviewer: JE
2nd Reviewer: BC

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_LDC24098_102810.doc
IV. EDD Delivery				
Was the final EDD sent to the client?	X			

Laboratory Data Consultants, Inc.
Data Validation Report

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

Collection Date: May 18, 2010

LDC Report Date: October 13, 2010

Matrix: Soil

Parameters: Asbestos

Validation Level: Stage 2B

Laboratory: EMS Laboratories

Sample Delivery Group (SDG): 137865

Sample Identification

SSAL6-02-0.00BPC
SSAL6-01-0.00BPC
SSAP7-02-0.00BPC

Introduction

This data review covers 3 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

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 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 041014155	All analytes reported below the PQL.	J (all detects)	A

The results listed on the final report were verified against the raw data worksheets. The results were transcribed correctly to the final report.

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 Additional Sampling, Henderson, Nevada
Asbestos - Data Qualification Summary - SDG 137865

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
137865	SSAL6-02-0.00BPC SSAL6-01-0.00BPC SSAP7-02-0.00BPC	All analytes reported below the PQL.	J (all detects)	A	Sample result verification (sp)

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Laboratory Blank Data Qualification Summary - SDG 137865

No Sample Data Qualified in this SDG

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Field Blank Data Qualification Summary - SDG 137865

No Sample Data Qualified in this SDG

Tronox Northgate Henderson
VALIDATION COMPLETENESS WORKSHEET
Stage 2B

LDC #: 24098A6
SDG #: 137865
Laboratory: EMS Laboratories

Date: 10-13-16
Page: 1 of 1
Reviewer: CR
2nd Reviewer: L

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: 5/18/10
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Duplicates	N	Client specified
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

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

Validated Samples: SOIL

1	SSAL6-02-0.00BPC	11		21		31	
2	SSAL6-01-0.00BPC	12		22		32	
3	SSAP7-02-0.00BPC	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: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Collection Date:	May 18, 2010
LDC Report Date:	October 13, 2010
Matrix:	Soil
Parameters:	Asbestos
Validation Level:	Stage 2B
Laboratory:	EMS Laboratories

Sample Delivery Group (SDG): 137866

Sample Identification

SSAN5-03-0.00BPC

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).

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

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 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 041014155	All analytes reported below the PQL.	J (all detects)	A

The results listed on the final report were verified against the raw data worksheets. The results were transcribed correctly to the final report.

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 Additional Sampling, Henderson, Nevada
Asbestos - Data Qualification Summary - SDG 137866

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
137866	SSAN5-03-0.00BPC	All analytes reported below the PQL.	J (all detects)	A	Sample result verification (sp)

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Laboratory Blank Data Qualification Summary - SDG 137866

No Sample Data Qualified in this SDG

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Field Blank Data Qualification Summary - SDG 137866

No Sample Data Qualified in this SDG

Tronox Northgate Henderson
VALIDATION COMPLETENESS WORKSHEET
Stage 2B

LDC #: 24098B6
SDG #: 137866
Laboratory: EMS Laboratories

Date: 10-13-10
Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

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: 5/18/10
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Duplicates	N	Client specified
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII	Field blanks	N	

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

Validated Samples: soil

1	SSAN5-03-0.00BPC ~~AMEND~~	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: _____

Laboratory Data Consultants, Inc.
Data Validation Report

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

Collection Date: June 16, 2010

LDC Report Date: October 13, 2010

Matrix: Soil

Parameters: Asbestos

Validation Level: Stage 2B & 4

Laboratory: EMS Laboratories

Sample Delivery Group (SDG): 138491

Sample Identification

SSAQ4-03-1.00BPC
SSAQ4-03-1.00BPC-FD
RSAM7-1.0BPC**

**Indicates sample underwent Stage 4 review

Introduction

This data review covers 3 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.

Samples indicated by a double asterisk on the front cover underwent a Stage 4 review. A Stage 2B review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Stage 2B criteria since this review is 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 sample result verifications were acceptable for samples on which a Stage 4 review was performed.

All analytes reported below the PQL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 138491	All analytes reported below the PQL.	J (all detects)	A

The results listed on the final report were verified against the raw data worksheets. The results were transcribed correctly to the final report.

VI. Overall Assessment

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

VII. Field Duplicates

Samples SSAQ4-03-1.00BPC and SSAQ4-03-1.00BPC-FD were identified as field duplicates. No asbestos was detected in any of the samples with the following exceptions:

Structure Class	Concentration (Str/g PM10)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SSAQ4-03-1.00BPC	SSAQ4-03-1.00BPC-FD				
Asbestos Structures > 5 μm, ≤ 10 μm	81100000	62000000	-	19100000 (≤116000000)	-	-
Asbestos Structures > 5 μm, ≤ 10 μm (Chrys)	36400000	28000000	-	8400000 (≤62200000)	-	-
Asbestos Structures > 5 μm, ≤ 10 μm (Amph)	44800000	34000000	-	10800000 (≤72700000)	-	-
Asbestos Structures > 10 μm (Long)	308000000	36000000	-	272000000 (≤55100000)	-	-
Asbestos Structures > 10 μm (Chrys)	22400000	21000000	-	1400000 (≤44100000)	-	-
Asbestos Structures > 10 μm (Amph)	8390000	16000000	-	7610000 (≤24500000)	-	-
Total Protocol Asbestos Structures	112000000	98000000	-	14000000 (≤152000000)	-	-
Protocol Asbestos Structures (Chrys)	58700000	49000000	-	9700000 (≤89800000)	-	-
Protocol Asbestos Structures (Amph)	53100000	49000000	-	4100000 (≤83000000)	-	-

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Data Qualification Summary - SDG 138491

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
138491	SSAQ4-03-1.00BPC SSAQ4-03-1.00BPC-FD RSAM7-1.0BPC**	All analytes reported below the PQL.	J (all detects)	A	Sample result verification (sp)

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Laboratory Blank Data Qualification Summary - SDG 138491

No Sample Data Qualified in this SDG

Tronox LLC Facility, PCS Additional Sampling, Henderson, Nevada
Asbestos - Field Blank Data Qualification Summary - SDG 138491

No Sample Data Qualified in this SDG

Tronox Northgate Henderson
VALIDATION COMPLETENESS WORKSHEET
Stage 2B/4

LDC #: 24098C6
SDG #: 138491
Laboratory: EMS Laboratories

Date: 10-13-10
Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

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: 6/16/10
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Duplicates	N	Client specified
V.	Sample result verification	A	Not reviewed for Stage 2B validation.
VI.	Overall assessment of data	A	
VII.	Field duplicates	SW	(1,2)
VIII	Field blanks	N	

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

Validated Samples: ** Indicates sample underwent Stage 4 validation

Soil

1	SSAQ4-03-1.00BPC	11		21		31	
2	SSAQ4-03-1.00BPC-FD	12		22		32	
3	RSAM7-1.0BPC**	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: _____

LDC #: 24098CG
SDG #: —

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: W

Method: Asbestos (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were balance checks performed as required?			✓	
Was the flow rate for the IST opening calibrated to 72 ml/min?	✓			
Was the leak check performed?	✓			
Was chrysotile beam dose sensitivity acceptable?	✓			
Was camera constant calibration acceptable?	✓			
Was crocidolite spectrum Na sensitivity acceptable?	✓			
Was Mg-Si K-alpha peak resolvability acceptable?	✓			
Were K factors acceptable?	✓			
Was detector resolution at the Mn K-alpha peak acceptable?				
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Were 4% of unused filter lot blanks analyzed prior to sampling and < 0.2 fiber/mm^2?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix Duplicates				
Was a duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated DUP.		✓		
Was the duplicate relative percent differences (RPD) ≤ 50%?			✓	
V. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were samples prepared in accordance with the Modified Elutriator Method for the Determination of Asbestos in Soil and Bulk Material, Revision 1, Berman and Kolk, May 2000?	✓			
Were the EDXA and SAED photos provided?	✓			
Was the analytical sensitivity greater than 3.00E+06?	✓			
Were asbestos fibers recorded ≥5.0 microns in length, 3:1 aspect ratio, and a modified 0.4 micron min. width?	✓			
Was analysis stopped upon recording 25 asbestos fibers ≥10 microns in length after current grid opening was completed.	✓			

LDC #: 24098C6
SDG #: —

VALIDATION FINDINGS CHECKLIST

Reviewer: AR
2nd Reviewer: W

Validation Area	Yes	No	NA	Findings/Comments
VI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
VII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates and RPD ≤50%.	✓			
VIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC# 24098C6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: CR
2nd Reviewer:

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)		RPD (≤50)	Difference (Str/g PM10)	Limit (Str/g PM10)	Qualifications (Parent Only)
	1	2				
Asbestos Structures > 5 µm, ≤ 10 µm	81100000	62000000		19100000	(≤116000000)	
Asbestos Structures > 5 µm, ≤ 10 µm (Chrys)	36400000	28000000		8400000	(≤62200000)	
Asbestos Structures > 5 µm, ≤ 10 µm (Amph)	44800000	34000000		10800000	(≤72700000)	
Asbestos Structures > 10 µm (Long)	308000000	36000000		272000000	(≤55100000)	
Asbestos Structures > 10 µm (Chrys)	22400000	21000000		1400000	(≤44100000)	
Asbestos Structures > 10 µm (Amph)	8390000	16000000		7610000	(≤24500000)	
Total Protocol Asbestos Structures	112000000	98000000		14000000	(≤152000000)	
Protocol Asbestos Structures (Chrys)	58700000	49000000		9700000	(≤89800000)	
Protocol Asbestos Structures (Amph)	53100000	49000000		4100000	(≤83000000)	

LDC #: 2409866

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Total Asb reported with a positive detect were recalculated and verified using the following equation:

Concentration = $\frac{(Counts)(Area)}{(WE)(Gridopen)(GridopenAnalyzed)}$

Recalculation: $\frac{1(385mm^2)}{(0.000157g)(0.0094mm^2)(95)} = 2.75 \times 10^6$ Str/g PM10

#	Sample ID	Analyte	Reported Concentration (Str/g PM10)	Calculated Concentration (Str/g PM10)	Acceptable (Y/N)
	3	Asb, 75um, ≤10um	2.75×10^6	2.75×10^6	Y
		Total Asb,	2.75×10^6	2.75×10^6	Y

Note: