

Kouchibouguac National Park

186 Route 117, New Brunswick

Hazardous Materials Assessment – FINAL REPORT

Washroom/ Shower Buildings A Thru F and
Kitchen Shelters K1 & K2



File No. TF196450-0000-CD10-RPT-0002

Submitted to:

**Ekistics Planning &
Design**

Attn: Chris Crawford
1 Starr Lane
Dartmouth, NS
B2Y 4V7

Submitted by:

Amec Foster Wheeler Environment & Infrastructure

130 Eileen Stubbs Ave, Suite 201
Dartmouth, Nova Scotia B3B 2C4

October 13, 2017



amec
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wheeler

13 October, 2017

TF196450

Mr. Chris Crawford
Director of Architecture
Ekistics Plan & Design
1 Starr lane
Dartmouth, NS B2Y 4V7

Dear Mr. Crawford:

**Re: Summary Report – Hazardous Materials Assessment – Various Buildings,
Kouchibouguac National Park, 186 Route 117, New Brunswick**

Amec Foster Wheeler Environment & Infrastructure, a Division of Amec Foster Wheeler Americas Limited (Amec Foster Wheeler), was retained by Ekistics Plan & Design to conduct a hazardous materials assessment including the identification, sampling and reporting of potential asbestos containing materials (ACM) and lead based paint throughout various kitchen and shelter structures within Kouchibouguac National Park (the Park).

The purpose of the hazardous materials assessment is to advise the Parks Canada Agency of the presence of any known hazardous material in the locations within the Park listed below:

1. 6 Service Buildings (Washroom/ Showers); and
2. 2 Kitchen Shelters.

These structures are scheduled for renovations and repairs in 2017/2018.

1.0 SCOPE OF WORK

The scope of work consisted of the following tasks:

- Documentation of potential ACMs. Potential ACMs may include (but not limited to) roofing shingles, flooring, mortar, caulking, drywall compound, plaster, fire proofing materials, sound proofing material, and transite board etc.
- Collection of samples or analysis of ACMs.
- Documentation of painted surfaces on both the interior and exterior of the residences that appeared to be deteriorating or flaking.
- Collection of samples for analysis of lead based paint.

TF196450_Kouchibouguac_Hazmat_Kitchens_Shelters_FINAL

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2.0 SITE DESCRIPTION

Kouchibouguac National Park is located along the Acadian Coastal Drive on the eastern shore of New Brunswick. The Park was founded in the late 1960's and covers an approximate area of 240 square kilometres (km²) (Parks Canada, 2017¹). For the purpose of this report, the "site" pertains to the eight building structures listed above. All areas of the site were accessible at the time of the site visit and sampling.

2.1 Service Buildings

Six (6) service buildings on site are currently planned for renovation. These service buildings are primarily washroom and shower facilities. These buildings are generally single storey, slab on grade wooden structures. The buildings are largely unpainted with the exception of eaves and window and door trims, and have a pitched, shingled roof's.



2.2 Kitchen Shelters

Two (2) Kitchen Shelters on site are also planned for renovation. Primarily used for cooking support, these buildings are similar in construction to the service buildings however they have an open layout for picnic table space.



3.0 METHODOLOGY

Amec Foster Wheeler performed a hazardous materials assessment of the structures between the 29th of August and the 7th of September, 2017. Site photographs are provided in Attachment A. The assessment included a visual inspection and sampling program of suspected hazardous materials including ACMs and lead-based paint. The assessment was performed by Mr. Nick Cail. Suspected hazardous materials were visually inspected and sampled using industry standard protocols and procedures.

3.1 Potential Asbestos Containing Material (ACM) Sampling Methodology

During the site assessment, accessible areas of the building were examined for the presence of suspected hazardous materials. Suspect ACMs were obtained by cutting an approximate 2.0 centimetres (cm) x 2.0 cm section of material using a clean knife and placing it in a labelled plastic

¹ Parks Canada. 2017. Website: <http://www.pc.gc.ca/en/pn-np/nb/kouchibouguac/info>.

Ziploc®-type sealable bag. Sample locations containing potentially friable asbestos materials were sealed with duct tape adhesive, following sample collection.

Bulk material samples suspected of containing asbestos were submitted to the EMSL Canada Inc. (EMSL) laboratory located in Mississauga, Ontario (ON) for the analysis of asbestos using Polarized Light Microscopy (PLM) with dispersion staining. The analysis was conducted in accordance with the United States Environmental Protection Agency (USEPA) Method EPA 600/R-93/116 (*Method for the Determination of Asbestos in Bulk Building Materials*)². EMSL is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Industrial Hygiene Association (AIHA) for bulk asbestos fibre analysis by PLM.

3.2 Lead Paint Sampling Methodology

Paint samples were obtained by cutting and scraping areas of flaking paint using clean knives and scrapers. Paint samples were stored in a plastic Ziploc®-type sealable bag. A minimum of five grams (where possible) of paint was obtained from each sampling location; however, for areas where the paint was well adhered and could not be scraped, a sample containing paint and substrate material was collected. A minimum of 25 grams of paint and substrate was obtained at sample locations when required.

Paint samples were submitted to Maxxam Analytics Inc. (Maxxam) laboratory located in Bedford, Nova Scotia for lead paint analysis. The lead analysis was conducted in accordance with the EPA 6020A, method analysis for metals using inductively coupled plasma – mass spectrometry (ICP-MS)³. Samples requiring further leachate testing were sent to the Maxxam Analytics Inc. (Maxxam) laboratory located in Bedford, Nova Scotia for analysis using the toxicity characteristic leaching procedure (TCLP) method. Maxxam is accredited under the Standards Council of Canada (SCC) to perform analysis of lead in paint samples.

3.3 Nomenclature

Sampling locations with potential asbestos were denoted as ACM and potential lead based paint samples were denoted as Paint. The presence, location, and condition of each suspect lead based paint and asbestos sample were recorded. Each paint and asbestos sample was assigned a sample name based on its location (i.e. Service Building A = A-Paint-1).

²United States Environmental Protection Agency (USEPA). 1993. Method for the Determination of Asbestos in Bulk Building Materials. Available online: <https://nepis.epa.gov/Exe/tiff2png.cgi/9100TKSO.PNG?-r+75+-g+7+D%3A%5CZYFILES%5CINDEX%20DATA%5C91THRU94%5CTIFF%5C00002434%5C9100TKSO.TIF>.

³ United States Environmental Protection Agency (USEPA). 1998. Method 6020A Inductively Coupled Plasma - Mass Spectrometry. Available online: <https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf>.

Seventy-nine (79) samples were submitted for analysis of ACMs and forty-four (44) paint chip samples were submitted for lead paint analysis.

4.0 REGULATORY FRAMEWORK

The federal and provincial governments in Canada have prepared and/or adopted numerous acts (and amendments), regulations (and amendments), guidelines, policies, and procedures related to the protection of the environment and the investigation of sites containing hazardous building materials.

4.1 Asbestos-Containing Materials (ACMs)

The New Brunswick *Code of Practice for Working with Materials Containing Asbestos in New Brunswick* (92-106) is referred to when handling and disposing of ACMs. Under these regulations, materials containing greater than 1% asbestos by dry weight are considered to be asbestos containing and should be managed in accordance with the applicable regulations. Asbestos that is tightly bound and not easily crumbled by hand does not require special disposal; however, if friable (crumbly), it must follow the New Brunswick Department of Environment and Local Government (NBDELG) disposal guidelines (2014)⁴.

4.2 Lead in Paint

Analytical results for lead in paint were compared to the current *Federal Hazardous Products Act* (HPA) criteria of 90 milligrams per kilogram (mg/kg). Under the HPA, the lead content limit was reduced from 5,000 mg/kg to 600 mg/kg in 2005 for surface coating materials used in or around the home or other premises where children may become exposed. In 2010, the lead content limit was further reduced from 600 mg/kg to 90 mg/kg.

In order to determine disposal options, the NBDELG has determined that objects/materials containing lead paint that is not leachable and less than 1,000 mg/kg, may be disposed of at a construction and demolition debris disposal site (C&D site). However, this only applies to objects/materials containing lead paint that is tightly bound to the object it is covering. If the paint is flaking, chipping or peeling and in excess of 1,000 mg/kg it cannot be disposed of at a C&D site.

Objects/materials with lead paint in excess of 1,000 mg/kg are subject to leachability testing. Analytical results for lead leachate are compared to the NBDELG limit of 5.00 milligrams per litre (mg/L). Any paints that exceed the lead leachate guideline and require disposal are considered to be leachable toxic waste and must be disposed of at an approved hazardous waste disposal site and not a landfill disposal site.

⁴ New Brunswick Department of Environment and Local Government (NBDELG). 2014. Guidelines for Disposal of Friable Asbestos. Available online: <http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/LandWaste-TerreDechets/FriableAsbestos.pdf>.

5.0 RESULTS

Findings of the hazardous materials assessment are based on visual inspection, sampling of suspect painted surfaces and materials, and laboratory analyses. The analytical results for the asbestos and lead paint results are summarized in Tables 1 and 2 respectively. Laboratory certificates of analysis are provided in Attachment B.

Table 1 Summary of Asbestos Sampling

| Building | Sample Identification | Location | Description | Results |
|---------------------------|-----------------------|----------------|---------------------------------|------------------|
| Service Building A | | | | |
| Exterior | A-ACM-1A | Roof | Roof Shingles | Not detected |
| Exterior | A-ACM-1B | Roof | Roof Shingles | Not detected |
| Exterior | A-ACM-1C | Roof | Roof Shingles | Not detected |
| Interior | A-ACM-2 | Bathroom floor | Floor tile | Not detected |
| Interior | A-ACM-3 | Bathroom floor | Grout from floor tiles | Not detected |
| Interior | A-ACM-4 | Shower room | Shower tile | Not detected |
| Interior | A-ACM-5 | Shower room | Shower tile grout | Not detected |
| Interior | A-ACM-6 | Bathroom | Ceiling tile | Not detected |
| Interior | A-ACM-7 | Bathroom | Floor tile | Not detected |
| Interior | A-ACM-8 | Bathroom | Floor tile grout | Not detected |
| Interior | A-ACM-9 | Bathroom | Wall board | Not detected |
| Interior | A-ACM-10 | Service room | Pipe insulation | Not detected |
| Interior | A-ACM-12 | Service room | Air duct sealant | Not detected |
| Exterior | A-ACM-13 | Exterior wall | Caulking from building exterior | 0.80% Chrysotile |
| Service Building B | | | | |
| Exterior | B-ACM-1A | Roof | Roof Shingles | Not detected |
| Exterior | B-ACM-1B | Roof | Roof Shingles | Not detected |
| Exterior | B-ACM-1C | Roof | Roof Shingles | Not detected |
| Interior | B-ACM-2 | Bathroom floor | Floor tile | Not detected |
| Interior | B-ACM-3 | Bathroom floor | Grout from floor tiles | Not detected |
| Interior | B-ACM-4 | Shower room | Shower tile | Not detected |
| Interior | B-ACM-5 | Shower room | Grout from shower tile | Not detected |
| Interior | B-ACM-6 | Bathroom | Ceiling tile | Not detected |
| Interior | B-ACM-7 | Service room | Pipe insulation | Not detected |

| Building | Sample Identification | Location | Description | Results |
|---------------------------|-----------------------|----------------|---------------------------------|-------------------|
| Interior | B-ACM-8 | Bathroom | Wall board | Not detected |
| Exterior | B-ACM-10 | Exterior wall | Caulking from building exterior | Not detected |
| Service Building C | | | | |
| Exterior | C-ACM-1A | Roof | Roof shingles | Not detected |
| Exterior | C-ACM-1B | Roof | Roof shingles | Not detected |
| Exterior | C-ACM-1C | Roof | Roof shingles | Not detected |
| Interior | C-ACM-2 | Bathroom floor | Floor tile | Not detected |
| Interior | C-ACM-3 | Bathroom floor | Grout from floor tiles | Not detected |
| Interior | C-ACM-4 | Shower room | Shower tile | Not detected |
| Interior | C-ACM-5 | Shower room | Grout from shower tile | Not detected |
| Interior | C-ACM-6 | Bathroom | Ceiling tile | Not detected |
| Interior | C-ACM-7 | Service room | Pipe insulation | Not detected |
| Interior | C-ACM-8 | Service room | Air duct sealant | Not detected |
| Interior | C-ACM-9 | Bathroom | Wall board | Not detected |
| Exterior | C-ACM-10 | Exterior wall | Caulking from building exterior | Not detected |
| Exterior | C-ACM-11 | Exterior wall | Caulking from building exterior | <0.25% Chrysotile |
| Service Building D | | | | |
| Exterior | D-ACM-1A | Roof | Roof Shingles | Not detected |
| Exterior | D-ACM-1B | Roof | Roof Shingles | Not detected |
| Exterior | D-ACM-1C | Roof | Roof Shingles | Not detected |
| Interior | D-ACM-2 | Bathroom floor | Floor tile | Not detected |
| Interior | D-ACM-3 | Bathroom floor | Grout from floor tiles | Not detected |
| Interior | D-ACM-4 | Shower room | Grout from shower tile | Not detected |
| Interior | D-ACM-5 | Shower room | Shower tile | Not detected |
| Interior | D-ACM-6 | Bathroom | Ceiling tile | Not detected |
| Interior | D-ACM-7 | Service room | Pipe insulation | Not detected |
| Interior | D-ACM-9 | Bathroom | Wall board | Not detected |
| Exterior | D-ACM-10 | Exterior wall | Caulking from building exterior | 0.96% Chrysotile |

| Building | Sample Identification | Location | Description | Results |
|-----------------------------|-----------------------|-----------------------|-------------------------------|------------------------|
| Service Building E | | | | |
| Exterior | E-ACM-1A | Roof | Roof shingles | Not detected |
| Exterior | E-ACM-1B | Roof | Roof shingles | Not detected |
| Exterior | E-ACM-1C | Roof | Roof shingles | Not detected |
| Exterior | E-ACM-2 | Exterior window | Caulking from exterior window | Not detected |
| Exterior | E-ACM-3 | Exterior door | Caulking from exterior door | Not detected |
| Interior | E-ACM-4 | Bathroom floor | Floor tile | Not detected |
| Interior | E-ACM-5 | Bathroom floor | Grout from floor tile | Not detected |
| Interior | E-ACM-6 | Bathroom sink counter | Caulking from sink counter | Not detected |
| Interior | E-ACM-7A | Shower room | Shower tile | Not detected |
| Interior | E-ACM-7B | Shower room | Grout from shower tile | Not detected |
| Interior | E-ACM-8 | Bathroom | Ceiling tile | Not detected |
| Service Building F | | | | |
| Exterior | F-ACM-1A | Roof | Roof shingle | Not detected |
| Exterior | F-ACM-1B | Roof | Roof shingle | Not detected |
| Exterior | F-ACM-1C | Roof | Roof shingle | Not detected |
| Exterior | F-ACM-2 | Exterior door | Caulking from exterior door | Not detected |
| Exterior | F-ACM-3 | Exterior window | Caulking from exterior window | Not detected |
| Interior | F-ACM-4 | Bathroom floor | Floor tile | Not detected |
| Interior | F-ACM-5 | Bathroom floor | Grout from floor tile | Not detected |
| Interior | F-ACM-6 | Bathroom sink counter | Caulking from sink counter | Not detected |
| Interior | F-ACM-7 | Shower room | Shower tile | Not detected |
| Interior | F-ACM-8 | Shower room | Grout from shower tile | Not detected |
| Interior | F-ACM-9 | Bathroom | Ceiling tile | Not detected |
| Kitchen Shelter - K1 | | | | |
| Exterior | K1-ACM-1A | Roof | Roof shingle | Not detected |
| Exterior | K1-ACM-1B | Roof | Roof shingle | Not detected |
| Exterior | K1-ACM-1C | Roof | Roof shingle | 1.9% Chrysotile |

| Building | Sample Identification | Location | Description | Results |
|-----------------------------|-----------------------|---------------------|-------------------------------|------------------|
| Exterior | K1-ACM-2 | Exterior brick wall | Grout between bricks | Not detected |
| Exterior | K1-ACM-3 | Exterior window | Caulking from exterior window | 0.64% Chrysotile |
| Kitchen Shelter - K2 | | | | |
| Exterior | K2-ACM-1A | Roof | Roof shingle | Not detected |
| Exterior | K2-ACM-1B | Roof | Roof shingle | Not detected |
| Exterior | K2-ACM-1C | Roof | Roof shingle | Not detected |
| Exterior | K2-ACM-2 | Exterior window | Caulking from exterior window | Not detected |

Notes:

BOLD results indicate asbestos present

As indicated in Table 1, of the 79 samples submitted, 5 samples had chrysotile asbestos detected. Asbestos greater than 1 % was detected in the roof shingles (1.9%) of Service Kitchen 2. Photos are provided in Attachment A.

As indicated in Table 2 (below), the analytical results indicate that of the forty-four (44) samples submitted, thirty-one (31) samples had lead in paint concentrations greater than Federal HPA criteria (90 mg/kg), and nine (9) samples (including 2 laboratory duplicates) with concentrations of lead in excess of the New Brunswick disposal guideline (1,000 mg/kg). Worker hygiene precautions must be employed and proper personal protective equipment (PPE) must be worn when working with lead based coatings (>90 mg/kg). Six (6) samples with concentrations in excess of the disposal guideline of 1000 mg/kg were submitted to Maxxam for leachate analysis. Sample D-Paint-1 was not submitted for leachate analysis due to insufficient sample volume. Leachate results are compared to the allowable waste disposal concentration of 5,000 micrograms per litre (µg/L). Photos the samples in excess of the NBDELG Disposal Guideline (2014) and submitted for further testing are provided in Attachment A.

Table 2 Summary of Paint Sampling Results

| Sample ID | Sample Location | Substrate | Condition | Colour | Paint/Paint + Substrate | Lead Concentration in Paint (mg/kg) | Lead Leachate Concentration in Paint (µg/L) |
|---------------------------|---|-----------|----------------|----------------|-------------------------|-------------------------------------|---|
| Service Building A | | | | | | | |
| A-PAINT-1 | Building Interior | Wood | Good | White | Paint + Substrate | 9.3 | NA |
| A-PAINT-2 | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint + Substrate | 2000 | 3,600 |
| A-PAINT-2 Lab-Dup | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint + Substrate | 2000 | |
| A-PAINT-3 | Building Exterior - bathroom door | Steel | Poor (Flaking) | White / Orange | Paint | 1000 | N/A |
| A-PAINT-3 Lab-Dup | Building Exterior - bathroom door | Steel | Poor (Flaking) | White / Orange | Paint | 880 | N/A |
| A-PAINT-4 | Building Exterior - light above door | Wood | Poor (Flaking) | White | Paint | 1100 | 840 |
| A-PAINT-6 | Building Interior - wall next to door | Wood | Poor (Flaking) | White | Paint | 110 | N/A |
| A-PAINT-8 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 240 | N/A |
| Service Building B | | | | | | | |
| B-PAINT-1 | Building Exterior - bathroom door | Steel | Poor (Flaking) | White / Orange | Paint | 140 | N/A |
| B-PAINT-2 | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint + Substrate | 300 | N/A |
| B-PAINT-3 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 170 | N/A |
| B-PAINT-4 | Building Exterior - light above door | Wood | Poor (Flaking) | White | Paint | 8200 | 58,000 |
| B-PAINT-5 | Building Exterior - door frame | Wood | Good | White | Paint + Substrate | 7.1 | N/A |
| Service Building C | | | | | | | |
| C-PAINT-1 | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint | 650 | N/A |
| C-PAINT-3 | Building Exterior - bathroom door | Steel | Poor (Flaking) | White / Orange | Paint | 720 | N/A |
| C-PAINT-4 | Building Interior - plywood wall | Wood | Poor (Flaking) | White | Paint + Substrate | 22 | N/A |
| C-PAINT-5 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 160 | N/A |

| Sample ID | Sample Location | Substrate | Condition | Colour | Paint/Paint + Substrate | Lead Concentration in Paint (mg/kg) | Lead Leachate Concentration in Paint (µg/L) |
|---------------------------|---|-----------|----------------|----------------|-------------------------|-------------------------------------|---|
| C-PAINT-6 | Building Exterior - light above door | Wood | Poor (Flaking) | White | Paint + Substrate | 8200 | 34,000 |
| C-PAINT-7 | Building Exterior - door frame | Wood | Good | White | Paint + Substrate | 13 | N/A |
| Service Building D | | | | | | | |
| D-PAINT-1 | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint + Substrate | 1100 | N/A ¹ |
| D-PAINT-3 | Building Exterior - bathroom door | Steel | Poor (Flaking) | White / Orange | Paint | 270 | N/A |
| D-PAINT-4 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 130 | N/A |
| D-PAINT-5 | Building Exterior - deck/support post | Wood | Poor (Flaking) | White | Paint + Substrate | 11 | N/A |
| D-PAINT-7 | Building Exterior - siding | Wood | Poor (Flaking) | White | Paint + Substrate | 16 | N/A |
| D-PAINT-8 | Building Exterior - light above door | Wood | Poor (Flaking) | White | Paint | 510 | N/A |
| D-PAINT-10 | Building Exterior - siding | Wood | Good | White | Paint + Substrate | 62 | N/A |
| Service Building E | | | | | | | |
| E-PAINT-1 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 160 | N/A |
| E-PAINT-2 | Building Exterior - door frame | Wood | Good | White | Paint + Substrate | 270 | N/A |
| E-PAINT-3 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 220 | N/A |
| E-PAINT-4 | Building Interior - support beam | Wood | Good | White | Paint + Substrate | <5.0 | N/A |
| E-PAINT-5 | Building Exterior - door frame | Wood | Good | White | Paint + Substrate | 74 | N/A |
| Service Building F | | | | | | | |
| F-PAINT-1 | Building Interior - window frame | Wood | Good | White | Paint + Substrate | 340 | |

| Sample ID | Sample Location | Substrate | Condition | Colour | Paint/Paint + Substrate | Lead Concentration in Paint (mg/kg) | Lead Leachate Concentration in Paint (µg/L) |
|---|---|-----------|----------------|--------|-------------------------|-------------------------------------|---|
| F-PAINT-3 | Building Exterior - door | Steel | Poor (flaking) | White | Paint | 1300 | 230 |
| F-PAINT-3 Lab-Dup | Building Exterior - door | Steel | Poor (flaking) | White | Paint | 1300 | |
| F-PAINT-4 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 370 | N/A |
| F-PAINT-5 | Building Exterior - doorframe | Wood | Poor (flaking) | White | Paint | 1300 | 520 |
| Kitchen Shelter – K1 | | | | | | | |
| K1-PAINT-1 | Building Exterior - plywood wall | Wood | Poor (flaking) | White | Paint + Substrate | 170 | N/A |
| K1-PAINT-1 Lab-Dup | Building Exterior - plywood wall | Wood | Poor (flaking) | White | Paint + Substrate | 160 | |
| K1-PAINT-2 | Building Exterior - window frame | Wood | Poor (flaking) | White | Paint + Substrate | 430 | N/A |
| K1-PAINT-4 | Building Exterior - door frame | Wood | Good | Grey | Paint + Substrate | 49 | N/A |
| K1-PAINT-3 | Building Interior - bathroom sink baseboard | Wood | Good | White | Paint + Substrate | 350 | N/A |
| Kitchen Shelter - K2 | | | | | | | |
| K2-PAINT-1 | Building Exterior - roof siding | Wood | Poor (Flaking) | White | Paint + Substrate | 7.3 | N/A |
| K2-PAINT-3 | Building Exterior - support beam | Wood | Good | White | Paint + Substrate | 14 | N/A |
| K2-PAINT-4 | Unknown | Wood | Good | Green | Paint + Substrate | 9.2 | N/A |
| Guidelines | | | | | | | |
| 1. Federal Hazardous Products Act (HPA) criteria | | | | | | 90 ^a /1000 ^b | N/A |
| 2. NBDELG Disposal of Lead Paint and Lead Painted Materials Guideline (2011)[1] | | | | | | | |
| NBDELG Disposal of Lead Paint and Lead Painted Materials Guideline (2011) | | | | | | N/A | 5,000 |

Notes:

- 1) Insufficient sample to analyse for leachate
 - 2) **BOLD** results exceeds provincial disposal criteria
- N/A = Not Applicable, not analysed

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the investigation, and as shown in Table 1, one sample collected contained asbestos. It is our understanding that these structures are planned for renovation activities; therefore, it is recommended that the known ACMs be removed according to Regulation 92-106 (*Code of Practice for Working with Materials Containing Asbestos in New Brunswick*). The Westmorland-Albert Regional Solid Waste Corporation (RSWC) located in Berry Mills, New Brunswick accepts friable and non-friable asbestos. It is recommended that the removal of ACMs be conducted by a certified contractor trained in the removal and disposal methods. Prior to disposal, the material is required to be bagged in nine (9) millimetre (mm) thick bags and labelled accordingly. The RSWC required 24 hour notice and the approximate disposal cost is \$70/cubic metre (m³).

Based on the findings of the investigation, and as shown in Table 2, two samples (B-Paint-4 and C-Paint-6) collected from the wooden area surrounding the exterior light fixture above bathroom doors had lead leachate concentrations above the leachate regulatory limit of 5,000 µg/L and therefore must be disposed of through the services of an approved hazardous waste disposal company at an approved facility. It is recommended that in the event of renovation activities, surfaces containing lead based paint should be conducted by workers who have lead awareness training and these workers must use PPE. Drop sheets should be placed to collect fallen paint chips. Loose paint chips and materials that exceed the leachate regulatory limit must be carefully collected, stored in an appropriate container and disposed according to NBDELG policy and the Solid Waste Management Authority by an approved hazardous waste disposal company and transported under the federal *Transportation of Dangerous Goods Act*.

7.0 ASSESSMENT LIMITATIONS

This hazardous materials assessment reflects the observations, findings, and analysis of materials sampled at the time of the site visit. The observations are based on the specific areas inspected located in accessible areas of the buildings and was limited to potential ACMs and suspect lead paint materials only. Analytical results were used to quantify the sampled paints at the specific sample locations. Paints found to be visually similar to those analyzed, where possible were referenced to specific analyzed samples collected elsewhere. Repetitive testing of similar paints was not performed. The findings within this report do not reflect potential hazardous material in areas that were inaccessible at the time of the site visit, such as remote spaces, wall cavities and ceilings spaces. It is noted that all areas of the site building were accessible at the time of the site visit.

8.0 CLOSURE

This report was prepared for the exclusive use of Ekistics Plan & Design and Parks Canada. The findings of this report are based solely on the conditions of the site buildings encountered at the time of the site visit. The findings of this assessment are based on the interpretation of data from a limited number of areas investigated and analytical results pertaining to specific samples.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Amec Foster Wheeler is required. With respect to third parties, Amec Foster Wheeler has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. This assessment has been carried out using commercially reasonable best efforts consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions.

Except when otherwise specified, Amec Foster Wheeler disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Amec Foster Wheeler after the time during which Amec Foster Wheeler conducted the hazardous building materials assessment.

Amec Foster Wheeler has assumed that the information provided is factual and accurate. Amec Foster Wheeler accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Amec Foster Wheeler makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

This letter report is also subject to the further Limitations, Attachment C.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Mr. Chris Crawford
Hazardous Materials Assessment
Kouchibouguac National Park, NB
October 2017
Page 14

Yours truly,

**Amec Foster Wheeler Environment & Infrastructure,
A Division of Amec Foster Wheeler Americas Limited**



Lynn Pilgrim, P.Ge

Project Manager

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E-mail: lynn.pilgrim@amec.com

CB/lp/kk

Attachments

Appendix A

Site Photographs



Attachment A

| | |
|---|--|
|  | <p>Photo 1: Service Building A</p> |
|  | <p>Photo 2: A-Paint-2 Roof Siding</p> |

Attachment A

| | |
|---|---|
|  | <p>Photo 3: A-Paint-4 Exterior light fixture above bathroom door</p> |
|  | <p>Photo 4: Service Building B</p> |

Attachment A

| | |
|---|---|
|  | <p>Photo 5: B-Paint-4 Exterior light fixture above bathroom door</p> |
|  | <p>Photo 6: Service Building C</p> |

Attachment A

| | |
|---|---|
|  | <p>Photo 7: C-Paint-6 Exterior light fixture above bathroom door</p> |
|  | <p>Photo 8: Service Building D</p> |

Attachment A

| | |
|---|---|
|  <p>A photograph of a long, single-story building with a gabled roof and vertical wood siding. The building has several large windows and a covered porch area on the right side. It is situated on a grassy area with trees in the background.</p> | <p>Photo 9: Service Building F</p> |
|  <p>A close-up photograph of a white exterior door. A person wearing a blue glove is using a green tool to scrape paint from the door. A piece of clear tape is attached to the door with handwritten text: "F-Paint-3", "Aug 31, 2017", and "VLR".</p> | <p>Photo 10: F-Paint-3 Exterior Door</p> |

Attachment A

| | |
|---|--|
|  | <p>Photo 11: F-Paint-5 Exterior doorframe to bathroom</p> |
|  | <p>Photo 12: Kitchen Shelter 1</p> |

Attachment A



Photo 13:
K1-ACM-1C
Roof tile

Appendix B

Laboratory Certificates of Analysis





EMSL Canada Inc.

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<http://www.EMSL.com> / torontolab@emsl.com

EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Attn: Lynn Pilgrim
AMEC
495-1 Prospect St
Fredericton, NB E3B 9M4
Phone: (506) 460-5800
Fax:
Collected: 8/31/2017
Received: 9/14/2017
Analyzed: 9/21/2017
Proj: TF196450

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: A-ACM-1A **Lab Sample ID:** 551710317-0001

Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-1B **Lab Sample ID:** 551710317-0002

Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-1C **Lab Sample ID:** 551710317-0003

Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-2 **Lab Sample ID:** 551710317-0004

Sample Description: Floor Tiles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-3 **Lab Sample ID:** 551710317-0005

Sample Description: Grout from floor tiles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: A-ACM-4 **Lab Sample ID:** 551710317-0006

Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |

Client Sample ID: A-ACM-5 **Lab Sample ID:** 551710317-0007

Sample Description: Shower tile grout

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 2% | 98% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: A-ACM-6 **Lab Sample ID:** 551710317-0008
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray/White | 67% | 33% | None Detected | |

Client Sample ID: A-ACM-7 **Lab Sample ID:** 551710317-0009
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-8 **Lab Sample ID:** 551710317-0010
Sample Description: Floor tile grout

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: A-ACM-9 **Lab Sample ID:** 551710317-0011
Sample Description: Wall board

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 45% | 55% | None Detected | |

Client Sample ID: A-ACM-10 **Lab Sample ID:** 551710317-0012
Sample Description: Pipe insulation

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Black | 0% | 100% | None Detected | |

Client Sample ID: A-ACM-12 **Lab Sample ID:** 551710317-0013
Sample Description: Air duct sealant

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Gray | 0.0% | 100% | None Detected | |

Client Sample ID: A-ACM-13 **Lab Sample ID:** 551710317-0014
Sample Description: Caulking from building exterior

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|------------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 99.2% | 0.80% Chrysotile | |

Client Sample ID: B-ACM-1A **Lab Sample ID:** 551710317-0015
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: B-ACM-1B **Lab Sample ID:** 551710317-0016
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: B-ACM-1C **Lab Sample ID:** 551710317-0017
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: B-ACM-2 **Lab Sample ID:** 551710317-0018
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Brown/Gray | 0.0% | 100% | None Detected | |

Client Sample ID: B-ACM-3 **Lab Sample ID:** 551710317-0019
Sample Description: Grout from floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: B-ACM-4 **Lab Sample ID:** 551710317-0020
Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |

Client Sample ID: B-ACM-5 **Lab Sample ID:** 551710317-0021
Sample Description: Grout from shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 2% | 98% | None Detected | |

Client Sample ID: B-ACM-6 **Lab Sample ID:** 551710317-0022
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray/White | 65% | 35% | None Detected | |

Client Sample ID: B-ACM-7 **Lab Sample ID:** 551710317-0023
Sample Description: Pipe Insulation

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Black | 0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: B-ACM-8 **Lab Sample ID:** 551710317-0024
Sample Description: Wall board

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 45% | 55% | None Detected | |

Client Sample ID: B-ACM-10 **Lab Sample ID:** 551710317-0025
Sample Description: Caulking from building exterior

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-1A **Lab Sample ID:** 551710317-0026
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-1B **Lab Sample ID:** 551710317-0027
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-1C **Lab Sample ID:** 551710317-0028
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-2 **Lab Sample ID:** 551710317-0029
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-3 **Lab Sample ID:** 551710317-0030
Sample Description: Grout from floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: C-ACM-4 **Lab Sample ID:** 551710317-0031
Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: C-ACM-5 **Lab Sample ID:** 551710317-0032
Sample Description: Grout from shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 2% | 98% | None Detected | |

Client Sample ID: C-ACM-6 **Lab Sample ID:** 551710317-0033
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray/White | 65% | 35% | None Detected | |

Client Sample ID: C-ACM-7 **Lab Sample ID:** 551710317-0034
Sample Description: Pipe insulation

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Black | 0% | 100% | None Detected | |

Client Sample ID: C-ACM-8 **Lab Sample ID:** 551710317-0035
Sample Description: Air duct sealant

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Gray | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-9 **Lab Sample ID:** 551710317-0036
Sample Description: Wall board

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 45% | 55% | None Detected | |

Client Sample ID: C-ACM-10 **Lab Sample ID:** 551710317-0037
Sample Description: Caulking from sink counter

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: C-ACM-11 **Lab Sample ID:** 551710317-0038
Sample Description: Caulking from building exterior

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|-------------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | <0.25% Chrysotile | |

Client Sample ID: D-ACM-1A **Lab Sample ID:** 551710317-0039
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: D-ACM-1B **Lab Sample ID:** 551710317-0040
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: D-ACM-1C **Lab Sample ID:** 551710317-0041
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: D-ACM-2 **Lab Sample ID:** 551710317-0042
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |

Client Sample ID: D-ACM-3 **Lab Sample ID:** 551710317-0043
Sample Description: Grout from floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: D-ACM-4 **Lab Sample ID:** 551710317-0044
Sample Description: Grout from shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 2% | 98% | None Detected | |

Client Sample ID: D-ACM-5 **Lab Sample ID:** 551710317-0045
Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |

Client Sample ID: D-ACM-6 **Lab Sample ID:** 551710317-0046
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray/White | 67% | 33% | None Detected | |

Client Sample ID: D-ACM-7 **Lab Sample ID:** 551710317-0047
Sample Description: Pipe insulation

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Black | 0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: D-ACM-9 **Lab Sample ID:** 551710317-0048
Sample Description: Wall board

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 45% | 55% | None Detected | |

Client Sample ID: D-ACM-10 **Lab Sample ID:** 551710317-0049
Sample Description: Caulking from building exterior

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|------------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 99.0% | 0.96% Chrysotile | |

Client Sample ID: E-ACM-1A **Lab Sample ID:** 551710317-0050
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-1B **Lab Sample ID:** 551710317-0051
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-1C **Lab Sample ID:** 551710317-0052
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-2 **Lab Sample ID:** 551710317-0053
Sample Description: Caulking from Exterior Window

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-3 **Lab Sample ID:** 551710317-0054
Sample Description: Caulking from Exterior Door

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-4 **Lab Sample ID:** 551710317-0055
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |



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Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: E-ACM-5 **Lab Sample ID:** 551710317-0056
Sample Description: Grout from floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: E-ACM-6 **Lab Sample ID:** 551710317-0057
Sample Description: Caulking from sink counter

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: E-ACM-7A **Lab Sample ID:** 551710317-0058
Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |

Client Sample ID: E-ACM-7B **Lab Sample ID:** 551710317-0059
Sample Description: Grout from shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: E-ACM-8 **Lab Sample ID:** 551710317-0060
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|------------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray/White | 67% | 33% | None Detected | |

Client Sample ID: F-ACM-1A **Lab Sample ID:** 551710317-0061
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-1B **Lab Sample ID:** 551710317-0062
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-1C **Lab Sample ID:** 551710317-0063
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: F-ACM-2 **Lab Sample ID:** 551710317-0064
Sample Description: Caulking from exterior door

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-3 **Lab Sample ID:** 551710317-0065
Sample Description: Caulking from exterior window

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-4 **Lab Sample ID:** 551710317-0066
Sample Description: Floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Red | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-5 **Lab Sample ID:** 551710317-0067
Sample Description: Grout from floor tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: F-ACM-6 **Lab Sample ID:** 551710317-0068
Sample Description: Caulking from sink counter

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Client Sample ID: F-ACM-7 **Lab Sample ID:** 551710317-0069
Sample Description: Shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: F-ACM-8 **Lab Sample ID:** 551710317-0070
Sample Description: Grout from shower tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | White | 0% | 100% | None Detected | |

Client Sample ID: F-ACM-9 **Lab Sample ID:** 551710317-0071
Sample Description: Ceiling tile

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 80% | 20% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: K1-ACM-1A **Lab Sample ID:** 551710317-0072
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: K1-ACM-1B **Lab Sample ID:** 551710317-0073
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: K1-ACM-1C **Lab Sample ID:** 551710317-0074
Sample Description: Roof shingle

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|-----------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 98.1% | 1.9% Chrysotile | |

Client Sample ID: K1-ACM-2 **Lab Sample ID:** 551710317-0075
Sample Description: Grout between bricks

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM | 9/21/2017 | Gray | 0% | 100% | None Detected | |

Client Sample ID: K1-ACM-3 **Lab Sample ID:** 551710317-0076
Sample Description: Caulking from exterior window

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|------------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 99.4% | 0.64% Chrysotile | |

Client Sample ID: K2-ACM-1A **Lab Sample ID:** 551710317-0077
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: K2-ACM-1B **Lab Sample ID:** 551710317-0078
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |

Client Sample ID: K2-ACM-1C **Lab Sample ID:** 551710317-0079
Sample Description: Roof shingles

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | Black | 0.0% | 100% | None Detected | |



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EMSL Canada Order 551710317
Customer ID: 55AMFN42
Customer PO: TF196450
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for New Brunswick Regulation 92-106 via EPA600/R-93/116 Method

Client Sample ID: K2-ACM-2

Lab Sample ID: 551710317-0080

Sample Description: Caulking from exterior window

| TEST | Analyzed Date | Color | Non-Asbestos | | Asbestos | Comment |
|---------------------|---------------|-------|--------------|-------------|---------------|---------|
| | | | Fibrous | Non-Fibrous | | |
| PLM Grav. Reduction | 9/21/2017 | White | 0.0% | 100% | None Detected | |

Analyst(s):

- Ioana Taina PLM (30)
- Natalie D'Amico PLM (4)
- Shorthri Kalikutty PLM Grav. Reduction (46)

Reviewed and approved by:

Matthew Davis
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 09/21/2017 16:55:20

Your Project #: TF174006.1000
 Site Location: KOUCHIBOUGUAC
 Your C.O.C. #: N/A

Attention:Lynn Pilgrim

AMEC Foster Wheeler Environment & Infrastructure
 Fredericton - Standing Offer
 495 Prospect Street, Suite 1
 Fredericton, NB
 E3B 9M4

Report Date: 2017/09/21
 Report #: R4725299
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7K1130

Received: 2017/09/14, 11:12

Sample Matrix: Paint
 # Samples Received: 40

| Analyses | Quantity | Date | Date | Laboratory Method | Reference |
|-------------------------------|----------|------------|------------|-------------------|----------------|
| | | Extracted | Analyzed | | |
| Metals Paint Acid Extr. ICPMS | 4 | 2017/09/19 | 2017/09/19 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Paint Acid Extr. ICPMS | 7 | 2017/09/19 | 2017/09/20 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Bulk Acid Extr. ICPMS | 9 | 2017/09/19 | 2017/09/19 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Bulk Acid Extr. ICPMS | 20 | 2017/09/19 | 2017/09/20 | ATL SOP 00058 | EPA 6020A R1 m |

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: TF174006.1000
Site Location: KOUCHIBOUGUAC
Your C.O.C. #: N/A

Attention:Lynn Pilgrim

AMEC Foster Wheeler Environment & Infrastructure
Fredericton - Standing Offer
495 Prospect Street, Suite 1
Fredericton, NB
E3B 9M4

Report Date: 2017/09/21
Report #: R4725299
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7K1130
Received: 2017/09/14, 11:12

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Heather Macumber, Project Manager
Email: HMacumber@maxxam.ca
Phone# (902)420-0203 Ext:226

=====
This report has been generated and distributed using a secure automated process.

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| | | | | | | | | | | |
|----------------------|--------------|------------------|-----------------|------------------|--------------------------|-----------------|------------------|--------------------------|------------|-----------------|
| Maxxam ID | | FCY628 | | FCY629 | FCY629 | | FCY630 | FCY630 | | |
| Sampling Date | | 2017/08/29 | | 2017/08/29 | 2017/08/29 | | 2017/08/30 | 2017/08/30 | | |
| COC Number | | N/A | | N/A | N/A | | N/A | N/A | | |
| | UNITS | A-PAINT-1 | QC Batch | A-PAINT-2 | A-PAINT-2 Lab-Dup | QC Batch | A-PAINT-3 | A-PAINT-3 Lab-Dup | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|-----|---------|------|------|---------|------|-----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 9.3 | 5170296 | 2000 | 2000 | 5170627 | 1000 | 880 | 5.0 | 5170483 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | |

| | | | | | | | | | | | |
|----------------------|--------------|------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|------------|-----------------|
| Maxxam ID | | FCY631 | FCY632 | | FCY633 | | FCY634 | | FCY635 | | |
| Sampling Date | | 2017/09/07 | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | | 2017/08/30 | | |
| COC Number | | N/A | N/A | | N/A | | N/A | | N/A | | |
| | UNITS | A-PAINT-4 | A-PAINT-6 | QC Batch | A-PAINT-8 | QC Batch | B-PAINT-1 | QC Batch | B-PAINT-2 | RDL | QC Batch |

| | | | | | | | | | | | |
|--|-------|------|-----|---------|-----|---------|-----|---------|-----|-----|---------|
| Metals | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 1100 | 110 | 5170483 | 240 | 5170296 | 140 | 5170483 | 300 | 5.0 | 5170296 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | | |

| | | | | | | | | | | |
|----------------------|--------------|------------------|------------------|-----------------|------------------|-----------------|------------------|------------------|------------|-----------------|
| Maxxam ID | | FCY636 | FCY637 | | FCY638 | | FCY639 | FCY640 | | |
| Sampling Date | | 2017/09/07 | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | 2017/08/30 | | |
| COC Number | | N/A | N/A | | N/A | | N/A | N/A | | |
| | UNITS | B-PAINT-3 | B-PAINT-4 | QC Batch | B-PAINT-5 | QC Batch | C-PAINT-1 | C-PAINT-3 | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|-----|------|---------|-----|---------|-----|-----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 170 | 8200 | 5170627 | 7.1 | 5170296 | 650 | 720 | 5.0 | 5170483 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | |

| | | | | | | | | | | |
|----------------------|--------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|------------|-----------------|
| Maxxam ID | | FCY641 | | FCY642 | | FCY643 | | FCY644 | | |
| Sampling Date | | 2017/08/30 | | 2017/09/07 | | 2017/09/07 | | 2017/09/07 | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | | |
| | UNITS | C-PAINT-4 | QC Batch | C-PAINT-5 | QC Batch | C-PAINT-6 | QC Batch | C-PAINT-7 | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|----|---------|-----|---------|------|---------|----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 22 | 5170627 | 160 | 5170296 | 8200 | 5170627 | 13 | 5.0 | 5170296 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | |

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| Maxxam ID | | FCY645 | FCY646 | | FCY647 | FCY648 | FCY649 | | | |
|----------------------------------|-------|--------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------|-----------------|
| Sampling Date | | 2017/08/30 | 2017/08/30 | | 2017/09/07 | 2017/09/07 | 2017/09/07 | | | |
| COC Number | | N/A | N/A | | N/A | N/A | N/A | | | |
| | | UNITS | D-PAINT-1 | D-PAINT-3 | QC Batch | D-PAINT-4 | D-PAINT-5 | D-PAINT-7 | RDL | QC Batch |
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 1100 | 270 | 5170295 | 130 | 11 | 16 | 5.0 | 5170296 | |
| RDL = Reportable Detection Limit | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | |

| Maxxam ID | | FCY650 | | FCY651 | | FCY652 | | FCY653 | FCY654 | | | |
|----------------------------------|-------|--------------|------------------|-----------------|-------------------|-----------------|------------------|-----------------|------------------|------------------|------------|-----------------|
| Sampling Date | | 2017/09/07 | | 2017/09/07 | | 2017/08/31 | | 2017/08/31 | 2017/09/07 | | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | N/A | | | |
| | | UNITS | D-PAINT-8 | QC Batch | D-PAINT-10 | QC Batch | E-PAINT-1 | QC Batch | E-PAINT-2 | E-PAINT-3 | RDL | QC Batch |
| Metals | | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 510 | 5170295 | 62 | 5170627 | 6.4 | 5170482 | 270 | 220 | 5.0 | 5170627 | |
| RDL = Reportable Detection Limit | | | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | | | |

| Maxxam ID | | FCY655 | | FCY656 | | FCY657 | | FCY658 | FCY658 | | | |
|--|-------|--------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|--------------------------|------------|-----------------|
| Sampling Date | | 2017/08/31 | | 2017/09/07 | | 2017/08/31 | | 2017/08/31 | 2017/08/31 | | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | N/A | | | |
| | | UNITS | E-PAINT-4 | QC Batch | E-PAINT-5 | QC Batch | F-PAINT-1 | QC Batch | F-PAINT-3 | F-PAINT-3 Lab-Dup | RDL | QC Batch |
| Metals | | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | <5.0 | 5170627 | 74 | 5170482 | 340 | 5170627 | 1300 | 1300 | 5.0 | 5170295 | |
| RDL = Reportable Detection Limit | | | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | | | |
| Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | | | |

| Maxxam ID | | FCY659 | | FCY660 | FCY661 | FCY661 | FCY662 | | | |
|--|-------|--------------|------------------|-----------------|------------------|-------------------|---------------------------|-------------------|------------|-----------------|
| Sampling Date | | 2017/08/31 | | 2017/09/07 | 2017/08/31 | 2017/08/31 | 2017/08/30 | | | |
| COC Number | | N/A | | N/A | N/A | N/A | N/A | | | |
| | | UNITS | F-PAINT-4 | QC Batch | F-PAINT-5 | K1-PAINT-1 | K1-PAINT-1 Lab-Dup | K1-PAINT-2 | RDL | QC Batch |
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 370 | 5170627 | 1300 | 170 | 160 | 430 | 5.0 | 5170482 | |
| RDL = Reportable Detection Limit | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | |
| Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | |

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| Maxxam ID | | FCY663 | | FCY664 | | FCY665 | FCY666 | FCY667 | | |
|----------------------------------|-------|------------|----------|------------|----------|------------|------------|------------|-----|----------|
| Sampling Date | | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | 2017/08/30 | 2017/09/07 | | |
| COC Number | | N/A | | N/A | | N/A | N/A | N/A | | |
| | UNITS | K1-PAINT-4 | QC Batch | K1-PAINT-3 | QC Batch | K2-PAINT-1 | K2-PAINT-3 | K2-PAINT-4 | RDL | QC Batch |
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 49 | 5170627 | 350 | 5170483 | 7.3 | 14 | 9.2 | 5.0 | 5170482 |
| RDL = Reportable Detection Limit | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | |

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

| | |
|-----------|--------|
| Package 1 | 20.0°C |
|-----------|--------|

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|-------------|------|--------------------------|----------------------------|---------------|-------|----------|-------|-----------|
| 5170295 | BAN | Matrix Spike [FCY658-01] | Acid Extractable Lead (Pb) | 2017/09/19 | | NC | % | 75 - 125 |
| 5170295 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/19 | | 99 | % | 75 - 125 |
| 5170295 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/19 | <5.0 | | mg/kg | |
| 5170295 | BAN | RPD [FCY658-01] | Acid Extractable Lead (Pb) | 2017/09/19 | 0.079 | | % | 35 |
| 5170296 | BAN | Matrix Spike | Acid Extractable Lead (Pb) | 2017/09/19 | | 97 | % | 75 - 125 |
| 5170296 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/19 | | 99 | % | 75 - 125 |
| 5170296 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/19 | <5.0 | | mg/kg | |
| 5170296 | BAN | RPD | Acid Extractable Lead (Pb) | 2017/09/19 | NC | | % | 35 |
| 5170482 | BAN | Matrix Spike [FCY661-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170482 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 102 | % | 75 - 125 |
| 5170482 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170482 | BAN | RPD [FCY661-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 2.4 | | % | 35 |
| 5170483 | BAN | Matrix Spike [FCY630-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170483 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 102 | % | 75 - 125 |
| 5170483 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170483 | BAN | RPD [FCY630-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 14 | | % | 35 |
| 5170627 | BAN | Matrix Spike [FCY629-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170627 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 101 | % | 75 - 125 |
| 5170627 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170627 | BAN | RPD [FCY629-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 2.4 | | % | 35 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

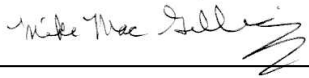
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: TF174006.1000
 Site Location: KOUCHIBOUGUAC
 Your C.O.C. #: N/A

Attention: Lynn Pilgrim

AMEC Foster Wheeler Environment & Infrastructure
 Fredericton - Standing Offer
 495 Prospect Street, Suite 1
 Fredericton, NB
 E3B 9M4

Report Date: 2017/10/05
 Report #: R4761676
 Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B7K1130

Received: 2017/09/14, 11:12

Sample Matrix: Paint
 # Samples Received: 40

| Analyses | Quantity | Date | Date | Laboratory Method | Reference |
|------------------------------------|----------|------------|------------|-------------------|----------------|
| | | Extracted | Analyzed | | |
| Metals Leach TCLP/CGSB extraction | 6 | 2017/09/29 | 2017/10/02 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Paint Acid Extr. ICPMS | 4 | 2017/09/19 | 2017/09/19 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Paint Acid Extr. ICPMS | 7 | 2017/09/19 | 2017/09/20 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Bulk Acid Extr. ICPMS | 9 | 2017/09/19 | 2017/09/19 | ATL SOP 00058 | EPA 6020A R1 m |
| Metals Bulk Acid Extr. ICPMS | 20 | 2017/09/19 | 2017/09/20 | ATL SOP 00058 | EPA 6020A R1 m |
| TCLP Inorganic extraction - pH | 6 | N/A | 2017/09/29 | ATL SOP 00035 | EPA 1311 m |
| TCLP Inorganic extraction - Weight | 6 | N/A | 2017/09/29 | ATL SOP 00035 | EPA 1311 m |

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: TF174006.1000
Site Location: KOUCHIBOUGUAC
Your C.O.C. #: N/A

Attention:Lynn Pilgrim

AMEC Foster Wheeler Environment & Infrastructure
Fredericton - Standing Offer
495 Prospect Street, Suite 1
Fredericton, NB
E3B 9M4

Report Date: 2017/10/05
Report #: R4761676
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B7K1130
Received: 2017/09/14, 11:12

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Heather Macumber, Project Manager
Email: HMacumber@maxxam.ca
Phone# (902)420-0203 Ext:226

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

RESULTS OF ANALYSES OF PAINT

| Maxxam ID | | FCY629 | FCY631 | FCY637 | FCY643 | FCY658 | FCY660 | |
|----------------------------------|-------|------------|------------|------------|------------|------------|------------|----------|
| Sampling Date | | 2017/08/29 | 2017/09/07 | 2017/09/07 | 2017/09/07 | 2017/08/31 | 2017/09/07 | |
| COC Number | | N/A | N/A | N/A | N/A | N/A | N/A | |
| | UNITS | A-PAINT-2 | A-PAINT-4 | B-PAINT-4 | C-PAINT-6 | F-PAINT-3 | F-PAINT-5 | QC Batch |
| Inorganics | | | | | | | | |
| Sample Weight (as received) | g | 12 | 7.6 | 3.3 | 3.8 | 7.2 | 5.2 | 5187100 |
| Initial pH | N/A | 4.9 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5187103 |
| Final pH | N/A | 5.0 | 5.0 | 4.9 | 4.9 | 5.0 | 5.3 | 5187103 |
| QC Batch = Quality Control Batch | | | | | | | | |

ELEMENTS BY ICP/MS (PAINT)

| Maxxam ID | | FCY629 | FCY631 | FCY637 | FCY643 | FCY658 | FCY660 | | |
|----------------------------------|-------|------------|------------|------------|------------|------------|------------|-----|----------|
| Sampling Date | | 2017/08/29 | 2017/09/07 | 2017/09/07 | 2017/09/07 | 2017/08/31 | 2017/09/07 | | |
| COC Number | | N/A | N/A | N/A | N/A | N/A | N/A | | |
| | UNITS | A-PAINT-2 | A-PAINT-4 | B-PAINT-4 | C-PAINT-6 | F-PAINT-3 | F-PAINT-5 | RDL | QC Batch |
| Metals | | | | | | | | | |
| Leachable Lead (Pb) | ug/L | 3600 | 840 | 58000 | 34000 | 230 | 520 | 5.0 | 5189036 |
| RDL = Reportable Detection Limit | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | |

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| | | | | | | | | | | |
|----------------------|--------------|------------------|-----------------|------------------|--------------------------|-----------------|------------------|--------------------------|------------|-----------------|
| Maxxam ID | | FCY628 | | FCY629 | FCY629 | | FCY630 | FCY630 | | |
| Sampling Date | | 2017/08/29 | | 2017/08/29 | 2017/08/29 | | 2017/08/30 | 2017/08/30 | | |
| COC Number | | N/A | | N/A | N/A | | N/A | N/A | | |
| | UNITS | A-PAINT-1 | QC Batch | A-PAINT-2 | A-PAINT-2 Lab-Dup | QC Batch | A-PAINT-3 | A-PAINT-3 Lab-Dup | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|-----|---------|------|------|---------|------|-----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 9.3 | 5170296 | 2000 | 2000 | 5170627 | 1000 | 880 | 5.0 | 5170483 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | |

| | | | | | | | | | | | |
|----------------------|--------------|------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|------------|-----------------|
| Maxxam ID | | FCY631 | FCY632 | | FCY633 | | FCY634 | | FCY635 | | |
| Sampling Date | | 2017/09/07 | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | | 2017/08/30 | | |
| COC Number | | N/A | N/A | | N/A | | N/A | | N/A | | |
| | UNITS | A-PAINT-4 | A-PAINT-6 | QC Batch | A-PAINT-8 | QC Batch | B-PAINT-1 | QC Batch | B-PAINT-2 | RDL | QC Batch |

| | | | | | | | | | | | |
|--|-------|------|-----|---------|-----|---------|-----|---------|-----|-----|---------|
| Metals | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 1100 | 110 | 5170483 | 240 | 5170296 | 140 | 5170483 | 300 | 5.0 | 5170296 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | | |

| | | | | | | | | | | |
|----------------------|--------------|------------------|------------------|-----------------|------------------|-----------------|------------------|------------------|------------|-----------------|
| Maxxam ID | | FCY636 | FCY637 | | FCY638 | | FCY639 | FCY640 | | |
| Sampling Date | | 2017/09/07 | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | 2017/08/30 | | |
| COC Number | | N/A | N/A | | N/A | | N/A | N/A | | |
| | UNITS | B-PAINT-3 | B-PAINT-4 | QC Batch | B-PAINT-5 | QC Batch | C-PAINT-1 | C-PAINT-3 | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|-----|------|---------|-----|---------|-----|-----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 170 | 8200 | 5170627 | 7.1 | 5170296 | 650 | 720 | 5.0 | 5170483 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | |

| | | | | | | | | | | |
|----------------------|--------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|------------|-----------------|
| Maxxam ID | | FCY641 | | FCY642 | | FCY643 | | FCY644 | | |
| Sampling Date | | 2017/08/30 | | 2017/09/07 | | 2017/09/07 | | 2017/09/07 | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | | |
| | UNITS | C-PAINT-4 | QC Batch | C-PAINT-5 | QC Batch | C-PAINT-6 | QC Batch | C-PAINT-7 | RDL | QC Batch |

| | | | | | | | | | | |
|--|-------|----|---------|-----|---------|------|---------|----|-----|---------|
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 22 | 5170627 | 160 | 5170296 | 8200 | 5170627 | 13 | 5.0 | 5170296 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | |

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| Maxxam ID | | FCY645 | FCY646 | | FCY647 | FCY648 | FCY649 | | |
|--|--------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------|-----------------|
| Sampling Date | | 2017/08/30 | 2017/08/30 | | 2017/09/07 | 2017/09/07 | 2017/09/07 | | |
| COC Number | | N/A | N/A | | N/A | N/A | N/A | | |
| | UNITS | D-PAINT-1 | D-PAINT-3 | QC Batch | D-PAINT-4 | D-PAINT-5 | D-PAINT-7 | RDL | QC Batch |
| Metals | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 1100 | 270 | 5170295 | 130 | 11 | 16 | 5.0 | 5170296 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | |

| Maxxam ID | | FCY650 | | FCY651 | | FCY652 | | FCY653 | FCY654 | | |
|--|--------------|------------------|-----------------|-------------------|-----------------|------------------|-----------------|------------------|------------------|------------|-----------------|
| Sampling Date | | 2017/09/07 | | 2017/09/07 | | 2017/08/31 | | 2017/08/31 | 2017/09/07 | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | N/A | | |
| | UNITS | D-PAINT-8 | QC Batch | D-PAINT-10 | QC Batch | E-PAINT-1 | QC Batch | E-PAINT-2 | E-PAINT-3 | RDL | QC Batch |
| Metals | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 510 | 5170295 | 62 | 5170627 | 6.4 | 5170482 | 270 | 220 | 5.0 | 5170627 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch | | | | | | | | | | | |

| Maxxam ID | | FCY655 | | FCY656 | | FCY657 | | FCY658 | FCY658 | | |
|--|--------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|--------------------------|------------|-----------------|
| Sampling Date | | 2017/08/31 | | 2017/09/07 | | 2017/08/31 | | 2017/08/31 | 2017/08/31 | | |
| COC Number | | N/A | | N/A | | N/A | | N/A | N/A | | |
| | UNITS | E-PAINT-4 | QC Batch | E-PAINT-5 | QC Batch | F-PAINT-1 | QC Batch | F-PAINT-3 | F-PAINT-3 Lab-Dup | RDL | QC Batch |
| Metals | | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | <5.0 | 5170627 | 74 | 5170482 | 340 | 5170627 | 1300 | 1300 | 5.0 | 5170295 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | | |

| Maxxam ID | | FCY659 | | FCY660 | FCY661 | FCY661 | FCY662 | | |
|--|--------------|------------------|-----------------|------------------|-------------------|---------------------------|-------------------|------------|-----------------|
| Sampling Date | | 2017/08/31 | | 2017/09/07 | 2017/08/31 | 2017/08/31 | 2017/08/30 | | |
| COC Number | | N/A | | N/A | N/A | N/A | N/A | | |
| | UNITS | F-PAINT-4 | QC Batch | F-PAINT-5 | K1-PAINT-1 | K1-PAINT-1 Lab-Dup | K1-PAINT-2 | RDL | QC Batch |
| Metals | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 370 | 5170627 | 1300 | 170 | 160 | 430 | 5.0 | 5170482 |
| RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | |

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| Maxxam ID | | FCY663 | | FCY664 | | FCY665 | FCY666 | FCY667 | | |
|----------------------------------|-------|------------|----------|------------|----------|------------|------------|------------|-----|----------|
| Sampling Date | | 2017/09/07 | | 2017/09/07 | | 2017/08/30 | 2017/08/30 | 2017/09/07 | | |
| COC Number | | N/A | | N/A | | N/A | N/A | N/A | | |
| | UNITS | K1-PAINT-4 | QC Batch | K1-PAINT-3 | QC Batch | K2-PAINT-1 | K2-PAINT-3 | K2-PAINT-4 | RDL | QC Batch |
| Metals | | | | | | | | | | |
| Acid Extractable Lead (Pb) | mg/kg | 49 | 5170627 | 350 | 5170483 | 7.3 | 14 | 9.2 | 5.0 | 5170482 |
| RDL = Reportable Detection Limit | | | | | | | | | | |
| QC Batch = Quality Control Batch | | | | | | | | | | |

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

| | |
|-----------|--------|
| Package 1 | 20.0°C |
|-----------|--------|

Revised report - TCLP + Lead added to below samples as per request from Lynn. HM Oct 5/17

A-Paint-2
A-Paint-4
B-Paint-4
C-Paint-6
F-Paint-3
F-Paint-5

Sample FCY629 [A-PAINT-2] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample FCY631 [A-PAINT-4] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample FCY637 [B-PAINT-4] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample FCY643 [C-PAINT-6] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample FCY658 [F-PAINT-3] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample FCY660 [F-PAINT-5] : Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|-------------|------|--------------------------|-----------------------------|---------------|--------|----------|-------|-----------|
| 5170295 | BAN | Matrix Spike [FCY658-01] | Acid Extractable Lead (Pb) | 2017/09/19 | | NC | % | 75 - 125 |
| 5170295 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/19 | | 99 | % | 75 - 125 |
| 5170295 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/19 | <5.0 | | mg/kg | |
| 5170295 | BAN | RPD [FCY658-01] | Acid Extractable Lead (Pb) | 2017/09/19 | 0.079 | | % | 35 |
| 5170296 | BAN | Matrix Spike | Acid Extractable Lead (Pb) | 2017/09/19 | | 97 | % | 75 - 125 |
| 5170296 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/19 | | 99 | % | 75 - 125 |
| 5170296 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/19 | <5.0 | | mg/kg | |
| 5170296 | BAN | RPD | Acid Extractable Lead (Pb) | 2017/09/19 | NC | | % | 35 |
| 5170482 | BAN | Matrix Spike [FCY661-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170482 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 102 | % | 75 - 125 |
| 5170482 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170482 | BAN | RPD [FCY661-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 2.4 | | % | 35 |
| 5170483 | BAN | Matrix Spike [FCY630-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170483 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 102 | % | 75 - 125 |
| 5170483 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170483 | BAN | RPD [FCY630-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 14 | | % | 35 |
| 5170627 | BAN | Matrix Spike [FCY629-01] | Acid Extractable Lead (Pb) | 2017/09/20 | | NC | % | 75 - 125 |
| 5170627 | BAN | Spiked Blank | Acid Extractable Lead (Pb) | 2017/09/20 | | 101 | % | 75 - 125 |
| 5170627 | BAN | Method Blank | Acid Extractable Lead (Pb) | 2017/09/20 | <5.0 | | mg/kg | |
| 5170627 | BAN | RPD [FCY629-01] | Acid Extractable Lead (Pb) | 2017/09/20 | 2.4 | | % | 35 |
| 5187100 | AYN | Method Blank | Sample Weight (as received) | 2017/09/29 | NA | | g | |
| 5187100 | AYN | RPD | Sample Weight (as received) | 2017/09/29 | 0.0090 | | % | N/A |
| 5189036 | BAN | Matrix Spike [FCY631-01] | Leachable Lead (Pb) | 2017/10/02 | | 108 | % | 75 - 125 |
| 5189036 | BAN | Spiked Blank | Leachable Lead (Pb) | 2017/09/29 | | 95 | % | N/A |
| 5189036 | BAN | Method Blank | Leachable Lead (Pb) | 2017/09/29 | <5.0 | | ug/L | |
| 5189036 | BAN | RPD | Leachable Lead (Pb) | 2017/10/02 | 5.3 | | % | 35 |

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

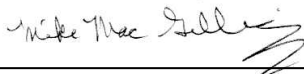
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Appendix C

Limitations



LIMITATIONS

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
 - (a) The Standard Terms and Conditions which form a part of our Professional Services Contract;
 - (b) The Scope of Services;
 - (c) Time and Budgetary limitations as described in our Contract; and
 - (d) The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in Amec Foster Wheeler's opinion, for direct observation.
4. The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal by-laws, orders-in-council, legislative enactments and regulations was not performed.
5. The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report.
6. Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on Site and may be revealed by different or other testing not provided for in our contract.
7. Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, Amec Foster Wheeler must be notified in order that it may determine if modifications to the conclusions in the report are necessary.
8. The utilization of Amec Foster Wheeler's services during the implementation of any remedial measures will allow Amec Foster Wheeler to observe compliance with the conclusions and recommendations contained in the report. Amec Foster Wheeler's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. Amec Foster Wheeler accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Amec Foster Wheeler.
11. Provided that the report is still reliable, and less than 12 months old, Amec Foster Wheeler will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on Amec Foster Wheeler's report, by such reliance agree to be bound by our proposal and Amec Foster Wheeler's standard reliance letter. Amec Foster Wheeler's standard reliance letter indicates that in no event shall Amec Foster Wheeler be liable for any damages, howsoever arising, relating to third-party reliance on Amec Foster Wheeler's report. No reliance by any party is permitted without such agreement.