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REMOVAL SUPPORT TEAM 2
EPA CONTRACT EP-W-06-072

RST 2-02-F-2763

TRANSMITTAL MEMO

To: Ángel Rodríguez, On-Scene Coordinator
Caribbean Environmental Protection Branch
U.S. EPA, Region II

From: Smita Sumbaly, Data Reviewer
RST 2, Region II

Subject: Puerto Rico Olefins Asbestos Site
Data Validation Assessment

Date: April 17, 2014

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

  Asbestos PCM and TEM 100 Samples

- Matrices and Number of Samples

  Air 100 Samples

- Sampling Dates: March 4 through 27, 2014

The final data assessment narrative and original analytical data package are attached.

cc: RST 2 SPM: Carlos Huertas
RST 2 SITE FILE TDD #: TO-0029-0122
ANALYTICAL TDD #: TO-0029-0133
PCS#: 7133

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: April 17, 2014

TO: Ángel Rodríguez, On-Scene Coordinator
U.S. EPA, Region II

FROM: Smita Sumbaly
RST 2 Data Review Team

SUBJECT: QA/QC Compliance Review Summary

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness
Sample Collection, Holding Times, and Preservation
Blank Analysis
Sample Sensitivity
Monthly Report TEM Calibrations

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I Asbestos PCM	II Asbestos TEM
Acceptable as Submitted	X	X
Acceptable with Comments		
Unacceptable, Action Pending		
Unacceptable		

Data Reviewed by: Smita Sumbaly Date: _____

Approved By: [signature] Date: 4/17/14

Area Code/Phone No.: (732) 585-4410

NARRATIVE

PCS No. 7133

SITE NAME: **Puerto Rico Olefins Asbestos Site**
PR 385 KM 5.4 Int., 127 Tallaboa Ponente,
Ward Penuelas, Puerto Rico

Laboratory Name: Batta Laboratories, 6 Garfield Way, Newark, DE.

INTRODUCTION:

The laboratory's portion of this case consisted of 100 air samples. Samples were collected between March 4 through 27, 2014. The Batta Lab Project numbers are **L6888F and L6888G.**

The laboratory reported No problem(s) with the receipt of these samples.

The laboratory reported problems with the analyses of Asbestos PCM and TEM. Laboratory received the sample filter damaged for Sample No. P0006-AS02-030414, therefore, this sample was not analyzed. Nineteen out of the 100 samples were overloaded, therefore not analyzed by PCM and TEM methods.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

Appropriate Form Is and Chain of Custody have been copied from the original data package and appended to the data assessment narrative for reference.

Title: Evaluation of Asbestos Data
Data Assessment Narrative

RFP #: 279 and 279A/Task#: 7133 **Site: Puerto Rico Olefins Asbestos Site**

Lab: Batta Laboratories **Matrix/No. of Samples: Air/100**

Batta Lab Project #'s: L6888F and L6888G **Reviewer: SMITA SUMBALY**

Contractor: WESTON-RST 2

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated.

Red- Line- A red-line drawn through a sample result indicates an unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

A.2.2 The data assessment is given below and on the attached sheets.

From March 4 through 27, 2014, U.S. EPA, Region II, RST 2 personnel collected 100 air samples, including two lot blanks and five field blanks, from the Puerto Rico Olefins Asbestos Site, located at PR 385 KM 5.4 Int., 127 Tallaboa Ponente, Ward Penuelas, Puerto Rico. Within 24 hours of collections, all samples were shipped via FedEx to Batta Laboratories, 6 Garfield Way, Newark, DE. The laboratory verified that the samples were received intact and properly custody sealed.

All 100 air samples for asbestos were collected on a 25 mm, 0.45μm MCEF cassettes. Samples were prepared and analyzed for asbestos according to Phase Contrast Microscopy (PCM) using NIOSH Method 7400, Revision 3, Issue 2 (8/15/94). The limit of detection for the air method is 5.5 fibers for 100 fields of views, or 7 fibers per square millimeters. All 100 samples were also analyzed for Transmission Electron Microscopy (TEM) by NIOSH Method 7402, Issue 2 (8/15/94). The target sensitivity for the air method is 0.0004 fiber/cc.

Out of 100 samples, laboratory received 19 samples over loaded and one filter was damaged for Sample No. P0006-AS02-030414 . One damaged sample was discarded and other 19 samples were requested to analyze by ISO method 13794:199(E): Ambient Determination of Asbestos Fibers-Indirect Transfer Electron Microscopy Method.

Batta Lab Project No.: L6888F:

Client identification (ID) and laboratory ID numbers are as follows:

Client ID No.	Laboratory ID No: PCM/TEM	Matrix	Sampling Date	Analysis
Batta Lab Project No.: L6888F/SDG No.: FB-A-030414				
FB-A-030414	786557/786565	Air	3/4/2014	Asbestos PCM and TEM
LB-A-030414	786558/786566	Air	3/4/2014	Asbestos PCM and TEM
P0006-AS01-030414*	786559/786567	Air	3/4/2014	Asbestos PCM and TEM
P0006-AS02-030414**	786560/786568	Air	3/4/2014	Asbestos PCM and TEM
P0006-AS03-030414*	786561/786569	Air	3/4/2014	Asbestos PCM and TEM
P0047-AS01-030414	786562/786570	Air	3/4/2014	Asbestos PCM and TEM
P0047-AS02-030414	786563/786571	Air	3/4/2014	Asbestos PCM and TEM
P0047-AS03-030414	786564/786572	Air	3/4/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888F/SDG No.: P0050-AS01-030514				
P0050-AS01-030514	786587/786584	Air	3/5/2014	Asbestos PCM and TEM
P0050-AS02-030514	786588/786585	Air	3/5/2014	Asbestos PCM and TEM
P0050-AS03-030514	786589/786586	Air	3/5/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888F/SDG No.: P0009-AS01-030614				
P0009-AS01-030614	786635/786629	Air	3/6/2014	Asbestos PCM and TEM
P0009-AS02-030614	786636/786630	Air	3/6/2014	Asbestos PCM and TEM
P0009-AS03-030614	786637/786631	Air	3/6/2014	Asbestos PCM and TEM
P0069-AS01-030614*	786638/786632	Air	3/6/2014	Asbestos PCM and TEM
P0069-AS02-030614*	786639/786633	Air	3/6/2014	Asbestos PCM and TEM
P0069-AS03-030614*	786640/786634	Air	3/6/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888F/SDG No.: FB-A-030814				
FB-A-030814	786883/786873	Air	3/8/2014	Asbestos PCM and TEM
P0008-AS01-030814*	786884/786874	Air	3/8/2014	Asbestos PCM and TEM
P0008-AS02-030814*	786885/786875	Air	3/8/2014	Asbestos PCM and TEM
P0008-AS03-030814*	786886/786876	Air	3/8/2014	Asbestos PCM and TEM
P0057-AS01-030714	786887/786877	Air	3/7/2014	Asbestos PCM and TEM
P0057-AS02-030714	786888/786878	Air	3/7/2014	Asbestos PCM and TEM
P0057-AS03-030714	786889/786879	Air	3/7/2014	Asbestos PCM and TEM
P0058-AS01-030714	786890/786880	Air	3/7/2014	Asbestos PCM and TEM
P0058-AS02-030714	786891/786881	Air	3/7/2014	Asbestos PCM and TEM
P0058-AS03-030714	786892/786882	Air	3/7/2014	Asbestos PCM and TEM
*Samples were overloaded with particulates, therefore not analyzed by asbestos PCM. **Sample filter was received damaged, therefore, not analyzed.				

Asbestos PCM analyses by NIOSH Methods 7400

Out of 27 samples, 18 samples were analyzed by PCM – NIOSH Method 7400. Eight samples were overloaded and one sample filter was broken, therefore not analyzed. All PCM data were reported in fibers/mm^2 and fiber /cc. Out of the 18 samples, two field blanks and one lot blank sample was reported as <7.0 fibers/mm^2 and other 15 samples were reported between17.8 to 202.2 fiber/mm^2. Laboratory counted fibers in 100 fields for all samples, except 63 fields in Sample No. P0009-AS01-030614 and 66 fields in Sample No. P0009-AS03-030614. For PCM analysis, fibers greater than 5.0 um in length, width greater than 0.25 um with an aspect ratio of ≥3:1 were reported.
For QC purposes, the laboratory analyzed PCM daily reference standard, calibration, and reanalysis of one samples per batch. All QC results are acceptable.

The results presented for the Asbestos PCM samples are acceptable as reported. No qualifications were required.

Asbestos TEM analyses by NIOSH Methods 7402

Out of 27 samples, 18 samples were analyzed by TEM – NIOSH Method 7402. Eight samples were overloaded and one sample filter was broken, therefore not analyzed. All TEM data were reported in fibers/cc. Out of 18 samples, two field blanks, one lot blank, and 10 field samples, results were reported non-detected (below the sensitivity of 0.00040 f/cc). Laboratory opened the 40 grids and 0.3760 mm^2 area was analyzed. Out of 18 samples, asbestos was detected in only five samples. Sample concentrations are as below:

Sample # P0047-AS01-030414: The laboratory analyzed a total of 40 grids openings and found one fiber of chrysotile asbestos and 12 non-Asbestos fibers. Sample concentration was reported as 0.00028 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0047-AS02-030414: The laboratory analyzed a total of 40 grids openings and found one fiber of chrysotile asbestos and three non-Asbestos fibers. Sample concentration was reported as 0.00085 f/cc, above the target sensitivity of 0.00040 f/cc.

Sample # P0009-AS01-030614: The laboratory analyzed a total of 40 grids openings and found one fiber of Actinolite asbestos and 60.5 non-Asbestos fibers. Sample concentration was reported as 0.00033 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0057-AS01-030714: The laboratory analyzed a total of 40 grids openings and found one fiber of Anthophyllite asbestos and four non-Asbestos fibers. Sample concentration was reported as 0.00078 f/cc, above the target sensitivity of 0.00040 f/cc.

Sample # P0057-AS02-030714: The laboratory analyzed a total of 40 grids openings and found one fiber of chrysotile asbestos and 10 non-Asbestos fibers. Sample concentration was reported as 0.00030 f/cc, below the target sensitivity of 0.00040 f/cc.

The results presented for the Asbestos TEM samples are acceptable as reported. No qualifications were required.

Batta Lab Project No.: L6888G

Client ID No.	Laboratory ID No: PCM/TEM	Matrix	Sampling Date	Analysis
Batta Lab Project No.: L6888G/SDG No.: P0008-AS04-031014				
P0008-AS04-031014*	786925/786919	Air	3/10/2014	Asbestos PCM and TEM
P0008-AS05-031014*	786926/786920	Air	3/10/2014	Asbestos PCM and TEM
P0008-AS06-031014*	786927/786921	Air	3/10/2014	Asbestos PCM and TEM
P0076-AS01-031014	786928/786922	Air	3/10/2014	Asbestos PCM and TEM
P0076-AS02-031014	786929/786923	Air	3/10/2014	Asbestos PCM and TEM
P0076-AS03-031014	786930/786924	Air	3/10/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: LB-A-031114				
LB-A-031114	786995/787002	Air	3/11/2014	Asbestos PCM and TEM
P0007-AS01-031114	786996/787003	Air	3/11/2014	Asbestos PCM and TEM
P0007-AS02-031114	786997/787004	Air	3/11/2014	Asbestos PCM and TEM
P0007-AS03-031114	786998/787005	Air	3/11/2014	Asbestos PCM and TEM
P0051-AS01-031114	786999/787006	Air	3/11/2014	Asbestos PCM and TEM
P0051-AS02-031114	787000/787007	Air	3/11/2014	Asbestos PCM and TEM
P0051-AS03-031114	787001/787008	Air	3/11/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: FB-A-031214				
FB-A-031214	787077/787070	Air	3/12/2014	Asbestos PCM and TEM
P0054-AS01-031214	787078/787071	Air	3/12/2014	Asbestos PCM and TEM
P0054-AS02-031214	787079/787072	Air	3/12/2014	Asbestos PCM and TEM
P0054-AS03-031214	787080/787073	Air	3/12/2014	Asbestos PCM and TEM
P0055-AS01-031214	787081/787074	Air	3/12/2014	Asbestos PCM and TEM
P0055-AS02-031214	787082/787075	Air	3/12/2014	Asbestos PCM and TEM
P0055-AS03-031214	787083/787076	Air	3/12/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0065-AS01-031314				
P0065-AS01-031314	787216/787210	Air	3/13/2014	Asbestos PCM and TEM
P0065-AS02-031314	787217/787211	Air	3/13/2014	Asbestos PCM and TEM
P0065-AS03-031314	787218/787212	Air	3/13/2014	Asbestos PCM and TEM
P0067B-AS01-031314	787219/787213	Air	3/13/2014	Asbestos PCM and TEM
P0067B-AS02-031314	787220/787214	Air	3/13/2014	Asbestos PCM and TEM
P0067B-AS03-031314	787221/787215	Air	3/13/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0056A-AS01-031514				
P0056A-AS01-031514	787252/787240	Air	3/15/2014	Asbestos PCM and TEM
P0056A-AS02-031514	787253/787241	Air	3/15/2014	Asbestos PCM and TEM
P0056A-AS03-031514	787254/787242	Air	3/15/2014	Asbestos PCM and TEM
P0056B-AS01-031414	787255/787243	Air	3/14/2014	Asbestos PCM and TEM
P0056B-AS02-031414	787256/787244	Air	3/14/2014	Asbestos PCM and TEM
P0056B-AS03-031414	787257/787245	Air	3/14/2014	Asbestos PCM and TEM
P0067A-AS01-031414	787258/787246	Air	3/14/2014	Asbestos PCM and TEM
P0067A-AS02-031414	787259/787247	Air	3/14/2014	Asbestos PCM and TEM
P0067A-AS03-031414	787260/787248	Air	3/14/2014	Asbestos PCM and TEM
P0074-AS01-031514	787261/787249	Air	3/15/2014	Asbestos PCM and TEM
P0074-AS02-031514	787262/787250	Air	3/15/2014	Asbestos PCM and TEM
P0074-AS03-031514	787263/787251	Air	3/15/2014	Asbestos PCM and TEM

Title: Evaluation of Asbestos Data
Data Assessment Narrative

Client ID No.	Laboratory ID No: PCM/TEM	Matrix	Sampling Date	Analysis
Batta Lab Project No.: L6888G/SDG No.: FB-A-031814				
FB-A-031814	787320/787313	Air	3/18/2014	Asbestos PCM and TEM
P0068-AS01-031814	787321/787314	Air	3/18/2014	Asbestos PCM and TEM
P0068-AS02-031814	787322/787315	Air	3/18/2014	Asbestos PCM and TEM
P0068-AS03-031814	787323/787316	Air	3/18/2014	Asbestos PCM and TEM
P0077-AS01-031814	787324/787317	Air	3/18/2014	Asbestos PCM and TEM
P0077-AS02-031814	787325/787318	Air	3/18/2014	Asbestos PCM and TEM
P0077-AS03-031814	787326/787319	Air	3/18/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0073-AS01-031914				
P0073-AS01-031914	787418/787415	Air	3/19/2014	Asbestos PCM and TEM
P0073-AS02-031914	787419/787416	Air	3/19/2014	Asbestos PCM and TEM
P0073-AS03-031914	787420/787417	Air	3/19/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0046-AS01-032114				
P0046-AS01-032114	787618/787615	Air	3/21/2014	Asbestos PCM and TEM
P0046-AS02-032114	787619/787616	Air	3/21/2014	Asbestos PCM and TEM
P0046-AS03-032114	787620/787617	Air	3/21/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0004-AS01-032414				
P0004-AS01-032414	787702/787696	Air	3/24/2014	Asbestos PCM and TEM
P0004-AS02-032414	787703/787697	Air	3/24/2014	Asbestos PCM and TEM
P0004-AS03-032414	787704/787698	Air	3/24/2014	Asbestos PCM and TEM
P0079-AS01-032414	787705/787699	Air	3/24/2014	Asbestos PCM and TEM
P0079-AS02-032414	787706/787700	Air	3/24/2014	Asbestos PCM and TEM
P0079-AS03-032414	787707/787701	Air	3/24/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: FB-A-032514				
FB-A-032514	787756/787749	Air	3/25/2014	Asbestos PCM and TEM
P0005-AS01-032514	787757/787750	Air	3/25/2014	Asbestos PCM and TEM
P0005-AS02-032514	787758/787751	Air	3/25/2014	Asbestos PCM and TEM
P0005-AS03-032514	787759/787752	Air	3/25/2014	Asbestos PCM and TEM
P0049-AS01-032514*	787760/787753	Air	3/25/2014	Asbestos PCM and TEM
P0049-AS02-032514*	787761/787754	Air	3/25/2014	Asbestos PCM and TEM
P0049-AS03-032514	787762/787755	Air	3/25/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0186-AS01-032614				
P0186-AS01-032614*	787862/787856	Air	3/26/2014	Asbestos PCM and TEM
P0186-AS02-032614*	787863/787857	Air	3/26/2014	Asbestos PCM and TEM
P0186-AS03-032614*	787864/787858	Air	3/26/2014	Asbestos PCM and TEM
P0187-AS01-032614*	787865/787859	Air	3/26/2014	Asbestos PCM and TEM
P0187-AS02-032614*	787866/787860	Air	3/26/2014	Asbestos PCM and TEM
P0187-AS03-032614*	787867/787861	Air	3/26/2014	Asbestos PCM and TEM
Batta Lab Project No.: L6888G/SDG No.: P0189-AS01-032714				
P0189-AS01-032714	787911/787908	Air	3/27/2014	Asbestos PCM and TEM
P0189-AS02-032714	787912/787909	Air	3/27/2014	Asbestos PCM and TEM
P0189-AS03-032714	787913/787910	Air	3/27/2014	Asbestos PCM and TEM
* Samples were overloaded with particulates, therefore not analyzed by asbestos PCM and TEM.				

Asbestos PCM analyses by NIOSH Methods 7400

Out of 73 samples, 62 samples were analyzed by PCM – NIOSH Method 7400. Other 11 samples were overloaded, therefore not analyzed by PCM. All PCM data were reported in fibers/mm^2 and fiber /cc. Out of 62 samples, three field blanks, one lot blank sample, and Sample no. P0067B-AS01-031314 were reported as <7.0 fibers/mm^2 and other 57 samples were reported between 7.6 to 124.8 fiber/mm^2. Laboratory counted fibers in 100 fields for all samples, except 89 field were counted in sample No. P0046-AS01-032114. For PCM analysis, fibers greater than 5.0 um in length, width greater than 0.25 um with an aspect ratio of $\geq$3:1 were reported.

For QC purposes, the laboratory analyzed PCM daily reference standard, calibration, and reanalysis of one samples per batch. All QC results are acceptable.

The results presented for the Asbestos PCM samples are acceptable as reported. No qualifications were required

Asbestos TEM analyses by NIOSH Methods 7402

Out of 73 samples, 62 samples were analyzed by TEM – NIOSH Method 7402. Other 11 samples were overloaded, therefore not analyzed by TEM. All TEM data were reported in fiber /cc. Out of 62 samples, three field blanks, one lot blank sample, and 47 field samples were reported non-detected detected (below the 0.00040 f/cc). Laboratory opened the 40 grids and 0.3760 mm^2 area was analyzed. Out of 62 samples, asbestos was detected in only 11 samples. Sample concentrations are as below:

Sample # P0076-AS03-031014: The laboratory analyzed a total of 40 grids openings and found one fiber of Actinolite asbestos and 12 non-Asbestos fibers. Sample concentration was reported as 0.00020 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0065-AS01-031314: The laboratory analyzed a total of 40 grids openings and found one fiber of Chrysotile asbestos and 14.5 non-Asbestos fibers. Sample concentration was reported as 0.00024 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0065-AS02-031314: The laboratory analyzed a total of 40 grids openings and found 1.5 fiber of Chrysotile asbestos and 19.5 non-Asbestos fibers. Sample concentration was reported as 0.00024 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0068-AS01-031814: The laboratory analyzed a total of 40 grids openings and found one fiber of Actinolite asbestos and 22.5 non-Asbestos fibers. Sample concentration was reported as 0.00018 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0046-AS01-032114: The laboratory analyzed a total of 40 grids openings and found one fiber of Tremolite asbestos and 82.5 non-Asbestos fibers. Sample concentration was reported as 0.00019 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0004-AS01-032414: The laboratory analyzed a total of 40 grids openings and found one fiber of Chrysotile asbestos and 16 non-Asbestos fibers. Sample concentration was reported as 0.00022 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0005-AS01-032514: The laboratory analyzed a total of 40 grids openings and found two fibers of Chrysotile asbestos and 8 non-Asbestos fibers. Sample concentration was reported as 0.00044 f/cc, above the target sensitivity of 0.00040 f/cc.

Sample # P0005-AS02-032514: The laboratory analyzed a total of 40 grids openings and found one fiber of Chrysotile asbestos and 14.5 non-Asbestos fibers. Sample concentration was reported as 0.00032 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0005-AS03-032514: The laboratory analyzed a total of 40 grids openings and found four fibers of Chrysotile asbestos and 14 non-Asbestos fibers. Sample concentration was reported as 0.00036 f/cc, below the target sensitivity of 0.00040 f/cc.

Sample # P0049-AS03-032514: The laboratory analyzed a total of 40 grids openings and found one fiber of Anthophyllite asbestos and 19 non-Asbestos fibers. Sample concentration was reported as 0.00043 f/cc, above the target sensitivity of 0.00040 f/cc.

Sample # P0189-AS01-032714: The laboratory analyzed a total of 40 grids openings and found one fiber of Anthophyllite asbestos and 6 non-Asbestos fibers. Sample concentration was reported as 0.00095 f/cc, above the target sensitivity of 0.00040 f/cc.

For QC purposes, the laboratory analyzed lab blank and reanalysis of one samples per batch. All QC results are acceptable.

The results presented for the Asbestos TEM samples are acceptable as reported. No qualifications were required

TEM Standard Analysis

The laboratory performed TEM Standards, TEM routine alignment and calibrations, magnification and Spot Size calculations, Detector Resolution-Mn Standard, Chrysotile Beam Dose sensitivity (monthly), Camera Constant calibrations, Significant Na and resolvable Mg-Si Peaks (monthly), K Factors Calibration (annually), and daily TEM Calibrations. All calibrations met the "pass" criteria. No qualifiers were applied based upon this parameter.

Asbestos TEM analyses by ISO 13794:199(E)

Out of 100 samples, laboratory received 19 samples over loaded and one filter was damaged for Sample No. P0006-AS02-030414. The one damaged sample was discarded and other 19 samples were analyzed by ISO method 13794:199(E): Ambient Determination of Asbestos Fibers-Indirect Transfer Electron Microscopy Method.

TEM analysis was performed using a transmission electron microscope equipped with an EDS X-ray analyzer. The air samples were analyzed at approximate screen magnifications of 19,000X for asbestos structures greater than 0.5 micrometer lengths. An accelerating voltage of 100 KV was applied. The sizing of structures (analysis) was performed on either a JEM 100CX II microscope at approximately 19,000X magnification.

The project required target analytical sensitivity of this analysis is 0.00040 structure/cc; however, due to heavy particulate loading (>50% filter coverage regardless of particulate thickness) and serial dilution, the sensitivity of some samples could not be practically met. For some samples that have no fibers detected, the laboratory analyze the more Grid Openings (GOs) to lower the analytical sensitivity until at least one fiber is detected up to 100 GOs.

For air sampling, 0.45u, 25 mm MCE cassettes were used. Approximately 3500 liter volume was collected in approximately six hours period of time. The laboratory reported the primary and total number of structure detected and type of asbestos detected. All samples were evaluated under 100 grids to meet the project target analytical sensitivity of 0.00040 Structure/cc.

Out of 19 samples, two samples were reported as non-detected. For other 17 samples, the laboratory analyzed 15 to 100 grids openings from three separate grids and found 1 to 106 total structures of either chrysotile asbestos, Anthophyllite asbestos, Actinolite asbestos, and/or Tremolite asbestos. Detailed results summary are provided in Table 1.

A.2.3 Contract Problem/Non-Compliance:

Due to software limitations Client Sample ID number does not appeared in sample results data sheet. Data reviewer manually corrected the Client Sample ID numbers and initials it.

Laboratory reported the incorrect sample volumes for the six samples collected on March 26, 2014. Data reviewer manually corrected the sample volume in asbestos data sheet and initials it. Since all samples were overloaded and were not analyzed for Asbestos PCM and TEM, no action was required.

Contractor Reviewer: Smita Sumbaly
Signature: Date:

Verified by:
Signature: Date:

ASBESTOS PCM AND TEM – TABULATED RESULTS

Client Sample ID Number	Laboratory Sample ID Number	PCM – NIOSH 7400						Laboratory Sample ID Number	TEM – NIOSH 7402					
		Volume (liters)	Fields	Fibers	Detection Limit (f/cc)	Fibers/mm2	Fibers/cc		Total # of asbestos by TEM	Total # of TEM PCME Fibers	Asbestos Mineral Type Detected	Target Sensitivity	Air Concentration (f/cc)	Fiber Density (f/mm^2)
SDG No.: FB-A-030414														
FB-A-030414	786557	0	100	<5.5	N/A	<7.0	N/A	786565	0.0	0.0	ND	N/A	N/A	<0.63694
LB-A-034014	786558	0	100	<5.5	N/A	<7.0	N/A	786566	0.0	0.0	ND	N/A	N/A	<0.63694
P0006-AS01-030414*	786559	3646.8	N/A	N/A	0.001	*	-	786567	N/A	N/A	N/A	0.00040	*	-
P0006-AS02-030414**	786560	3634.2	N/A	N/A	0.001	**	-	786568	N/A	N/A	N/A	0.00040	**	-
P0006-AS03-030414*	786561	3632.4	N/A	N/A	0.001	*	-	786569	N/A	N/A	N/A	0.00040	*	-
P0047-AS01-030414	786562	3639.6	100	27	0.001	36.9	0.004	786570	1.0	13.0	CH	0.00040	0.00028	2.64576
P0047-AS02-030414	786563	3596.4	100	25	0.001	31.8	0.003	786571	1.0	4.0	CH	0.00040	0.00085	7.96178
P0047-AS03-030414	786564	3652.2	100	41.5	0.001	52.9	0.006	786572	0.0	7.5	ND	0.00040	<0.00037	<3.52442
SDG No.: P0050-AS01-030514														
P0050-AS01-030514	786587	3657.6	100	19	0.001	24.2	0.003	786584	0.0	9.0	ND	0.00040	<0.00014	<1.34466
P0050-AS02-030514	786588	3753	100	14	0.001	17.8	0.002	786585	0.0	5.0	ND	0.00040	<0.00018	<1.78344
P0050-AS03-030514	786589	3778.2	100	20	0.001	25.5	0.003	786586	0.0	8.5	ND	0.00040	<0.00015	<1.49869
SDG No.: P0009-AS01-030614														
P0009-AS01-030614	786635	3805.5	63	100	0.001	202.2	0.02	786629	1.0	61.5	AC	0.00040	0.00033	3.28787
P0009-AS02-030614	786636	3748.1	100	80	0.001	101.9	0.01	786630	0.0	30.5	ND	0.00040	<0.00017	<1.67067
P0009-AS03-030614	786637	3783.3	66	100	0.001	193	0.02	786631	0.0	32.5	ND	0.00040	<0.00030	<2.96943
P0069-AS01-030614*	786638	4024.8	N/A	N/A	0.001	*	-	786632	N/A	N/A	N/A	0.00040	*	-
P0069-AS02-030614*	786639	3927.3	N/A	N/A	0.001	*	-	786633	N/A	N/A	N/A	0.00040	*	-
P0069-AS03-030614*	786640	3896.1	N/A	N/A	0.001	*	-	786634	N/A	N/A	N/A	0.00040	*	-
SDG No.: FB-A-030814														
FB-A-030814	786883	0	100	<5.5	N/A	<7.0	N/A	786873	0.0	0.0	ND	N/A	N/A	<0.63694
P0008-AS01-030814*	786884	3686.4	N/A	N/A	0.001	*	-	786874	N/A	N/A	N/A	0.00040	*	-
P0008-AS02-030814*	786885	3636	N/A	N/A	0.001	*	-	786875	N/A	N/A	N/A	0.00040	*	-
P0008-AS03-030814*	786886	3688.2	N/A	N/A	0.001	*	-	786876	N/A	N/A	N/A	0.00040	*	-
P0057-AS01-030714	786887	3650.4	100	29	0.001	36.9	0.004	786877	1.0	5.0	AN	0.00040	0.00078	7.38854
P0057-AS02-030714	786888	3733.2	100	25	0.001	31.8	0.003	786878	1.0	11.0	CH	0.00040	0.00030	2.89519
P0057-AS03-030714	786889	3697.2	100	26	0.001	33.1	0.003	786879	0.0	4.0	ND	0.00040	<0.00043	<4.14013
P0058-AS01-030714	786890	3686.4	100	25	0.001	31.8	0.003	786880	0.0	16.0	ND	0.00040	<0.00010	<0.99522
P0058-AS02-030714	786891	3636	100	27	0.001	34.4	0.004	786881	0.0	1.0	ND	0.00040	<0.00182	<17.19745
P0058-AS03-030714	786892	3602.9	100	26	0.001	33.1	0.004	786882	0.0	10.5	ND	0.00040	<0.00017	<1.57719

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Fibers/mm^2 – Fibers per millimeter square
Fibers/cc – Fibers per cubic centimeter

N/A –Not Applicable
ND – Non-Detected

CH - Chrysotile
AN - Anthophyllite
AC - Actinolite

*Samples were overloaded with particulates, therefore not analyzed by asbestos PCM and TEM.
**Sample filter was received damaged, therefore, not analyzed.

ASBESTOS PCM AND TEM – TABULATED RESULTS

Client Sample ID Number	Laboratory Sample ID Number	PCM – NIOSH 7400						Laboratory Sample ID Number	TEM – NIOSH 7402					
		Volume (liters)	Fields	Fibers	Detection Limit (f/cc)	Fibers/mm2	Fibers/cc		Total # of asbestos by TEM	Total # of TEM PCME Fibers	Asbestos Mineral Type Detected	Target Sensitivity	Air Concentration (f/cc)	Fiber Density (f/mm^2)
SDG No.: P0008-AS04-031014														
P0008-AS04-031014*	786925	3619.8	N/A	N/A	0.001	*	-	786919	N/A	N/A	N/A	0.00040	*	-
P0008-AS05-031014*	786926	3724.2	N/A	N/A	0.001	*	-	786920	N/A	N/A	N/A	0.00040	*	-
P0008-AS06-031014*	786927	3765.6	N/A	N/A	0.001	*	-	786921	N/A	N/A	N/A	0.00040	*	-
P0076-AS01-031014	786928	3646.8	100	13	0.001	16.6	0.002	786922	0.0	12.5	ND	0.00040	<0.00007	<0.66242
P0076-AS02-031014	786929	3645	100	30	0.001	38.2	0.004	786923	0.0	14.5	ND	0.00040	<0.00014	<1.31781
P0076-AS03-031014	786930	3709.8	100	20	0.001	25.5	0.003	786924	1.0	13	AC	0.00040	0.00020	1.95982
SDG No.: LB-A-031114														
LB-A-031114	786995	0.0	100	<5.5	N/A	<7.0	N/A	787002	0.0	3.0	ND	0.00040	N/A	<1.16773
P0007-AS01-031114	786996	3661.2	100	14	0.001	17.8	0.002	787003	0.0	8.0	ND	0.00040	<0.00012	<1.11465
P0007-AS02-031114	786997	3799.8	100	10	0.001	12.7	0.001	787004	0.0	3.0	ND	0.00040	<0.00022	<2.12314
P0007-AS03-031114	786998	3663	100	12	0.001	15.3	0.002	787005	0.0	11.5	ND	0.00040	<0.00007	<0.66464
P0051-AS01-031114	786999	3794.4	100	6	0.001	7.6	0.001	787006	0.0	10.5	ND	0.00040	<0.00004	<0.36397
P0051-AS02-031114	787000	3618	100	8	0.001	10.2	0.001	787007	0.0	4.0	ND	0.00040	<0.00014	<1.27389
P0051-AS03-031114	787001	3634.2	100	<5.5	0.001	<7.0	<0.001	787008	0.0	7.5	ND	0.00040	<0.00005	<0.46709
SDG No.: FB-A-031214														
FB-A-031214	787077	0.0	100	<5.5	N/A	<7.0	N/A	787070	0.0	0.0	ND	0.00040	N/A	<0.63694
P0054-AS01-031214	787078	3775.7	100	10	0.001	12.7	0.001	787071	0.0	0.0	ND	0.00040	<0.00012	<1.15808
P0054-AS02-031214	787079	3901.9	100	16	0.001	20.4	0.002	787072	0.0	0.0	ND	0.00040	<0.00018	<1.85292
P0054-AS03-031214	787080	3853.1	100	14	0.001	17.8	0.002	787073	0.0	2.0	ND	0.00040	<0.00045	<4.45860
P0055-AS01-031214	787081	3776.4	100	9	0.001	11.5	0.001	787074	0.0	3.5	ND	0.00040	<0.00017	<1.63785
P0055-AS02-031214	787082	3661.2	100	8	0.001	10.2	0.001	787075	0.0	0.5	ND	0.00040	<0.00107	<10.19108
P0055-AS03-031214	787083	3690	100	6	0.001	7.6	0.001	787076	0.0	2.0	ND	0.00040	<0.00020	<1.91083
SDG No.: P0065-AS01-031314														
P0065-AS01-031314	787216	3856.9	100	29.5	0.001	37.6	0.004	787210	1.0	15.5	CH	0.00040	0.00024	2.42449
P0065-AS02-031314	787217	3762.4	100	26	0.001	33.1	0.003	787211	1.5	21.0	CH	0.00040	0.00024	2.36579
P0065-AS03-031314	787218	3787.5	100	25	0.001	31.8	0.003	787212	0.0	13.0	ND	0.00040	<0.00012	<1.22489
P0067B-AS01-031314	787219	3853.6	100	<5.5	0.001	<7.0	<0.001	787213	0.0	4.5	ND	0.00040	<0.00008	<0.77849
P0067B-AS02-031314	787220	3727.8	100	8	0.001	10.2	0.001	787214	0.0	1.0	ND	0.00040	<0.00053	<5.09554
P0067B-AS03-031314	787221	3796.2	100	6	0.001	7.6	0.001	787215	0.0	2.0	ND	0.00040	<0.00019	<1.91083

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*Samples were overloaded with particulates, therefore not analyzed by asbestos PCM and TEM.

ASBESTOS PCM AND TEM – TABULATED RESULTS

Client Sample ID Number	Laboratory Sample ID Number	PCM – NIOSH 7400						Laboratory Sample ID Number	TEM – NIOSH 7402					
		Volume (liters)	Fields	Fibers	Detection Limit (f/cc)	Fibers/mm2	Fibers/cc		Total # of asbestos by TEM	Total # of TEM PCME Fibers	Asbestos Mineral Type Detected	Target Sensitivity	Air Concentration (f/cc)	Fiber Density (f/mm^2)
SDG No.: P0056A-AS01-031514														
P0056A-AS01-031514	787252	3814.2	100	15	0.001	19.1	0.002	787240	0.0	7.5	ND	0.00040	<0.00013	<1.27389
P0056A-AS02-031514	787253	3640.1	100	16	0.001	20.4	0.002	787241	0.0	9.0	ND	0.00040	<0.00012	<1.13234
P0056A-AS03-031514	787254	3639.6	100	23	0.001	29.3	0.003	787242	0.0	12.5	ND	0.00040	<0.00012	<1.17197
P0056B-AS01-031414	787255	3675.6	100	20	0.001	25.5	0.003	787243	0.0	9.5	ND	0.00040	<0.00014	<1.34093
P0056B-AS02-031414	787256	3751.2	100	20	0.001	25.5	0.003	787244	0.0	8.0	ND	0.00040	<0.00016	<1.59236
P0056B-AS03-031414	787257	3825	100	40	0.001	51	0.005	787245	0.0	16.5	ND	0.00040	<0.00016	<1.54410
P0067A-AS01-031414	787258	3718.8	100	11	0.001	14	0.001	787246	0.0	6.0	ND	0.00040	<0.00012	<1.16773
P0067A-AS02-031414	787259	3704.4	100	7	0.001	8.9	0.001	787247	0.0	4.5	ND	0.00040	<0.00010	<0.99080
P0067A-AS03-031414	787260	3727.8	100	14	0.001	17.8	0.002	787248	0.0	8.5	ND	0.00040	<0.00011	<1.04908
P0074-AS01-031514	787261	3771	100	10	0.001	12.7	0.001	787249	0.0	4.0	ND	0.00040	<0.00016	<1.59236
P0074-AS02-031514	787262	3691.8	100	6	0.001	7.6	0.001	787250	0.0	0.0	ND	0.00040	<0.00007	<0.69485
P0074-AS03-031514	787263	3807	100	6.5	0.001	8.3	0.001	787251	0.0	2.0	ND	0.00040	<0.00021	<2.07006
SDG No.: FB-A-031814														
FB-A-031814	787320	0.0	100	<5.5	N/A	<7.0	N/A	787313	0.0	1.5	ND	0.00040	N/A	<2.33546
P0068-AS01-031814	787321	3611.7	100	31	0.001	39.5	0.004	787314	1.0	23.5	AC	0.00040	0.00018	1.68044
P0068-AS02-031814	787322	3882.6	100	39	0.001	49.7	0.005	787315	0.0	18.5	ND	0.00040	<0.00013	<1.34274
P0068-AS03-031814	787323	3805.2	100	37.5	0.001	47.8	0.005	787316	0.0	28.5	ND	0.00040	<0.00008	<0.83808
P0077-AS01-031814	787324	4019	100	13.5	0.001	17.2	0.002	787317	0.0	7.0	ND	0.00040	<0.00012	<1.22839
P0077-AS02-031814	787325	4024.8	100	8	0.001	10.2	0.001	787318	0.0	6.0	ND	0.00040	<0.00008	<0.84926
P0077-AS03-031814	787326	4017	100	8.5	0.001	10.8	0.001	787319	0.0	4.5	ND	0.00040	<0.00012	<1.20311
SDG No.: P0073-AS01-031914														
P0073-AS01-031914	787418	3769.2	100	10	0.001	12.7	0.001	787415	0.0	8.5	ND	0.00040	<0.00008	<0.74934
P0073-AS02-031914	787419	3709.8	100	7	0.001	8.9	0.001	787416	0.0	4.0	ND	0.00040	<0.00012	<1.11465
P0073-AS03-031914	787420	3832.2	100	6	0.001	7.6	0.001	787417	0.0	5.5	ND	0.00040	<0.00007	<0.69485
SDG No.: P0046-AS01-032114														
P0046-AS01-032114	787618	3543.3	89	102	0.001	146	0.016	787615	1.0	83.5	TR	0.00040	0.00019	1.74845
P0046-AS02-032114	787619	3736.6	100	98	0.001	124.8	0.013	787616	0.0	54.5	ND	0.00040	<0.00012	<1.14533
P0046-AS03-032114	787620	3916.5	100	78.5	0.001	100	0.01	787617	0.0	74.0	ND	0.00040	<0.00007	<0.67568

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ND – Non-Detected

AC - Actinolite
TR - Tremolite

*Samples were overloaded with particulates, therefore not analyzed by asbestos PCM and TEM.

ASBESTOS PCM AND TEM – TABULATED RESULTS

Client Sample ID Number	Laboratory Sample ID Number	PCM – NIOSH 7400						Laboratory Sample ID Number	TEM – NIOSH 7402					
		Volume (liters)	Fields	Fibers	Detection Limit (f/cc)	Fibers/mm2	Fibers/cc		Total # of asbestos by TEM	Total # of TEM PCME Fibers	Asbestos Mineral Type Detected	Target Sensitivity	Air Concentration (f/cc)	Fiber Density (f/mm^2)
SDG No.: P0004-AS01-032414														
P0004-AS01-032414	787702	3717	100	28	0.001	35.7	0.004	787696	1.0	17.0	CH	0.00040	0.00022	2.09816
P0004-AS02-032414	787703	3717	100	28	0.001	35.7	0.004	787697	0.0	10.5	ND	0.00040	<0.00018	<1.69851
P0004-AS03-032414	787704	3738.6	100	19	0.001	24.2	0.002	787698	0.0	10.5	ND	0.00040	<0.00012	<1.15256
P0079-AS01-032414	787705	3693.6	100	12	0.001	15.3	0.002	787699	0.0	7.0	ND	0.00040	<0.00011	<1.09190
P0079-AS02-032414	787706	3655.8	100	16	0.001	20.4	0.002	787700	0.0	6.0	ND	0.00040	<0.00018	<1.69851
P0079-AS03-032414	787707	3648.6	100	24	0.001	30.6	0.003	787701	0.0	12.0	ND	0.00040	<0.00013	<1.27389
SDG No.: FB-A-032514														
FB-A-032514	787756	0.0	100	<5.5	0.001	<7.0	N/A	787749	0.0	0.0	ND	0.00040	N/A	<0.63694
P0005-AS01-032514	787757	3722.4	100	15	0.001	19.1	0.002	787750	2.0	9.0	CH	0.00040	0.00044	4.24628
P0005-AS02-032514	787758	3803.4	100	38	0.001	48.4	0.005	787751	1.0	15.5	CH	0.00040	0.00032	3.12307
P0005-AS03-032514	787759	3664.8	100	12	0.001	15.3	0.002	787752	4.0	18.0	CH	0.00040	0.00036	3.39703
P0049-AS01-032514*	787760	3610.8	N/A	N/A	0.001	*	-	787753	N/A	N/A	N/A	0.00040	*	-
P0049-AS02-032514*	787761	3661.2	N/A	N/A	0.001	*	-	787754	N/A	N/A	N/A	0.00040	*	-
P0049-AS03-032514	787762	3848.4	100	68	0.001	86.6	0.009	787755	1.0	20.0	AN	0.00040	0.00043	4.33121
SDG No.: P0186-AS01-032614														
P0186-AS01-032614*	787862	3826.88	N/A	N/A	0.001	*	-	787856	N/A	N/A	N/A	0.00040	*	-
P0186-AS02-032614*	787863	3836.3	N/A	N/A	0.001	*	-	787857	N/A	N/A	N/A	0.00040	*	-
P0186-AS03-032614*	787864	3856.88	N/A	N/A	0.001	*	-	787858	N/A	N/A	N/A	0.00040	*	-
P0187-AS01-032614*	787865	3670.38	N/A	N/A	0.001	*	-	787859	N/A	N/A	N/A	0.00040	*	-
P0187-AS02-032614*	787866	3650.04	N/A	N/A	0.001	*	-	787860	N/A	N/A	N/A	0.00040	*	-
P0187-AS03-032614*	787867	3713.4	N/A	N/A	0.001	*	-	787861	N/A	N/A	N/A	0.00040	*	-
SDG No.: P0189-AS01-032714														
P0189-AS01-032714	787911	3677.4	100	50	0.001	63.7	0.007	787908	1.0	7.0	AN	0.00040	0.00095	9.09918
P0189-AS02-032714	787912	3803.4	100	51	0.001	65	0.007	787909	0.0	3.0	ND	0.00040	<0.00110	<10.82803
P0189-AS03-032714	787913	3839.4	100	20	0.001	25.5	0.003	787910	0.0	3.5	ND	0.00040	<0.00036	<3.63967

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Fibers/cc – Fibers per cubic centimeter

N/A –Not Applicable
ND – Non-Detected

CH - Chrysotile
AN - Anthophyllite

*Samples were overloaded with particulates, therefore not analyzed by asbestos PCM and TEM.

TABLE 1

Project: Puerto Rico Olefins Asbestos Site
Sampling Dates: March 4 through 10, 2014

ISO 13794:199(E): Ambient Air-Determination of Asbestos Fibers - Indirect Transfer Transmission Electron Microscopy Method

Client Sample ID Number	Laboratory Sample ID Number	DF	Air Volume (L)	# of Grid opening/Area Analyzed (mm^2)	Total Number of Structure Detected	Asbestos Mineral Type Detected	Target Sensitivity (s/cc)	Reported Sensitivity (s/cc)	Reported Air Concentration (s/cc)	Reported Filter Density (s/mm^2)
P0006-AS01-030414	786567	0.25	3646.8	51/0.663	48	CH	0.00040	0.00057	0.02748	260.25739
P0006-AS02-030414*	786568	N/A	3634.2	0/0.000	Not Analyzed					
P0006-AS03-030414	786569	0.25	3632.4	41/0.533	106	CH	0.00040	0.00071	0.07577	714.91435
P0069-AS01-030614	786632	0.25	4024.8	96/1.248	17	CH,AN,AC	0.00040	0.00028	0.00468	48.96770
P0069-AS02-030614	786633	0.25	3927.3	87/1.131	3	CH,AC	0.00040	0.00031	0.00093	9.53529
P0069-AS03-030614	786634	0.25	3896.1	73/0.949	2	TR	0.00040	0.00037	0.00075	7.57599
P0008-AS01-030814	786874	0.25	3686.4	76/0.988	10	CH,AN	0.00040	0.00038	0.00380	36.38467
P0008-AS02-030814	786875	0.25	3636	50/0.650	59	CH	0.00040	0.00059	0.03455	326.29770
P0008-AS03-030814	786876	0.25	3688.2	73/0.949	14	CH	0.00040	0.00040	0.00554	53.03190
P0008-AS04-031014	786919	0.25	3619.8	39/0.507	100	CH	0.00040	0.00210	0.20967	1971.36197
P0008-AS05-031014	786920	0.25	3724.2	15/0.195	100	CH	0.00040	0.00530	0.52987	5125.54113
P0008-AS06-031014	786921	0.25	3765.5	50/0.650	67	CH	0.00040	0.00157	0.10534	1030.23377

DF - Dilution Factor
L - Liter
s/cc - Structure/Cubic Centimeter
s/mm^2 - Structure/Square millimeter

CH - Chrysotile
AN - Anthophyllite
AC - Actinolite
TR - Tremolite

*- Laboratory received the sample filter damaged for Sample No. P0006-AS02-030414, therfore, this sample was not analyzed.

TABLE 1

Project: Puerto Rico Olefins Asbestos Site
Sampling Dates: March 25 and 26, 2014

ISO 13794:199(E): Ambient Air-Determination of Asbestos Fibers - Indirect Transfer Transmission Electron Microscopy Method

Client Sample ID Number	Laboratory Sample ID Number	DF	Air Volume (L)	# of Grid opening/Area Analyzed (mm^2)	Total Number of Structure Detected	Asbestos Mineral Type Detected	Target Sensitivity (s/cc)	Reported Sensitivity (s/cc)	Reported Air Concentration (s/cc)	Reported Filter Density (s/mm^2)
P0049-AS01-032514	787753	0.25	3610.8	100/1.300	0	ND	0.00040	0.00082	<0.00040	<7.68831
P0049-AS02-032514	787784	0.25	3661.2	52/0.676	3	CH	0.00040	0.00155	0.00466	44.35564
P0186-AS01-032614	787856	0.25	3826.88	50/0.650	1	CH	0.00040	0.00155	0.00155	15.37662
P0186-AS02-032614	787857	0.25	3836.25	50/0.650	2	CH	0.00040	0.00154	0.00309	30.75325
P0186-AS03-032614	787858	0.25	3856.88	50/0.650	1	CH	0.00040	0.00153	0.00153	15.37662
P0187-AS01-032614	787859	0.25	3670.38	100/1.300	0	ND	0.00040	0.00081	<0.00081	<7.68831
P0187-AS02-032614	787860	0.25	3650.04	100/1.300	1	CH	0.00040	0.00081	0.00081	7.68831
P0187-AS03-032614	787861	0.25	3713.4	50/0.650	1	CH	0.00040	0.00159	0.00159	15.37662

DF - Dilution Factor
L - Liter
ND - Not-Detected
s/cc - Structure/Cubic Centimeter
s/mm^2 - Structure/Square millimeter

CH - Chrysotile

Batta Check List for Delivery Packages

Company: BATTA LABORATORIES, INC. **EPA ID#:** DE 004

EPA CASE#: RFP 279 **LAB PROJ#:** L6888F

EPA SDG#: FB-A-030414 **Date Received:** MULTIPLE

Total Units: 27 **Sample Matrix:** ☐ Bulk ☐ Water ☒ Air

X **Laboratory Reports/Sample Summary (check)**

☐ PLM ☒ PCM ☐ TEM ☐ Moisture ☐ Particle Size

X **Original (EPA/CLIENT) COC(s)**

X **EDD Copies (included in CD/DVD discs)**

N/A **Prep Sheets**

X **Copy of Analytical Benchsheets**

X **QC Data**

X **Miscellaneous (Specified in the comment box below)**

Case Narrative

This data package is pertinent to 4 sample shipment evnts under the EPA order RFP# 279 through Weston Solutions, Inc. Date of sample receiving and sample conditions, together with sample matrix information are documented on the client provided COC(s), EPA Region 2 SDG forms and/or custody forms. There are total of 27 ambient air samples received for analysis using the NIOSH 7400 (PCM) and NIOSH 7402 (TEM) methods. Of the 27 samples, 18 were analyzed for PCM due to either filter overloading or damages (see SDG DC-1 forms for details).

This data package only contains PCM analysis by the NIOSH 7400 method. Analysis by NIOSH 7402 TEM method is included in a separate data package. The detection limit defined by the method is 5.5 fibers for 100 fields of views, or 7 fibers per squire millimeters.

The data package contains a hardcopy report and two data DVD/CD discs. The data discs contain a copy of the hardcopy report package in PDF format, plus EPA Region 2 EDDs or NADES EDDS whichever appropriate for each analysis. This data package contains both EDD formats. The hardcopy data package is organized with sections in the following manner: EPA Region 2 DC-2 Form, Batta Check List (w/ case narratives), SDG Cover Sheet, Summary Report of Analysis, EPA Region 2 DC-1 Form, Field COC, Communications, Miscellaneous, Nomenclature, Counting Rules, Data Validation and Calculation, Reanalysis, Standard Analysis, Calibrations and Routines, and NADES Data Sheet and Report.

Signature: **Title:** LAB MANAGER

Print Name: BO LI **Date:** 3/17/2014

Dedicated to a Cleaner Environment Since 1982

batta LABORATORIES

E.P.A. LAB ID # DE 004

BATTA LABORATORIES, INC.

A Certified MBE Company

Delaware Industrial Park, 6 Garfield Way,
Newark, DE 19713-5817
Tel. (302) 737-3376 Fax (302) 737-5764

Web : http://www.battaenv.com E-mail : battaenv@battaenv.com

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/14/2014

Sampling Data

Date Sampled: 3/4/14

BLI Project#: L6888F

Sampled By: CLIENT

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Analyzed: 3/6/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786557	FB-A-030414	N/A	0	100	<5.5	N/A	<7.0	N/A
786558	LB-A-030414	N/A	0	100	<5.5	N/A	<7.0	N/A
786559	P0006-AS01-0304/14	N/A	3646.8	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED W/ PARTICULATE	
786560	P0006-AS02-0304/14	N/A	3634.2	N/A	N/A	0.001	SAMPLE VOIDED DAMAGED FILTER	
786561	P0006-AS03-0304/14	N/A	3632.4	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED W/ PARTICULATE	
786562	P0047-AS01-0304/14	N/A	3639.6	100	27	0.001	36.9	0.004

ANALYST: A. YOHN

REVIEWED BY:

* Sample results listed above are not blank-corrected.
* Results pertain only to the items tested.
* This report does not constitute endorsement by AIHA and/or any other U.S. government agencies.
* Named analyst may not be sole analyst. Refer to Chain of Custody for additional analysts.
* Sample volumes are calculated from data supplied by the client. Batta Laboratories, Inc. does not accept liability for results expressed in fibers per cubic centimeter. Furthermore, Batta Laboratories assumes no responsibility for the accuracy of results reflected by the use of improper collection techniques or equipment.
* Current YTD intralaboratory Sr value is 0.22. This value may change slightly over time.

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NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/14/2014

Sampling Data

Date Sampled: 3/4/14

BLI Project#: L6888F

Sampled By: CLIENT

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Analyzed: 3/6/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786563	P0047-AS02-0304	N/A	3596.4	100	25	0.001	31.8	0.003
786564	P0047-AS03-0304	N/A	3652.2	100	41.5	0.001	52.9	0.006

ANALYST: A. YOHN

REVIEWED BY:

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A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/7/2014

Sampling Data

BLI Project#: L6888F

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Sampled: 3/5/14

Sampled By: CLIENT

Date Analyzed: 3/7/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786587	P0050-AS01-0305	N/A	3657.6	100	19	0.001	24.2	0.003
786588	P0050-AS02-0305	N/A	3753	100	14	0.001	17.8	0.002
786589	P0050-AS03-0305	N/A	3778.2	100	20	0.001	25.5	0.003

ANALYST: A. YOHN

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/8/2014

Sampling Data

BLI Project#: L6888F
Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Sampled: 3/6/14
Sampled By: CLIENT
Date Analyzed: 3/8/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786635	P0009-AS01-0306 14	N/A	3805.5	63	100	0.001	202.2	0.02
786636	P0009-AS02-0306 14	N/A	3748.1	100	80	0.001	101.9	0.01
786637	P0009-AS03-0306 14	N/A	3783.3	66	100	0.001	193	0.02
786638	P0069-AS01-0306 14	N/A	4024.8	N/A	N/A	N/A	SAMPLE VOIDED OVERLOAD W/ PARTICULATES	
786639	P0069-AS02-0306 14	N/A	3927.3	N/A	N/A	N/A	SAMPLE VOIDED OVERLOAD W/ PARTICULATES	
786640	P0069-AS03-0306 14	N/A	3896.1	N/A	N/A	N/A	SAMPLE VOIDED OVERLOAD W/ PARTICULATES	

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/11/2014

Sampling Data

BLI Project#: L6888F

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Sampled: 3/8/14

Sampled By: CLIENT

Date Analyzed: 3/11/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786883	FB-A-030814	N/A	0	100	<5.5	N/A	<7.0	N/A
786884	P0008-AS01-0308/4	N/A	3686.4	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
786885	P0008-AS02-0308/4	N/A	3636	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
786886	P0008-AS03-0308/4	N/A	3688.2	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
786887	P0057-AS01-0307/4	N/A	3650.4	100	29	0.001	36.9	0.004
786888	P0057-AS02-0307/4	N/A	3733.2	100	25	0.001	31.8	0.003

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/11/2014

Sampling Data

Date Sampled: 3/7/14

BLI Project#: L6888F

Sampled By: CLIENT

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279

Date Analyzed: 3/11/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786889	P0057-AS03-0307/14 (6)	N/A	3697.2	100	26	0.001	33.1	0.003
786890	P0058-AS01-0307/14 (6)	N/A	3686.4	100	25	0.001	31.8	0.003
786891	P0058-AS02-0307/14 (6)	N/A	3636	100	27	0.001	34.4	0.004
786892	P0058-AS03-0307/14 (6)	N/A	3602.9	100	26	0.001	33.1	0.004

ANALYST: JUDY XU

REVIEWED BY:

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* Current YTD intralaboratory Sr value is 0.22. This value may change slightly over time.

FIELD COC

USEPA
DateShipped: 3/5/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-030514-142736-0021
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Ribers/ Field	Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	F/CC
1/100	786557	FB-A-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	08:14	1	MCE Cassette	None		Liters	N	8:14:00 AM		—
1/100	558	LB-A-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	08:13	1	MCE Cassette	None		Liters	N	8:13:00 AM		—
overload w/ particulate	559	P0006-AS01-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3646.8	Liters	N	10:00:00 AM	4:00:00 PM	—
damaged filter	560	P0006-AS02-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3634.2	Liters	N	10:00:00 AM	4:00:00 PM	—
overload w/ particulate	561	P0006-AS03-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3632.4	Liters	N	10:00:00 AM	4:00:00 PM	—
29/100 27 3/6/14	562	P0047-AS01-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3639.6	Liters	N	11:15:00 AM	5:15:00 PM	0.0036
25/100	563	P0047-AS02-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3596.4	Liters	N	11:15:00 AM	5:15:00 PM	0.0034
46/100	564	P0047-AS03-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3652.2	Liters	N	11:15:00 AM	5:15:00 PM	0.0056

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/5/14 1600	Bonnie Mei BATTA LABORATORIES	3/6/14 @ 0955	

RFP# 279 DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

USEPA
DateShipped: 3/6/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-030614-131636-0023
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Fd/Fd	Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	F/cc
19/100	786587	P0050-AS01-030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3657.6	Liters	N	10:30:00 AM	4:30:00 PM	0.0025
14/100	588	P0050-AS02-030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3753	Liters	N	10:30:00 AM	4:30:00 PM	0.001
20/100	589	P0050-AS03-030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3778.2	Liters	N	10:30:00 AM	4:30:00 PM	0.0026

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WastonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signatura and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/6/14 1430	Bonnie The BATTA LABORATORIES	3/7/14 0948	

RFP# 279 DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

USEPA
DateShipped: 3/7/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-030714-125911-0026
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

RFP# 279 DATA PACKAGE - PCM ANALYSIS BY NIOSH 7400

pcm

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	
286635	P0009-AS01-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3805.45	Liters	N	9:00:00 AM	3:10:00 PM	100/0.02
36	P0009-AS02-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3748.1	Liters	N	9:00:00 AM	3:10:00 PM	80/0.01
37	P0009-AS03-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3783.25	Liters	N	9:00:00 AM	3:10:00 PM	100/0.02
38	P0069-AS01-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	4024.8	Liters	N ok	10:15:00 AM	4:45:00 PM	ok
39	P0069-AS02-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3927.3	Liters	N ok	10:15:00 AM	4:45:00 PM	ok
40	P0069-AS03-030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3896.1	Liters	N ok	10:15:00 AM	4:45:00 PM	ok

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/7/14 1400			
			Bo Li	3/08/14 16:00	

BATT LABORATORIES, INC.

Page 1 of 1

USEPA
DateShipped: 3/10/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031014-111810-0028
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	
786883	FB-A-030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	08:10	1	MCE Cassette	None		Liters	N	8:10:00 AM	8:10:00 AM	1/100
884	P0008-AS01-030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3686.4	Liters	N	8:30:00 AM	2:30:00 PM	OL
885	P0008-AS02-030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3636	Liters	N	8:30:00 AM	2:30:00 PM	OL
886	P0008-AS03-030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3688.2	Liters	N	8:30:00 AM	2:30:00 PM	OL
887	P0057-AS01-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3650.4	Liters	N	10:15:00 AM	4:15:00 PM	29/100 0.004
888	P0057-AS02-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3733.2	Liters	N	10:15:00 AM	4:15:00 PM	25/100 0.003
889	P0057-AS03-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3697.2	Liters	N	10:15:00 AM	4:15:00 PM	26/100 0.003
890	P0058-AS01-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3686.4	Liters	N	9:00:00 AM	3:00:00 PM	25/100 0.003
891	P0058-AS02-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3636	Liters	N	9:00:00 AM	3:00:00 PM	27/100 0.004
892	P0058-AS03-030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3602.88	Liters	N	9:00:00 AM	3:00:00 PM	26/100 0.004
Joel Petty														

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/10/14 1230	Bonnie Mei BATTA LABORATORIES	3/11/14 @ 1010	

Batta Data Package Checklist

Company:	Batta Laboratories, Inc.	**EPA ID#:**	DE 004
EPA CASE#:	RFP 279A	**LAB PROJ#:**	L6888G
EPA SDG#:	MULTIPLE	**Date Received:**	MULTIPLE
Total Units:	73	**Revision #:**	INITIAL

Data Package Type: ☐ Particle Size ☐ Moisture ☐ PLM ☒ PCM ☐ TEM

Sample Matrix: ☐ Bulk ☐ Soil ☒ Air ☐ Water

X	COC	N/A	Prep Sheet	See Narrative	EDD
X	QA Data	X	Bench Sheet	N/A	MISC.

Case Narrative:

This data package is pertinent to 73 sample units under the EPA order RFP# 279A through Weston Solutions, Inc. Date of sample receiving and sample conditions, together with sample matrix information are documented on the client provided COC(s), EPA Region 2 SDG forms and/or custody forms. Of these 73 units, 62 were analyzed by the NIOSH 7400 method. The rest were deemed in the lab to be overloaded during the sample collection. Please refer to attached COCs and EPA Region 2 DC-1 for details.

This data package contains the analysis only by the NIOSH 7400 PCM method. The detection limit defined by the method is is 5.5 fibers or 7 fibers/mm^2. Please refer to the Counting Rules, Data Validation and Calculation section of this package for details on how results were calculated and reported.

The data package contains a hardcopy report. Data DVD/CD discs that contain a copy of this hardcopy report package in PDF format plus EPA Region 2 EDDs or NADES EDDS whichever appropriate for each analysis will be shipped in a later time at the completion of the entire project for the purpose of data integrity. NADES EDD does not apply to this package. The hardcopy data package is organized with sections in the following manner: EPA Region 2 DC-2 Form (the inventory sheet), Batta Check List (w/ case narratives), SDG Cover Sheet, Summary Report of Analysis, EPA Region 2 DC-1 Form, Field COC, Data Validation and Calculation, Reanalysis, Standard Analysis, Calibrations and Routines, and NADES Data Sheet and Report. Reviewers who are not familiar with asbestos terminology and abbreviations used in this package are referred to the Nomenclature section featured in the first data package of this kind delivered at the beginning of this project.

Please direct all technical inquiries to: Bo Li, Ph. D., Batta Laboratories, Inc., Delaware Industrial Park, 6 Garfield Way, Newark, DE 19713; or at E-mail: bo.li@battaenv.com.

Signature:		**Title:**	Manager
Print Name:	Bo Li	**Date:**	04/03/2014

SUMMARY REPORT OF ANALYSIS

BY

NIOSH 7400, ISSUE 2: 15 AUGUST, 1994

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Environment Since 1982

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BATTA LABORATORIES, INC.

A Certified MBE Company

Delaware Industrial Park, 6 Garfield Way,
Newark, DE 19713-5817
Tel. (302) 737-3376 Fax (302) 737-5764

Web : http://www.battaenv.com E-mail : battaenv@battaenv.com

E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP
#100448

NVLAP
#101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/12/2014

Sampling Data

BLI Project#: L6888G
Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/10/14
Sampled By: CLIENT
Date Analyzed: 3/12/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786925	P0008-AS04-0310 14 6	N/A	3619.8	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
786926	P0008-AS05-0310 14 6	N/A	3724.2	N/A	N/A	0.001	SAMPLE VDIDED OVERLOADED	
786927	P0008-AS06-0310 14 6	N/A	3765.6	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
786928	P0076-AS01-0310 14 6	N/A	3646.8	100	13	0.001	16.6	0.002
786929	P0076-AS02-0310 14 6	N/A	3645	100	30	0.001	38.2	0.004
786930	P0076-AS03-0310 14 6	N/A	3709.8	100	20	0.001	25.5	0.003

ANALYST: JUDY XU

REVIEWED BY:

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A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/13/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/11/14

Sampled By: CLIENT

Date Analyzed: 3/13/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
786995	LB-A-031114	N/A	0	100	<5.5	N/A	<7.0	N/A
786996	P0007-AS01-0311/4	N/A	3661.2	100	14	0.001	17.8	0.002
786997	P0007-AS02-0311/4	N/A	3799.8	100	10	0.001	12.7	0.001
786998	P0007-AS03-0311/4	N/A	3663	100	12	0.001	15.3	0.002
786999	P0051-AS01-0311/4	N/A	3794.4	100	6	0.001	7.6	0.001
787000	P0051-AS02-0311/4	N/A	3618	100	8	0.001	10.2	0.001

ANALYST: JUDY XU

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NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/13/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/11/14

Sampled By: CLIENT

Date Analyzed: 3/13/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787001	P0051-AS03-0311	N/A	3634.2	100	<5.5	0.001	<7.0	<0.001

ANALYST: JUDY XU

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CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/14/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/12/14

Sampled By: CLIENT

Date Analyzed: 3/14/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787077	FB-A-031214	FB	0	100	<5.5	N/A	<7.0	N/A
787078	P0054-AS01-0312 14/6	FS	3775.7	100	10	0.001	12.7	0.001
787079	P0054-AS02-0312 14/6	FS	3901.9	100	16	0.001	20.4	0.002
787080	P0054-AS03-0312 14/6	FS	3853.1	100	14	0.001	17.8	0.002
787081	P0055-AS01-0312 14/6	FS	3776.4	100	9	0.001	11.5	0.001
787082	P0055-AS02-0312 14/6	FS	3661.2	100	8	0.001	10.2	0.001

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Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/14/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/12/14

Sampled By: CLIENT

Date Analyzed: 3/14/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787083	P0055-AS03-0312 14 (55)	FS	3690	100	6	0.001	7.6	0.001

ANALYST: JUDY XU

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A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/18/2014

Sampling Data

BLI Project#: L6888G
Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/13/14
Sampled By: CLIENT
Date Analyzed: 3/18/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787216	P0065-AS01-0313 14	FS	3856.9	100	29.5	0.001	37.6	0.004
787217	P0065-AS02-0313 14	FS	3762.4	100	26	0.001	33.1	0.003
787218	P0065-AS03-0313 14	FS	3787.5	100	25	0.001	31.8	0.003
787219	P0067B-AS01-031 14	FS	3853.6	100	<5.5	0.001	<7.0	<0.001
787220	P0067B-AS02-031 14	FS	3727.8	100	8	0.001	10.2	0.001
787221	P0067B-AS03-031 14	FS	3796.2	100	6	0.001	7.6	0.001

ANALYST: A. YOHN

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/18/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/15/14

Sampled By: CLIENT

Date Analyzed: 3/18/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787252	P0056A-AS01-031514	FS	3814.2	100	15	0.001	19.1	0.002
787253	P0056A-AS02-031514	FS	3640.1	100	16	0.001	20.4	0.002
787254	P0056A-AS03-031514	FS	3639.6	100	23	0.001	29.3	0.003
787255	P0056B-AS01-031414	FS	3675.6	100	20	0.001	25.5	0.003
787256	P0056B-AS02-031414	FS	3751.2	100	20	0.001	25.5	0.003
787257	P0056B-AS03-031414	FS	3825	100	40	0.001	51	0.005

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

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NVLAP #101032

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Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/18/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/14/14

Sampled By: CLIENT

Date Analyzed: 3/18/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787258	P0067A-AS01-0314/14	FS	3718.8	100	11	0.001	14	0.001
787259	P0067A-AS02-0314/14	FS	3704.4	100	7	0.001	8.9	0.001
787260	P0067A-AS03-0314/14	FS	3727.8	100	14	0.001	17.8	0.002
787261	P0074-AS01-0315/14	FS	3771	100	10	0.001	12.7	0.001
787262	P0074-AS02-0315/14	FS	3691.8	100	6	0.001	7.6	0.001
787263	P0074-AS03-0315/14	FS	3807	100	6.5	0.001	8.3	0.001

ANALYST: JUDY XU

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Tel. (302) 737-3376 Fax (302) 737-5764

Web : http://www.battaenv.com E-mail : battaenv@battaenv.com

E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/20/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/18/14

Sampled By: CLIENT

Date Analyzed: 3/20/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787320	FB-A-031814	FB	0	100	<5.5	N/A	<7.0	N/A
787321	P0068-AS01-0318 14	FS	3611.7	100	31	0.001	39.5	0.004
787322	P0068-AS02-0318 14	FS	3882.6	100	39	0.001	49.7	0.005
787323	P0068-AS03-0318 14	FS	3805.2	100	37.5	0.001	47.8	0.005
787324	P0077-AS01-0318 14	FS	4019	100	13.5	0.001	17.2	0.002
787325	P0077-AS02-0318 14	FS	4024.8	100	8	0.001	10.2	0.001

ANALYST: A. YOHN

REVIEWED BY:

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* Current YTD intralaboratory Sr value is 0.22. This value may change slightly over time.

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A Certified MBE Company

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A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/20/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/18/14

Sampled By: CLIENT

Date Analyzed: 3/20/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787326	P0077-AS03-0318/14	FS	4017	100	8.5	0.001	10.8	0.001

ANALYST: A. YOHN

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/21/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/19/14

Sampled By: CLIENT

Date Analyzed: 3/21/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787418	P0073-AS01-031914	FS	3769.2	100	10	0.001	12.7	0.001
787419	P0073-AS02-031914	FS	3709.8	100	7	0.001	8.9	0.001
787420	P0073-AS03-031914	FS	3832.2	100	6	0.001	7.6	0.001

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/25/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/21/14

Sampled By: CLIENT

Date Analyzed: 3/25/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787618	P0046-AS01-0321 14	FS	3543.3	89	102	0.001	146	0.016
787619	P0046-AS02-0321 14	FS	3736.6	100	98	0.001	124.8	0.013
787620	P0046-AS03-0321 14	FS	3916.5	100	78.5	0.001	100	0.01

ANALYST: A. YOHN

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/26/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/24/14

Sampled By: CLIENT

Date Analyzed: 3/26/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787702	P0004-AS01-0324 14	FS	3717	100	28	0.001	35.7	0.004
787703	P0004-AS02-0324 14	FS	3717	100	28	0.001	35.7	0.004
787704	P0004-AS03-0324 14	FS	3738.6	100	19	0.001	24.2	0.002
787705	P0079-AS01-0324 14	FS	3693.6	100	12	0.001	15.3	0.002
787706	P0079-AS02-0324 14	FS	3655.8	100	16	0.001	20.4	0.002
787707	P0079-AS03-0324 14	FS	3648.6	100	24	0.001	30.6	0.003

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/27/2014

Sampling Data

		Date Sampled:	3/25/14
BLI Project#:	L6888G	Sampled By:	CLIENT
Project Name:	WESTON SDLUTIONS,INC.-RST 2 RFP NO. 279A	Date Analyzed:	3/27/14

Analytical Parameters

Effective Filter Area (mm^2): 385

Graticule Field Area(mm^2): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787756	FB-A-032514	FB	0	100	<5.5	N/A	<7.0	N/A
787757	P0005-AS01-0325	FS	3722.4	100	15	0.001	19.1	0.002
787758	P0005-AS02-0325	FS	3803.4	100	38	0.001	48.4	0.005
787759	P0005-AS03-0325	FS	3664.8	100	12	0.001	15.3	0.002
787760	P0049-AS01-0325	FS	3610.8	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787761	P0049-AS02-0325	FS	3661.2	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	

ANALYST: JUDY XU

REVIEWED BY:

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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/27/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/25/14

Sampled By: CLIENT

Date Analyzed: 3/27/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787762	P0049-AS03-0325	FS	3848.4	100	68	0.001	86.6	0.009

ANALYST: JUDY XU

REVIEWED BY:

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Newark, DE 19713-5817
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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/28/2014

Sampling Data

BLI Project#: L6888G

Project Name: WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

Date Sampled: 3/26/14

Sampled By: CLIENT

Date Analyzed: 3/28/14

Analytical Parameters

Effective Filter Area (mm ^{2}): 385

Graticule Field Area(mm ^{2}): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787862	P0186-AS01-0326|4	FS	~~3828.8~~ 3826.38	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787863	P0186-AS02-0326|4	FS	3836.3	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787864	P0186-AS03-0326|4	FS	~~3858.8~~ [illegible]	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787865	P0187-AS01-0326|4	FS	~~3672~~ 3670.38	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787866	P0187-AS02-0326|4	FS	3650.4 .011	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	
787867	P0187-AS03-0326|4	FS	~~3745.2~~ 3713.41	N/A	N/A	0.001	SAMPLE VOIDED OVERLOADED	

ANALYST: JUDY XU

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Newark, DE 19713-5817
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E.P.A. LAB ID # DE 004

A.I.H.A. /NLLAP #100448

NVLAP #101032

CERTIFICATE OF PCM ANALYSIS

Test Method: NIOSH 7400, Issue 2: 15 August 1994

Report Date: 3/31/2014

Sampling Data

		Date Sampled:	3/27/14
BLI Project#:	L6888G	Sampled By:	CLIENT
Project Name:	WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A	Date Analyzed:	3/31/14

Analytical Parameters

Effective Filter Area (mm^2): 385

Graticule Field Area(mm^2): 0.00785

Lab Sample #	Client Sample #	Sample Type	Sample Volume(L)	Fields	Fibers	Detection Limit(F/cc)	Test Results F/mm ^{2}	Test Results F/cc
787911	P0189-AS01-0327/14	FS	3677.4	100	50	0.001	63.7	0.007
787912	P0189-AS02-0327/14	FS	3803.4	100	51	0.001	65	0.007
787913	P0189-AS03-0327/14	FS	3839.4	100	20	0.001	25.5	0.003

ANALYST: JUDY XU

REVIEWED BY:

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FIELD COC

USEPA
DateShipped: 3/11/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031114-112802-0031
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	
786925	P0008-AS04-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	15:15	1	MCE Cassette	None	3619.8	Liters	N	9:15:00 AM	3:15:00 PM	0L
926	P0008-AS05-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	15:15	1	MCE Cassette	None	3724.2	Liters	N	9:15:00 AM	3:15:00 PM	0L
927	P0008-AS06-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	15:15	1	MCE Cassette	None	3765.6	Liters	N	9:15:00 AM	3:15:00 PM	0L
928	P0076-AS01-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3646.8	Liters	N	8:15:00 AM	2:15:00 PM	13/100 0.0
929	P0076-AS02-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3645	Liters	N	8:15:00 AM	2:15:00 PM	30/1[illegible] 0.0
930	P0076-AS03-031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3709.8	Liters	N	8:15:00 AM	2:15:00 PM	20/1[illegible] 0.0

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/11/14 1400	Bonnie Mc BATTA LABORATORIES	3/12/14 @ 0930	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

Page 1 of 1

USEPA
DateShipped: 3/12/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031214-124554-0033
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
786995	LB-A-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	08:05	1	MCE Cassette	None		Liters	N	8:05:00 AM	8:05:00 AM
996	P0007-AS01-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3661.2	Liters	N	9:00:00 AM	3:00:00 PM
997	P0007-AS02-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3799.8	Liters	N	9:00:00 AM	3:00:00 PM
998	P0007-AS03-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3663	Liters	N	9:00:00 AM	3:00:00 PM
999	P0051-AS01-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	16:15	1	MCE Cassette	None	3794.4	Liters	N	10:15:00 AM	4:15:00 PM
781000	P0051-AS02-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	16:15	1	MCE Cassette	None	3618	Liters	N	10:15:00 AM	4:15:00 PM
001	P0051-AS03-031114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	16:15	1	MCE Cassette	None	3634.2	Liters	N	10:15:00 AM	4:15:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/12/14 1400	Bonnie Mo BATTA LABORATORIES	3/13/14 @ 0936	

USEPA
DateShipped: 3/13/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031314-083644-0035
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
78707	FB-A-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	08:06	1	MCE Cassette	None		Liters	N	8:06:00 AM	8:06:00 AM
078	P0054-AS01-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	14:45	1	MCE Cassette	None	3775.69	Liters	N	8:30:00 AM	2:45:00 PM
079	P0054-AS02-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	14:45	1	MCE Cassette	None	3901.88	Liters	N	8:30:00 AM	2:45:00 PM
080	P0054-AS03-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	14:45	1	MCE Cassette	None	3853.13	Liters	N	8:30:00 AM	2:45:00 PM
081	P0055-AS01-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3776.4	Liters	N	9:10:00 AM	3:10:00 PM
082	P0055-AS02-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3661.2	Liters	N	9:10:00 AM	3:10:00 PM
083	P0055-AS03-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3690	Liters	N	9:10:00 AM	3:10:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/13/14 1430	Bonnie Mc BATTA LABORATORIES	3/14/14 @ 0917	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

USEPA
DateShipped: 3/14/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031414-123018-0037
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
787216	P0065-AS01-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3856.88	Liters	N	9:00:00 AM	3:15:00 PM
217	P0065-AS02-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3762.38	Liters	N	9:00:00 AM	3:15:00 PM
218	P0065-AS03-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3787.5	Liters	N	9:00:00 AM	3:15:00 PM
219	P0067B-AS01-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3853.55	Liters	N	10:00:00 AM	4:10:00 PM
220	P0067B-AS02-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3727.75	Liters	N	10:00:00 AM	4:10:00 PM
221	P0067B-AS03-031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3796.2	Liters	N	10:00:00 AM	4:10:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/14/14 1400	Bonnie Mei BATTA LABORATORIES	3/17/14@1042	

USEPA
DateShipped: 3/17/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031714-132757-0039
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
787252	P0056A-AS01-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3814.2	Liters	N	9:00:00 AM	3:00:00 PM
253	P0056A-AS02-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3640.14	Liters	N	9:00:00 AM	3:00:00 PM
254	P0056A-AS03-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3639.6	Liters	N	9:00:00 AM	3:00:00 PM
255	P0056B-AS01-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3675.6	Liters	N	6:00:00 AM	12:00:00 PM
256	P0056B-AS02-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3751.2	Liters	N	6:00:00 AM	12:00:00 PM
257	P0056B-AS03-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3825	Liters	N	6:00:00 AM	12:00:00 PM
258	P0067A-AS01-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3718.8	Liters	N	6:40:00 AM	12:40:00 PM
259	P0067A-AS02-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3704.4	Liters	N	6:40:00 AM	12:40:00 PM
260	P0067A-AS03-031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3727.8	Liters	N	6:40:00 AM	12:40:00 PM
261	P0074-AS01-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	14:00	1	MCE Cassette	None	3771	Liters	N	8:00:00 AM	2:00:00 PM

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/17/14 1530	Bonnie McBatta Batta Laboratories	3/18/14 0948	

USEPA
DateShipped: 3/17/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031714-132757-0039
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
187262	P0074-AS02-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	14:00	1	MCE Cassette	None	3691.8	Liters	N	8:00:00 AM	2:00:00 PM
263	P0074-AS03-031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	14:00	1	MCE Cassette	None	3807	Liters	N	8:00:00 AM	2:00:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/17/14 1530	Bonni Mei Batta Laboratories	3/18/14 @ 0943	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

Page 1 of 1

USEPA
DateShipped: 3/19/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-031914-111710-0041
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
78T320	FB-A-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	07:15	1	MCE Cassette	None		Liters	N	7:15:00 AM	7:15:00 AM
321	P0068-AS01-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None	3611.7	Liters	N	9:10:00 AM	3:10:00 PM
322	P0068-AS02-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None	3882.6	Liters	N	9:10:00 AM	3:10:00 PM
323	P0068-AS03-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None	3805.2	Liters	N	9:10:00 AM	3:10:00 PM
324	P0077-AS01-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	14:30	1	MCE Cassette	None	4018.95	Liters	N	8:00:00 AM	2:30:00 PM
325	P0077-AS02-031614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	14:30	1	MCE Cassette	None	4024.8	Liters	N	8:00:00 AM	2:30:00 PM
326	P0077-AS03-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	14:30	1	MCE Cassette	None	4017	Liters	N	8:00:00 AM	2:30:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/19/14 1500	Fannie Mei BATTA LABORATORIES	3/20/14 @ 0948	

USEPA
DateShipped: 3/20/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032014-111142-0043
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
78418	P0073-AS01-031914	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3769.2	Liters	N	8:00:00 AM	2:00:00 PM
419	P0073-AS02-031914	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3709.8	Liters	N	8:00:00 AM	2:00:00 PM
420	P0073-AS03-031914	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3832.2	Liters	N	8:00:00 AM	2:00:00 PM

10/100 0.001
7/100 0.00
6/100 0.000

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/20/14 1400	Bonnie Mei BATTA LABORATORIES	3/21/14 @ 0900	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

USEPA
DateShipped: 3/24/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032414-131848-0045
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
78618	P0046-AS01-032114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3543.31	Liters	N	8:50:00 AM	3:00:00 PM
619	P0046-AS02-032114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3736.63	Liters	N	8:50:00 AM	3:00:00 PM
620	P0046-AS03-032114	Asbestos PCM (NIOSH 7400) and TEM (NIDSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3916.45	Liters	N	8:50:00 AM	3:00:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/24/14 1430	Bonnie Mai BATTA LABORATORIES	3/25/14 @ 0940	

USEPA
DateShipped: 3/25/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032514-124456-0048
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
787702	P0004-AS01-032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	15:50	1	MCE Cassette	None	3717	Liters	N	9:50:00 AM	3:50:00 PM
703	P0004-AS02-032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	15:50	1	MCE Cassette	None	3717	Liters	N	9:50:00 AM	3:50:00 PM
704	P0004-AS03-032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	15:50	1	MCE Cassette	None	3738.6	Liters	N	9:50:00 AM	3:50:00 PM
705	P0079-AS01-032412	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	14:30	1	MCE Cassette	None	3693.6	Liters	N	8:30:00 AM	2:30:00 PM
706	P0079-AS02-032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	14:30	1	MCE Cassette	None	3655.8	Liters	N	8:30:00 AM	2:30:00 PM
707	P0079-AS03-032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	14:30	1	MCE Cassette	None	3648.6	Liters	N	8:30:00 AM	2:30:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulone.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/25/14 13:3	Bennie Mei Batta Laboratories	3/26/14@0930	

USEPA
DateShipped: 3/26/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032614-130037-0050
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	
787756	FB-A-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	08:15	1	MCE Cassette	None		Liters	N	7:15:00 AM	7:15:00 AM	3/100
757	P0005-AS01-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3722.4	Liters	N	9:00:00 AM	3:00:00 PM	15/100 0.002
758	P0005-AS02-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3803.4	Liters	N	9:00:00 AM	3:00:00 PM	38/100 0.005
759	P0005-AS03-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3664.8	Liters	N	9:00:00 AM	3:00:00 PM	12/100 0.002
760	P0049-AS01-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3610.8	Liters	N	10:00:00 AM	4:00:00 PM	0L
761	P0049-AS02-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3661.2	Liters	N	10:00:00 AM	4:00:00 PM	0L
762	P0049-AS03-032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3848.4	Liters	N	10:00:00 AM	4:00:00 PM	68/100 0.009

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/26/14 1400	Bonnie Nei BATTA LABORATORIES	3/27/14 @1000	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

USEPA
DateShipped: 3/27/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032714-112056-0053
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time
8862	P0186-AS01-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3826.88	Liters	N	9:00:00 AM	3:15:00 PM
863	P0186-AS02-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3836.25	Liters	N	9:00:00 AM	3:15:00 PM
864	P0186-AS03-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3856.88	Liters	N	9:00:00 AM	3:15:00 PM
865	P0187-AS01-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3670.38	Liters	N	10:00:00 AM	4:00:00 PM
866	P0187-AS02-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3650.04	Liters	N	10:00:00 AM	4:00:00 PM
867	P0187-AS03-032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3713.4	Liters	N	10:00:00 AM	4:00:00 PM

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RSTJ	3/27/14 1330	Bonnie Mei BATTA LABORATORIES	3/28/14@1020	

USEPA
DateShipped: 3/28/2014
RFP# 279

CHAIN OF CUSTODY RECORD
Site #: 0029 - 0122
Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032814-101327-0055
Cooler #: 1
Lab: Batta Environmental Associates, Inc.
Lab Phone: 302-737-3376

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	Volume	Vol Units	Lab QC	Start_Time	Stop_Time	
78911	P0189-AS01-032714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3677.4	Liters	N	10:00:00 AM	4:00:00 PM	50/100 0.0067
912	P0189-AS02-032714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3803.4	Liters	N	10:00:00 AM	4:00:00 PM	51/100 0.007
913	P0189-AS03-032714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3839.4	Liters	N	10:00:00 AM	4:00:00 PM	29/100 0.007

Joel Petty

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analyses	Joel Petty RST2	3/28/14 1130	Bonnie Mis Batta Laboratories	3/31/14 @ 1025	

RFP# 279A DATA PACKAGE: PCM ANALYSIS BY NIOSH 7400

BATT LABORATORIES, INC.

COUNTING RULES, DATA VALIDATION AND CALCULATION

METHOD: NIOSH 7400 Issue 2: 15 August 1994

Counting Rules:

Fiber length: >5 µm
Width: >0.25 µm
Aspect Ratio: ≥3:1

Data Validation and Calculation:

Effective Filter Area (i.e. Primary Filter Area in NADES Sheets): 385 mm^2
Calibrated Graticule Area (FOV in NADES Sheets): 0.00785 mm^2

Calculation Formula:

Fiber Density (fibers/mm^2 or f/mm^2) = number of fibers counted/(number of FOVs x area of FOV;

Or,

f/mm^2 = number of fibers/(0.00785 x number of FOVs) .....1)

Note: blank counts were not subtracted from the counts of each field sample.

Fiber Concentration (fibers/cm^3 or f/cc):

f/cc = (fiber density x filter area) / (volume in liter x 1000) .....2)

Example:

Lab Sample No. 786564;
EPA or Weston Sample No. P0047-AS03-030414
Air Volume: 3652.2 liter
Fiber Counts: 41.5
No. of FOV: 100

According to equation 1), the fiber density is:

f/mm^2 = fiber counts/(0.00785 x no. of FOV) = 41.5/(0.00785x100) = 52.866 or 52.9 (f/mm^2)

According to equation 2), the fiber concentration is:

f/cc = fiber density x filter area / (1000 x volume) = 52.866 x 385 /(1000 x 3652.2) = 0.00557 or 0.006 (f/cc)

How detection limit is calculated (see NADES sheet for explanation):

The detection limit is based on 5.5 fibers detected on a filter, which means any counts below 5.5 fibers will be reported as though 5.5 fibers were detected.

For instance, if the actual count is 1 fiber over 100 fields of view or graticule areas, the fiber density will be reported as 5.5/(0.00785x100) or 7.0064 (i.e. 7.0) f/mm2 with the qualifier "<", and the concentration reported as 0.00074 f/cc or 0.001 f/cc with the qualifier "<".