

**HAZARDOUS MATERIALS INVESTIGATION
LACOMBE, BEAVERLODGE AND FORT VERMILLION
RESEARCH CENTRES**



Prepared for:

PUBLIC WORKS & GOVERNMENT SERVICES CANADA

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EXECUTIVE SUMMARY

Ballast Environmental Consulting Ltd. (Ballast Environmental) was contracted by Professional & Technical Services, Real Property Services Branch Public Works & Government Services Canada (PWGSC) to conduct three Hazardous Building Material Assessments at the Lacombe, Beaverlodge and Fort Vermillion Research Centers. The Lacombe Research Center is located at 6000 C&E Trail in Lacombe, AB and the assessment was conducted from January 17-21, 2011 and February 10, 2011. The Beaverlodge Research Center address is PO Box 29 in Beaverlodge, AB and the assessment was conducted from February 4-9, 2011. The Fort Vermillion Research Center address is PO Box 126, Fort in Fort Vermillion, AB and the assessment was conducted from February 1-3, 2011. The information obtained will be used for management, demolition, renovation and abatement purposes.

The study objective includes:

- to provide a Hazardous Materials Report as per the Terms of Reference with the following information included in the report:
 - Site investigation, sample collection/location and laboratory analysis
 - Assessing the degree of risk/health hazard to workers
 - Estimating types, quantities and locations of hazardous materials and preparing a report in tabular format
 - Specifying QA/QC procedures and laboratory investigation methodologies

The hazardous materials assessment includes:

- assessment and sampling of suspect materials which may contain asbestos and lead based paint;
- assessment of polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS), radioactive materials, mould;
- analysis and reporting of findings with recommendations.

Summary of Findings for Lacombe

ASBESTOS

| ACM (asbestos containing material) | EXTENT | IMPACT* |
|---|---|---|
| No Issues (currently) | Caution | Immediate abatement |
| #2 Residence | | |
| Vermiculite Insulation | Attic (200 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| Drywall Mud | Entire main floor Estimated: 334 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and the drywall mud should first be abated. |
| #21 Administration | | |
| Floor Tiles | 3 offices (green/black tiles) Estimated: 30 m ² | The floor tiles are in good condition. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |



| ACM (asbestos containing material) | EXTENT | IMPACT* |
|---|--|---|
| Elbow/pipe Insulation | Building mechanical areas | There was exposed pipe insulation in corridor 4. There is a high risk to occupants when the ACM wrap is damaged or the ACM is exposed. All damaged or exposed ACM insulation should be abated. |
| #38A Beef unit garage | | |
| Floor Tiles | Room 1 (Brown tiles) Estimated: 0.5 m ² | The tiles are in good condition and located under a furnace. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |
| Vermiculite Insulation | Attic (125 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #40 Beef unit test barn | | |
| Exterior Caulking | Beef test barn-south windows 41 windows | The exterior caulking is located in a relatively unused area but it is in poor condition. There is little risk to the occupants. |
| #41 Beef unit residence | | |
| Vermiculite Insulation | Attic (140 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #52 Machine and vehicle repair | | |
| Window Glazing | South window 1 window | The exterior glazing is located in a relatively unused area and is in fair condition. As long as there is no disturbance to the ACM there is low risk to occupants. |
| Floor Tiles | Main floor office (off- white tiles) Estimated: 8 m ² | The tiles were in average condition. As long as the tiles are in good/average condition, there is low risk. If any tiles become damaged tiles should be removed and replaced. |
| #53 Header house | | |
| Transite Boards | Boiler room Estimated: 115 m ² | The panels are in good condition. The panel boards are only accessible by maintenance staff. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All maintenance staff should be educated and trained regarding this ACM. |
| Floor Tiles | AV room 2E, Office 3E (Brown streak tiles) Estimated: 120 m ² | The tiles were in average condition. As long as the tiles are in good/average condition, there is low risk. If any tiles become damaged tiles should be removed and replaced. |
| Sink insulation | AV room 2E Estimated: 1 sink | The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks. |



| ACM (asbestos containing material) | EXTENT | IMPACT* |
|---|--|--|
| #54 Animal hospital | | |
| Vermiculite Insulation | Animal hospital (attic: 100 m ²) (walls: 72 m ²) | There is a high risk to occupants if the ACM is exposed and disturbed. ACM is present in the attic and walls. The animal hospital walls and ceiling are compromised and the vermiculite is leaking onto the floor. This area has a high risk of exposure and should be abated as soon as possible. If the area cannot be abated, the vermiculite should be cleaned up (by qualified personnel) and the compromised walls and ceiling repaired before entry of unprotected personnel. |
| Floor Tiles | Entrance floor (off- white tiles) Estimated: 2 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in poor condition and lifting from the floor. These tiles should be abated. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.

Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.

LEAD

| LEAD PAINT | EXTENT | IMPACT* |
|---------------------------|---|---|
| #2 Residence | | There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. Disturbance of lead based paint causes the release of lead in the dust. If the lead based paint is to be disturbed, then the workers must wear appropriate PPE. |
| Exterior Dark green | Trim Total Estimate: 2 man doors and 10 windows | |
| #2A Garage | | |
| Exterior Dark green | Trim Total Estimate: 1 man door, 1 garage door and 2 windows | |
| #10 Machine pole barn | | |
| Exterior White | Exterior paint on barn Total Estimate: 650 m ² | |
| #21 Administration | | |
| Exterior White | Window frames and door frames Total Estimate: 100 frames | |
| #38 Beef unit pump house | | |
| Exterior White | Exterior Total Estimate: 50 m ² | |



| LEAD PAINT | EXTENT | IMPACT* |
|----------------------------------|---|--|
| #38A Beef unit office and garage | | When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition. |
| Exterior White | Exterior Total Estimate: 150 m ² | |
| #41A Beef unit residence shed | | |
| Exterior White | Exterior Total Estimate: 40 m ² | |
| #54 Animal hospital | | |
| Interior White | All interior walls excluding the cooler Total Estimate: 200 m ² | |

*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.

PPE: personal protective equipment

PCBs

There were no suspect materials observed which may contain PCBs.

MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are several hundred of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. All fluorescent lights should be stored to protect from breakage and recycled accordingly.

There was one mercury containing thermostat in the #2 Residence, three in the #21 Administration Building, two in #52 Vehicle & Machine Repair, one in #53 Header House and one in #54 Animal Hospital.

As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants. Any mercury items should be recycled and disposed of according to current regulations.

A best practice would be to replace the mercury containing thermostats with non-mercury containing units. These newer units are also typically more energy efficient than older mercury-containing units.

OZONE DEPLETING SUBSTANCES

Many of the ODS in the building have already been inventoried and many have been removed. One fridge was located in the #38 Beef unit pumphouse and the #52 Machine and vehicle repair shop. A chiller for the cooler is located in the #54 Animal hospital. The ODS units should be recycled/recovered by a qualified and experienced worker according to Ozone Depleting Substances and Halocarbons Regulations.

RADIOACTIVE MATERIALS

Three radioactive smoke detectors were found on the subject site, one in #2 Residence and two in the #41 Beef unit residence and.

When radioactive materials are not in use and are to be disposed of they should be disposed of according to the current regulations of the Nuclear Safety Control Act and Nuclear Substances and Radiation Devices Regulations.



Radioactive smoke detectors, in quantities of 10 or less, may be disposed in normal household garbage.

MISCELLANEOUS CHEMICALS

All miscellaneous chemicals need to be disposed of and stored according to current regulations and manufactures recommendations.

MOULD

Water damage which may lead to mould growth, was observed at the following locations in the #21 Administration building: attic (leak on west side), 118 office (south wall) and 120 office (south wall).

It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated.

PESTS

#2 Residence has mouse feces in the attic and a mouse infestation in the #2A garage. #54 Animal Hospital has bird feces in the attic.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

Since the affected attic areas contain ACM vermiculite, the cleaning should only be done by qualified personnel as an ACM abatement activity.

#54 Animal Hospital attic space should be boarded off or wire put up to restrict the birds entry into this area.

SPILLS/STAINS

#10 Machine Pole Barn has some suspected hydrocarbon staining on the dirt floor. Phase I Environmental Site Assessments should be completed to address this stain and other areas of potential contamination.

If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where the hazards may be present and how to proceed if they observe some suspect materials.

A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.



Summary of Findings for Beaverlodge

ASBESTOS

| ACM | EXTENT | IMPACT* |
|---------------------------------|--|--|
| No Issues (currently) | Caution | Immediate abatement |
| #1 Administration Office | | |
| Drywall Mud | Half of building Estimated: 580 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Floor Tiles | Basement hallway (brown/white tiles) Estimated: 8 m ² | As long as the tiles are in good to fair condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and they should be abated. |
| Sheet Linoleum | Basement (brown squares) Estimated: 100 m ² 2 nd Floor (brown squares) Estimated: 30 m ² | The brown squares flooring in the basement conference room, hall and kitchen along with the 2 nd floor offices #18 and #20 were in good condition and therefore only requires being controlled. |
| Sheet Linoleum | Shoe rack (brown) Estimated: 1 m ² Main Floor (brown squares) Estimated: 30 m ² | The brown linoleum shoe rack and the brown squares flooring (storage rooms on the main floor) are in poor condition and present a high risk of exposure requiring immediate abatement. |
| Sink insulation | Basement dark room and kitchen Estimated: 2 sinks | The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks or educating occupants using this space. |
| Ceiling Texture | Main floor entrance, east hallway and office 3 Estimated: 85 m ² | The ceiling texture is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate and should be controlled. |
| Stucco | Exterior Estimated: 440 m ² | The stucco is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate and should be controlled. |
| #10 Canola Laboratory | | |
| Floor Tiles | 2 nd floor office 5 (brown tiles) Estimated: 20 m ² | As long as the tiles are in good condition, there is low risk. The brown tiles on the 2 nd floor were in good condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and should be abated. |
| Floor Tiles | Basement storage 6 & 7 and hallways (light and dark brown) Estimated: 45 m ² | The light and dark brown tiles in the basement were in poor condition. This presents a high risk of exposure, requiring immediate abatement. |



| ACM | EXTENT | IMPACT* |
|---|--|---|
| Drywall Mud | Entire main floor, 2 nd floor and 2 rooms in basement Estimated: 1600 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. The drywall in the basement was water damaged and should be abated immediately |
| Pipe Insulation | Basement coolers (storage 4 & 5) Estimated: 8 m | The pipe insulation around the coolers is currently in fair condition. However, it was not enclosed with a pipe wrap and therefore accessible. There is a high risk to occupants if the ACM wrap is damaged or the ACM is exposed. This exposed insulation should be abated immediately |
| Light Insulation | Basement-west hallway Estimated: 1 Main floor-W-N lab, NE & main entrance, storage room Estimated: 4 2 nd floor-hallway, storage, office 4, 8, 10 and stairway Estimated: 7 | The light insulation is in good condition, is highly friable and is not accessible. It also has an extremely high asbestos content. The risk of exposure is moderate and should be controlled. |
| Interior Caulking | Basement coolers (storage 4 & 5) Estimated: 1 m | The caulking is located in a relatively unused area and is in good condition. There is little risk to the occupants. |
| Boiler Insulation | Basement furnace room boiler Estimated: 1 unit (1.5 m ³) | The insulation is in poor condition, is highly friable and is moderately accessible. It also has high asbestos content. The risk of exposure is high and the insulation should be removed immediately. |
| #14 Soils Research Building (demolition) | | |
| Floor Tiles without asbestos mastic | 1 st floor entry (gray 12x12) Estimated: 20 m ² 2 nd floor-power panel room (dark gray 9x9) Estimated: 8 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. These floor tiles do not need to be abated prior to demolition. |
| Floor tiles with asbestos mastic | 1 st floor-SW lab, 2 nd floor-all (white/gray 9x9) Estimated: 170 m ² 1 st floor-1 st floor-NW lab, under stairs (light & dark brown 9x9) Estimated: 55 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. These floor tiles must be abated before demolition. |
| Sheet Linoleum | 1 st floor-NE lab, hallway, growth chamber room, washroom (brown squares) Estimated: 84 m ² | The brown squares flooring is in poor condition and presents a high risk of exposure requiring immediate abatement. This linoleum needs to be abated prior to demolition |



| ACM | EXTENT | IMPACT* |
|-----------------------------|--|---|
| Transite Boards | 2 nd floor-walls, ceiling, floor Estimated: 600 m ² | <p>The panel majority boards are only moderately accessible and are in good condition. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All maintenance staff should be educated and trained regarding this ACM.</p> <p>The 2 transite boards leaning on the wall of SW lab and on the 2nd floor in the SW corner of the hall are both highly accessible and pose a risk.</p> <p>All the transite board needs to be abated before demolition.</p> |
| Sink insulation | 1 st floor-SW lab (bronze) 1 st floor-NE lab (gray) Estimated: 4 sinks | <p>The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not touched or disturbed.</p> <p>The sink insulation (or entire sink unit) needs to be abated before demolition.</p> |
| Drywall Mud | 1 st floor-SW lab, NW lab, furnace room Estimated: 200 m ² | <p>The majority of the drywall mud was in fair condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure.</p> <p>All drywall needs to be abated before demolition.</p> |
| #15 Ecology Building | | |
| Sink insulation | 1 st floor-S lab (white/silver) Estimated: 2 sinks | <p>The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks or educating occupants using this space.</p> |
| Floor Tiles | 1 st floor-north & south lab, office, entry (blue/white 12x12) Estimated: 90 m ² 1 st floor-north & south storage, washroom, hallway (white/gray 9x9) Estimated: 60 m ² | <p>As long as the tiles are in good condition, there is low risk. The tiles were in fair to good condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated.</p> |
| Countertops | 1 st floor-N lab, 2 nd floor-north side adj. to stairwell (gray) Estimated: 3.3 m ² 2 nd floor-east side adj. to stairwell (green) Estimated: 0.84 m ² | <p>The countertops ranged in condition from poor to good and all are highly accessible. They also have a high asbestos content and can be damaged. The risk of exposure is high for all ACM containing countertops and they should be immediately abated.</p> |
| Drywall Mud | 1 st floor-furnace room (yellow) Estimated: 38 m ² | <p>The drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and should be abated.</p> |

| ACM | EXTENT | IMPACT* |
|----------------------------------|--|--|
| #17 Carpenter Shop | | |
| Vermiculite Insulation | Attic Estimated: 225m ² | The insulation leaking out of the ceiling in the storage area above the office does pose a high risk of exposure and should be abated immediately. The vermiculite insulation is undisturbed in the main portion of the ceiling. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| Drywall Mud | Entrance hallway, office, utility room, washroom, ½ walls in paint storage room Estimated: 164 m ² | The drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Floor Tiles | Office (gray 12x12) Estimated: 16 m ² Washroom (gray 9x9) Estimated: 6 m ² | The floor tiles were in good condition. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |
| Transite Boards | Leaning against wall (2) Estimated: 2.16 m ² | The 2 transite boards leaning on the wall are highly accessible, non-functional and are in poor condition posing an immediate risk. These boards should be removed. |
| Light Insulation | Incandescent light fixture stored in crawl space above office Estimated: 1 | The light insulation is in good condition, is highly friable and is not accessible. It also has a high asbestos content. The risk of exposure is moderate and should be controlled. |
| #18 Apiculture Laboratory | | |
| Interior Caulking | Basement coolers (storage 1-4) Estimated: 2 m | The caulking has a moderate to high asbestos content, low friability and is in good condition. As long as the condition of the caulking does not deteriorate there is a low risk of exposure. |
| Vermiculite Insulation | Attic Estimated: 110 m ² | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #26 Storage | | |
| Transite Boards | NW corner of the threshing room & NE corner of the furnace room Estimated: 11 m | They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All relevant staff should be educated and trained regarding this ACM. |
| Floor Tiles | Washrooms, hallway, office 4 (green 9x9) Estimated: 50 m ² Lab 1 and office 2 & 3 Estimated : 30m ² | The tiles are in poor condition and pose a medium risk. The damaged tiles should be immediately abated and replaced. |

| ACM | EXTENT | IMPACT* |
|------------------------|--|---|
| Vermiculite Insulation | Attic Estimated: 540 m ² | High risk to occupants if the ACM is exposed and disturbed. This insulation is disturbed by the rodent activity and storage of miscellaneous items in the attic. There is insulation leaking from the ceiling into certain rooms, where there is a high risk of exposure. There is also water damage on the ceiling which is holding the ACM in place. This ACM should be abated immediately. |
| Drywall Mud | Entire building (walls & ceiling) Estimated: 1210 m ² | The drywall mud was in good condition with the exception of certain areas with water damage. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and should be abated. The drywall mud which is in poor condition (water damaged) can lead to a high risk of exposure and should be abated. |
| Counter Top | Lab 2, office 3 (gray) Estimated: 14 m ² | The countertops were in good condition and are highly accessible. They also have a high asbestos content and can be damaged. The risk of exposure is high for all ACM containing countertops and they should be immediately abated. |
| #35 Garage | | |
| Vermiculite | Transecting center portion of shop (brown/gray cinder block) Estimated: 80 m ² | This insulation is contained within the cinderblock wall and is in good condition. There is only a high risk to occupants if the ACM is exposed and disturbed. If the vermiculite remains undisturbed there is little risk to occupants. However, if there is to be any demolition to the wall, the vermiculite should be abated first. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.

Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.



LEAD

| LEAD PAINT | | EXTENT | IMPACT* |
|--|--|--------|--|
| #1 Administration Office | | | <p>There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. Disturbance of lead based paint causes the release of lead in the dust.</p> <p>If the lead based paint is to be disturbed, then the workers must wear appropriate PPE.</p> <p>When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition.</p> |
| Exterior White | Doors frames and window trim Total Estimate: 3 doors and 42 windows | | |
| Interior Black | Basement dark room Total Estimate: 30 m ² | | |
| #10 Canola Laboratory | | | |
| Interior White/yellow | Basement storage rooms 1, 2, 3 and 9 Total Estimate: 120 m ² | | |
| Exterior White | Door frames and window trim Total Estimate: 4 doors and 38 windows | | |
| #14 Soils Research Building (demolition) | | | |
| Exterior White | Door frames and window trim Total Estimate: 3 doors and 14 windows | | |
| #15 Ecology Building | | | |
| Interior White | 2 nd floor walls and ceilings Total Estimate: 150 m ² | | |
| #17 Carpenter Shop | | | |
| Exterior Blue | Exterior Total Estimate: 350 m ² | | |
| #18 Apiculture Building | | | |
| Exterior White | Door frames, window trim and siding Total Estimate: 110 m ² | | |

*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.

PCBs

| PCB | EXTENT | IMPACT* |
|----------------------------|--|---|
| #10 Canola Laboratory | | As long as the PCB containing fluorescent light ballasts are in good condition and not damaged and PCBs remain enclosed (not leaking) there is low risk to occupants. It is recommended all leaking fluorescent light ballasts are removed and disposed immediately. |
| Fluorescent Light Ballasts | Second floor S.W. office and lunch room (*leaking) Total Estimate: 3 | |
| #14 Soil Research Building | | |
| Fluorescent Light Ballasts | Main floor S.W. lab (*2 leaking) and second floor labs one and two (*1 leaking) Total Estimate: 8 | |
| #17 Carpenter Shop | | |
| Fluorescent Light Ballasts | Total Estimate: 1 | |
| #26 Storage | | |
| Fluorescent Light Ballasts | Total Estimate: 28 | |



MERCURY

| MERCURY | EXTENT | IMPACT* |
|-------------------------------|--|--|
| #10 Canola Laboratory | | <p>As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants.</p> <p>Any mercury items should be recycled and disposed according to current regulations.</p> |
| Thermostats | 1 st floor hallway Total Estimate: 1 | |
| #14 Soils Research Building | | |
| Thermostats | 1 st floor hallway and 2 nd floor lab 1 | |
| Thermometers | 1 st floor growth chamber Total Estimate: 2 thermostats and 2 thermometers | |
| #15 Ecology Building | | |
| Thermostats | 1 st floor hallway Total Estimate: 1 | |
| #17 Carpenter Shop | | |
| Thermostats | N.W. corner of shop Total Estimate: 1 | |
| #25 Honey Extraction Building | | |
| Thermostats | Main area on west wall Total Estimate: 1 | |
| #26 Storage | | |
| Thermostats | Air drying room | |
| Thermometers | Cooler Total Estimate: 1 thermostat and thermometers | |
| #36 Forage Building | | |
| Thermometers | Lab, lunch room and cool room Total Estimate: 3 | |
| #45 Chemical | | |
| Thermostats | Center room Total Estimate: 1 | |

OZONE DEPLETING SUBSTANCES

| ODS | EXTENT | IMPACT* |
|-----------------------------|---|--|
| #1 Administration | | The ODS units should be recycled/recovered by a qualified and experienced worker according to ozone depleting substance and halocarbons regulations. |
| Mini-fridge | Main floor storage Total Estimate: 1 (1 oz R12) | |
| #10 Canola Laboratory | | |
| Fridges | 2 nd floor office 2 | |
| Incubators | Total Estimate: 1 fridge (5 oz R12),1 fridge (5.25 oz R12), and 3 incubators (27 oz R12 total) | |
| #14 Soils Research Building | | |
| Fridges | 1 st floor growth chamber room, 1 st floor N.W. lab and 2 nd floor lab 2 | |
| Growth Chamber | Total Estimate: 1 growth chamber (unknown amount R12), 1 fridge (5 oz R12), 1 fridge (4.2 oz R12) and 1 fridge (4.75 oz R12) | |
| #15 Ecology Building | | |
| Fridge Freezer | Total Estimate: 1 suspect fridge and 1 suspect freezer | |
| #18 Apiculture Laboratory | | |
| Freezer | Total Estimate: 1 freezer (unknown R12 amount) | |
| #36 Forage Building | | |
| Fridges Freezers | Total Estimate: 1 fridge (7.1 oz R12), 1 fridge (7.4 oz R12) and freezer (8.0 oz R12) | |



RADIOACTIVE MATERIALS

| RADIOACTIVE MATERIAL | | EXTENT | IMPACT* |
|-----------------------------------|--|--------|---|
| #1 Administration | | | When radioactive materials are not in use and are to be disposed of they should be disposed of according to the current regulations of the Nuclear Safety Control Act and Nuclear Substances and Radiation Devices Regulations. |
| Smoke detectors | Basement hallway, main floor hallway and 2 nd floor east hallway Total Estimate: 3 | | |
| #14 Soils Research Building | | | |
| Smoke detector | 2 nd floor hallway Total Estimate: 1 | | |
| #18 Apiculture Laboratory | | | |
| Smoke detector | Basement under stairs on shelf Total Estimate: 1 | | Radioactive smoke detectors, in quantities of 10 or less, may be disposed in normal household garbage. |
| #35 Garage | | | |
| Smoke detectors (stored in a box) | 2 nd floor north side shelving Total Estimate: 7 | | |

MISCELLANEOUS CHEMICALS

All miscellaneous chemicals need to be disposed and stored according to current regulations and manufactures recommendations.

MOULD

| MOULD/WATER DAMAGE | | EXTENT | IMPACT* |
|-----------------------------|--|--------|--|
| #10 Canola Laboratory | | | It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated. |
| Water damage | Basement and main floor storage room | | |
| Mould | Total Estimate: 190m ² | | |
| #14 Soils Research Building | | | |
| Water damage | 1 st floor furnace room, 1 st floor N.W. lab and 2 nd Lab 2 Total Estimate: 3.5m ² | | |
| #15 Ecology Building | | | The areas with visible 'suspect' mould growth should be abated immediately. |
| Water damage | Chimney areas Total Estimate:1 m ² | | |
| #17 Carpenter Shop | | | |
| Water damage | Basement area Total Estimate: unknown | | |
| #25 Honey Extraction | | | |
| Water damage | Ceiling tile Total Estimate: 0.3 m ² | | |
| #26 Storage | | | |
| Water damage | Threshing room, office 1, seed storage room, furnace room, air drying room, men's washroom, women's washroom, main hallway and attic | | |
| Mould | Total Estimate: 4 m ² mould and 7 m ² water damage | | |

PESTS

#1 Administration Office had a significant amount of squirrels and mice disturbing the ACM vermiculite. A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.



If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where they may be present, and how to proceed if they observe some suspect materials.

A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.

Summary of Findings for Fort Vermillion

ASBESTOS

| ACM | Extent | Impact* |
|--|--|--|
| No Issues (currently) | | Caution Immediate abatement |
| #2 Administration Office – to be demolished | | |
| Floor Tiles | Basement (brown with dark brown) Estimated: 44 m ² | The floor tiles were in poor condition. If this building is to be demolished, the floor tile may remain in place and does not need to be removed prior to demolition. |
| Transite Board | Basement Utility Room Estimated: 170 m ² | The transite board was in good condition. The ACM transite board needs to be abated prior to demolition. |
| Elbow/pipe Insulation | Entire basement Estimated: 120 m | The insulation was in fair condition with some exposed insulation. The ACM insulation needs to be abated prior to demolition. |
| #23 Workshop and Office | | |
| Green Board (transite board) | Shop Mobile work bench Estimated: 0.5 m ² | The transite board was in poor condition and has a high asbestos content. It is at high risk and should be abated. |
| #33 Processing and Carpenter Shop | | |
| Silver Duct Insulation | East room Estimated: 0.3 m x 0.1 m x 2.4 m high | High risk to occupants because the ACM insulation is damaged and exposed, with a high asbestos content. The insulation should be abated. |
| #37 Drying Shed | | |
| Insulation | Within the dryers Estimated: 3 m ² | There is low risk since the insulation boards are intact, in good condition and within a dryer. All persons using these units should be educated and trained regarding this ACM. |
| Transite Board | Walls and ceiling Estimated: 60 m ² | The transite board was in good condition. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All persons using this building should be educated and trained regarding this ACM. |
| #60 Duplex House | | |
| Floor Tiles | Entry way (off-white with brown) Estimated: 3 m ² | The tiles are in poor condition therefore there is a high risk. Any damaged tiles should be replaced. |



| ACM | Extent | Impact* |
|-------------------------------|---|---|
| Drywall Mud | All rooms with drywall Estimated: 792 m ² | The majority of the drywall mud was in good condition however there was some water damaged drywall in poor condition. If the drywall is in good condition and not disturbed there is low risk of exposure. If the drywall mud is in poor condition or if the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Pump House and Lean-to | | |
| Vermiculite Insulation | Ceiling Estimated: 60 m ² | This area has a high risk of exposure and should be abated as soon as possible. If the area cannot be abated, the vermiculite should be cleaned up and the compromised ceiling repaired before entry of unprotected personnel. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.

Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.

LEAD

| Lead Paint | Extent | Impact* |
|----------------------------|---|--|
| #57 Sewage Lift Pump House | | There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. |
| Exterior White | Exterior paint on building Total Estimate: 20 m ² | |
| #60 Duplex House | | Disturbance of lead based paint causes the release of lead in the dust. |
| Exterior White | Trim Total Estimate: 8 m ² plus 4 windows and doors | |
| Interior Yellow | Basement stairwell Total Estimate: 6 m ² | If the lead based paint is to be disturbed, then the workers must wear appropriate PPE. |
| #60A Duplex Garage | | |
| Exterior White | Trim Total Estimate: 40 m ² | |
| #62 Weigh Scale | | When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition. |
| Exterior White | Exterior paint on building Total Estimate: 10 m ² | |
| Pump house and Lean-to | | |
| Exterior White | Exterior paint on building Total Estimate: 60 m ² | |



*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.

PCBs

There were no PCBs identified in this report. All fluorescent light and HID ballasts should be checked for PCBs at the time of removal using the most current version of Environment Canada publication: Identification of Lamp Ballasts Containing PCBs. Those that do contain PCBs must be handled, packaged and disposed of by the current regulations and personnel must be equipped with proper personal protection equipment.

MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. All fluorescent lights should be stored to protect from breakage and recycled accordingly.

There were mercury thermostats at:

- #2 Administration Office
- #14 Drying and Threshing Room
- #23 Workshop and Office
- #33 Processing and Carpenter shop
- #60 Duplex House

As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants. Any mercury items should be recycled and disposed according to current regulations.

A best practice would be to replace the mercury containing thermostats with non-mercury containing units. These newer units are also typically more energy efficient than older mercury-containing units.

OZONE DEPLETING SUBSTANCES

Many of the ODS in the building have been removed. The table below outlines the remaining ODS of concern.

- #2 Administration Office – two air conditioners
- #33 Processing and Carpenter shop – freezer and chiller
- #60 Duplex House – two fridges

The ODS units should be recycled/recovered by a qualified and experienced worker according to Ozone Depleting Substances and Halocarbons Regulations.

RADIOACTIVE MATERIALS

No radioactive materials were observed on site.

MOULD

Mould or water damage which may lead to mould growth was observed at the following locations:

- #2 Administration Office
- #14 Drying and Threshing Room



#33 Processing and Carpenter shop
#60 Duplex House
Pump House

It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated.

PESTS

#6 Garage and Storage had a significant amount of bird and rodent feces and #33 Processing and Carpenter Shop had a significant amount of rodent feces in the attic area.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

SPILLS/STAINS

Building #23 Workshop and Office had two sumps and one pit and Building #33 Processing and Carpenter Shop had three pits in the floor which may have contamination.

Phase I Environmental Site Assessments should be completed to address this stain and other areas of potential contamination.

If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where the hazards may be present and how to proceed if they observe some suspect materials.

A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.



1.0 INTRODUCTION

Ballast Environmental Consulting Ltd. (Ballast Environmental) was contracted by Professional & Technical Services, Real Property Services Branch Public Works & Government Services Canada (PWGSC) to conduct three Hazardous Building Material Assessments at the Lacombe, Beaverlodge and Fort Vermillion Research Centers. The Lacombe Research Center is located at 6000 C&E Trail in Lacombe, AB and the assessment was conducted from January 17-21, 2011 and February 10, 2011. The Beaverlodge Research Center address is PO Box 29 in Beaverlodge, AB and the assessment was conducted from February 4-9, 2011. The Fort Vermillion Research Center address is PO Box 126, Fort in Fort Vermillion, AB and the assessment was conducted from February 1-3, 2011. The information obtained will be used for management, demolition, renovation and abatement purposes.

1.1 STUDY OBJECTIVES

The study objective includes:

- to provide a Hazardous Materials Report as per the Terms of Reference with the following information included in the report:
 - Site investigation, sample collection/location and laboratory analysis
 - Assessing the degree of risk/health hazard to workers
 - Estimating types, quantities and locations of hazardous materials and preparing a report in tabular format
 - Specifying QA/QC procedures and laboratory investigation methodologies

1.2 SCOPE OF WORK

The hazardous materials assessment includes:

- assessment and sampling of suspect materials which may contain asbestos and lead based paint;
- assessment of polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS), radioactive materials, mould;
- analysis and reporting of findings with recommendations.

The buildings assessed for this report were:

LACOMBE

#2 Residence

#2A Garage

#10 Machine Pole Barn

#21 Administration

#38 Beef Unit Pump House

#38A Beef Unit Garage

#40 Beef Unit Test Barn

#41 Beef Unit Residence

#41A Shed



#42A Beef Unit Bull Barn
#42B Dry Cow Feedlot
#42F, H, I Beef Unit Hay Sheds
#42J Cow and Calf Shelter (2 buildings)
#42L Storage (Hay Shed)
#52 Machine and Vehicle Repair
#53 Header House
#54 Animal Hospital

FORT VERMILLION

#2 Administration Office
#6 Garage and Storage
#14 Drying and Threshing Shed
#23 Workshop and Office
#33 Processing and Carpenter Shop
#37 Drying Shed
#57 Sewage Lift Pump House
#59 Tin Barn Storage
#60 Duplex House
#60A Garage
#62 Weigh Scale
Pump House

BEAVERLODGE

#1 Administration Office
#10 Canola Laboratory
#14 Soils Research Building
#15 Ecology Building
#17 Carpenter Shop
#18 Apiculture Laboratory
#25 Honey Extraction Building
#26 Storage
#35 Garage
#36 Forage Building
#39 Apiculture Storage
#40 Seed Storage
#43 Soils Field Building
#45 Chemical Storage
Cinder block Storage
Tin Shed

1.3 SITE DESCRIPTION

For a detailed description of each site, refer to sections 3.2, 4.2 and 5.2.



2.0 METHODOLOGY

A room-by-room inspection was completed in all accessible rooms on each property. Samples of suspect materials which may contain asbestos and suspect paint, which may contain lead, were taken. Sampling of asbestos materials follows the recommendations set out in the Alberta Asbestos Abatement Manual, July 2009, for bulk sampling. A visual survey was completed for polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS) and radioactive materials and mould and/or water damage. Observations and sampling locations were documented and diagrams are provided in the Appendices.

2.1 HEALTH AND SAFETY

All work carried out is consistent with a site specific health and safety plan. A hazardous assessment was completed each day before the commencement of work and hazard controls identified.

2.2 ASBESTOS CONTAINING MATERIALS (ACM)

A room-by-room (where accessible) and systematic visual survey was conducted of materials which may contain asbestos. Once a suspect material was identified, it was sampled and the location, type, amount, and condition was documented. Homogenous materials such as drywall compound or ceiling tile were sampled in various locations within a building and composites are made from each sampling location because of the variable nature of asbestos in these substances. The asbestos testing was completed by International Asbestos Testing Laboratory (IATL) in New Jersey using polarized light microscopy US EPA method 600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials for bulk samples. If the initial screening of asbestos in vermiculite was 'none detect', additional testing was carried out using EPA 600/R-04/004 Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation.

Some samples are not repeated on a room-by-room basis if it is obvious the subject material is the same. For example: floor tiles of the same colour and texture in the lab, office and hallway would only be sampled once and the results from that sample would apply to all areas with that same floor tile. This type of extrapolation is site dependent and depends on the material, amount, suspected date of installation, renovations etc.

For homogenous material, the minimum number of bulk samples, as set by the Alberta Asbestos Abatement Manual, is as follows:

| | |
|-------------------------|-------------|
| <90 m ² | = 3 samples |
| 90 – 450 m ² | = 5 samples |
| >450 m ² | = 7 samples |



The following procedures were adhered to during sampling:

- The sampling was completed by a competent person
- Only the person sampling was in the area being sampled
- The material sampled was sprayed lightly with water
- Samples were collected carefully, trying not to disturb more material than necessary
- Any protective coverings that were disturbed were repaired/replaced/covered immediately
- Representative samples of all suspect materials were sampled, penetrating the entire depth of the material and sampling was done at random locations (where accessible)
- Materials with different appearances were sampled separately
- Collected samples were placed into sealed, impervious containers and they were labeled as a laboratory sample and had a WHMIS label on them
- The WHMIS label contained the following information:
 - Product identifier
 - The sample may contain asbestos
 - The statement "hazardous laboratory sample, for hazardous information and in an emergency call....." and provided an emergency telephone number
- Where appropriate plastic drop cloths were used to collect any debris from the sampling, any debris was vacuumed up using a vacuum equipped with a HEPA filtered exhaust or by wet wiping
- The sampler wore the appropriate face mask with P100 filters, Tyvex suit, rubber boots, safety glasses, and disposable nitrile gloves
- The gloves were changed for each sample
- All waste including gloves was placed in an appropriate bag labeled asbestos waste
- All tools and sampling equipment were decontaminated between samples and at the end of the day

2.3 LEAD PRODUCTS

Samples of paint were taken from various locations on various substrates. Every attempt was made to remove the paint without removing the underlying substrate. Tyvex suits, rubber boots, disposable nitrile gloves and half mask respirators with P100 filters were worn by the samplers. A razor scraper was used to scrape the paint from the substrate and then placed in a plastic, re-sealable, labelled bag. The samples were shipped to the laboratory via courier as soon as possible. There is no preservation or refrigeration required for the paint samples.



IATL tested for lead content analysis using ASTM D3335-85A Standard Method to Test for Low Concentrations of Lead in Paint by Atomic Absorption Spectrophotometry. Any lead samples which contained greater than 0.5% lead by weight were submitted for toxicity characteristic leaching procedure (TCLP) as per landfill requirements, when the required amount of sample could be collected. The laboratory requires the equivalent of two coffee cups (100 grams) of paint sample to run the TCPL analysis.

Visual observations were made for other materials containing lead such as emergency backup batteries.

2.4 POLYCHLORINATED BIPHENYLS (PCB)

Generally, fluorescent light ballasts are noted, and if possible inspected. If the ballasts are not marked PCB Free, the manufacture and date codes are compared to the Environment Canada publication, Identification of Lamp Ballasts Containing PCBs, revised August 1991, for PCB identification.

If there are suspect hydraulic fluids or transformers, the fluid is tested if it is accessible. Otherwise the suspect fluid is noted for testing when access is available.

These sites currently have a procedure in place for the PCBs.

2.5 MERCURY

Visual survey is completed to document the items and locations of any possible mercury containing items such as fluorescent light tubes, thermostats, gauges etc.

2.6 OZONE DEPLETING SUBSTANCES (ODS)

Generally, a visual survey is completed and refrigerators, water coolers and air conditioning units are checked, when possible, and noted as they may contain ozone depleting substances.

This site currently has a procedure in place for all ODS on site. The client has replaced the majority of the ODS's.

2.7 RADIOACTIVE MATERIALS

A visual survey is completed for radioactive material in the smoke detectors and other potential sources.



2.8 MISCELLANEOUS CHEMICALS

In general, a visual survey is completed and any miscellaneous chemicals are noted. Since this is a working research center with numerous, active laboratories, miscellaneous chemicals were not noted because it is estimated there are hundreds of chemicals contained in these facilities. As it is a federally regulated facility it is assumed all chemicals are handled, stored and disposed accordingly.

2.9 MOULD

A visual survey is completed for mould and conditions which would promote mould growth, such as water damage. If mould and/or water damage is encountered, the location, amount and potential source was noted.



3.0 LACOMBE

The following are the results of the investigation at the Lacombe Research Centre. Please refer to Appendix 1 for a detailed room description, sampling diagrams, a photographic log and a copy of the laboratory reports.

3.1 SCOPE OF WORK

The hazardous materials assessment includes:

- assessment and sampling of suspect materials which may contain asbestos and lead based paint;
- assessment of polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS), radioactive materials and mould;
- analysis and reporting of findings with recommendations.

3.2 SITE DESCRIPTION

The subject site is located at the Lacombe Research Center situated just south of the Town of Lacombe, AB. The site consists of thirty different buildings, only twenty-one of which are included in this audit.

#2 RESIDENCE

The building is mixed construction with the exterior walls consisting of wood siding and the roof is tar/asphalt shingles. The interior walls were either drywall or wood paneling on wood studs with fiberglass insulation. The attic space contains vermiculite insulation. The residence was constructed in 1947 and has an area of 192 m². Renovations are ongoing in the house.

#2A GARAGE

The building is mixed construction with the exterior walls consisting of wood siding and the roof is tar/asphalt shingles. The interior walls and ceiling were wood slats with wood chips for insulation. The interior ceiling was starting to slump in the middle of the building. The garage was constructed in 1924 and has an area of 22 m².

#10 MACHINE POLE BARN

The building is mixed construction with the exterior walls consisting of wood frame with metal and wood siding and the roof is metal sheeting. The interior walls consist of a wood frame with plywood walls and the ceiling was wood sheeting. The pole barn was constructed in 1974 and has an area of 371 m². This building was being used for storage.



#21 ADMINISTRATION

The administration block is 2 levels: basement and main floor. The basement is mainly offices with some storage and a boiler room and the main floor is offices with a reception area and foyer. There is also an attic which was constructed in the 1990's to enclose the original roof. In the 1990's renovations were completed on the building, although in several areas the old building materials were covered up, not removed. Generally, when newer linoleum was added, the old floor covering was removed and when new laminate floor was added, it was added on top of the existing floor covering. Other renovations since the 1990's include all drywall and T bar ceiling. A leak was observed in the attic along the west side of the building. The administration building was constructed in 1959 and has an area of 1,096 m².

#38 PUMPHOUSE (BEEF UNIT)

The building consists of exterior wood siding and interior wood framing and wood walls. There are asphalt shingles on the roof and a concrete floor. There is no insulation. The beef unit was constructed in 1958 and has an area of 13.4 m².

#38A BEEF UNIT GARAGE

The building consists of exterior wood siding and interior wood framing and wood walls. The asphalt shingles on the roof are newer. The wall insulation is batt type and the attic insulation consists of spray-in insulation over vermiculite. The beef unit was constructed in 1959 and has an area of 125 m².

#40 BEEF UNIT TEST BARN

The building is mixed construction with the exterior walls consisting of wood frame with metal siding and the roof is asphalt shingles. The interior walls consist of a wood frame with panel wood walls and the ceiling was wood sheeting. There was no insulation in the walls and the attic contained spray in recycled paper insulation. The pole barn was constructed in 1959 and has an area of 1,373 m².

#41 BEEF UNIT RESIDENCE

The building is mixed construction with the exterior walls consisting of plastic siding and the roof is tar/asphalt shingles. The interior walls were either drywall or wood paneling on wood studs. There was fiberglass insulation in the walls and vermiculite in the attic. The residence was constructed in 1959 and has an area of 164 m².



#41A SHED

The building is an old greenhouse with the previous windows removed and replaced with plywood. The interior walls and ceiling contain wood chips for insulation. The exterior walls are wood siding and interior walls wood plank and plywood ceiling. The area is approximately 16 m².

#42A BEEF UNIT BULL BARN

The building consists of exterior metal siding and interior wood framing. There are asphalt shingles on the roof. There was no insulation in this building. The beef unit bull barn was constructed in 1960 and has an area of 209 m².

#42B DRY COW FEEDLOT

The building consists of exterior metal siding and interior wood framing. The floor is concrete. There are asphalt shingles on the roof. There was no insulation in this building. The wood framing had been treated in creosote. The feedlot was constructed in 1960 and has an area of 487 m².

#42 F, H, I BEEF UNIT HAY SHEDS

The buildings consist of an open wood frame with a newer roof. The buildings were painted green. There was no insulation or walls. The 3 hay sheds were constructed in 1964/6 and have a total area of 640 m² (214 m² each shed).

#42 J COW AND CALF SHELTER (2 buildings)

The buildings consist of exterior open wood framing and a metal sheet roof. There are asphalt shingles on the roof. There was no insulation. The beef unit bull barns were constructed in 1965 and have an area of 321 m², each.

#42L STORAGE (HAY SHED)

The building consists of an open wood frame with a newer roof. There was no insulation. The hay shed was constructed in 1966 and has an area of 214 m².

#52 MACHINE AND VEHICLE REPAIR

The building is mixed construction with the exterior walls consisting of metal siding and roof. The interior walls were plywood with baton insulation. There is a concrete floor. Many types of chemicals were stored in the garage. The east portion and stores area in this building were a relatively new renovation. The garage was constructed in 1968 and has an area of 669 m².



#53 HEADER HOUSE

The building is mixed construction with the exterior walls consisting of metal siding and a metal roof. The interior walls were plywood with fiberglass insulation. There is a concrete floor. The header house was constructed in 1968 and has an area of 461 m².

#54 ANIMAL HOSPITAL

The building is mixed construction with the exterior walls consisting of metal siding and a metal roof. Half of the building consisted of covered corrals. The interior walls and ceiling were plywood. There is a concrete floor. Vermiculite insulation was observed in the walls and ceiling and creosote is suspected as wood treatment in the corral. There was vermiculite present on the floors of the building from compromised areas of the walls and ceiling. There was a cooler present for storage. The animal hospital was constructed in 1970 and has an area of 214 m².

For a detailed list of the rooms and construction materials, refer to Appendix 1a.

3.3 RESULTS

3.3.1 ASBESTOS CONTAINING MATERIALS (ACM)

One hundred and fourteen samples (including ten duplicates) of suspected ACM were collected and sent for analysis. Twenty-two of the samples were found to contain chrysotile asbestos and twelve of the samples were found to contain actinolite asbestos. The results are summarized in the table below and are contained in Appendix 1.

Table 1: Asbestos Analysis Results Summary for Lacombe

| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|---------------|---------------|-----------------------------|---------------------------------------|------------------|------------------------------------|
| A1 | Red/brown | Duct putty | #21 Attic | Good | None Detected |
| Dup 1 (A1) | Red/brown | Duct putty | #21 Attic | Good | None Detected |
| A2 | Gray | Mortar | #21 Attic south | Good | None Detected |
| A3 | Gray | Mortar | #21 Attic north | Good | None Detected |
| A4 | Light brown | Roof panel | #21 Attic south | Poor | None Detected |
| A5 | Light brown | Roof panel | #21 Attic east | Poor | None Detected |
| A6 | Light brown | Roof panel | #21 Attic north | Poor | None Detected |
| A7 | Black | Roof tar | #21 Attic north | Fair | None Detected |
| A8 | Black | Roof tar | #21 Attic east | Fair | None Detected |
| A9 | White | Plaster | #21 North stairwell | Good | None Detected |
| A10 | Brown | 2x2 perf. ceiling tile | #21 113 Janitor closet | Poor | None Detected |
| A11 | Green | Plaster | #21 113 Janitor closet | Poor | None Detected |
| A12 | Brown | Tree bark sheet linoleum | #21 120 office | Good | None Detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|--------------------|---------------------|--------------------------------|--------------------------------------|---------------------|----------------------------|
| A13 | Blue/gray | Blue/gray lines sheet linoleum | #21 123 office | Good | None Detected |
| A14 | Gray | Plaster | #21 Attic access | Good | None Detected |
| A15 | White | Plaster | #21 118 ceiling | Good | None Detected |
| A16 | White | Stipple | #21 Corridor 1 ceiling | Good | None Detected |
| A17 | White | Stipple | #21 Corridor 2 ceiling | Good | None Detected |
| A18 | White | Stipple | #21 Corridor 3 ceiling | Good | None Detected |
| A19 | White | Plaster | #21 Corridor 3 adjacent room 18 | Good | None Detected |
| A20 | White | Stipple | #21 Corridor 4 ceiling | Good | None Detected |
| A21 | Gray | Plaster | #21 Boiler room | Good | None Detected |
| A22 | Brown | Plaster | #21 Electrical room | Fair | None Detected |
| Dup 2a (A22) | Brown | Plaster | #21 Electrical room | Fair | None Detected |
| Dup 2b (A22) | Gray | Plaster | #21 Electrical room | Fair | None Detected |
| A23 | White | Stipple | #21 Corridor 4 ceiling | Good | None Detected |
| A24 | Pink/ brown | Transite board | #53 Boiler room | Good | 35% (chrysotile) |
| A25 | Brown | Transite board | #53 Boiler room | Good | 30% (chrysotile) |
| Dup 3 (A25) | Brown | Transite board | #53 Boiler room | Good | 25% (chrysotile) |
| A26a | Brown streak | Floor tile | #53 AV room 2E | Good | 3.7% (chrysotile) |
| A26b | Yellow | Mastic | #53 AV room 2E | Good | None Detected |
| A27a | Brown streak | Floor tile | #53 3E office | Fair | 6.3% (chrysotile) |
| A27b | Yellow | Mastic | #53 3E office | Fair | None Detected |
| A28 | White | Siding | #2 Siding | Good/ fair on south | None Detected |
| A29 | Brown | Vermiculite | #54 Walls | Poor | 0.25% (actinolite) |
| A30 | Gray | Mortar | #21 Exterior admin | Good | None Detected |
| A31 | White | Caulking | #21 Exterior admin | Good | None Detected |
| A32 | White | Caulking | #21 Exterior admin | Good | None Detected |
| A33 | White | Stipple | #2 Basement shoe box | Good | None Detected |
| A34 | Black | Wire | #2 Basement wire | Good | None Detected |
| A35 | Red | Brick mortar | #2 Basement chimney | Good | None Detected |
| A36 | Gray | Window Putty | #2 Basement window | Good | None Detected |
| A37 | White | Stipple | #2 Kitchen | Good | None Detected |
| A38 | White | Stipple | #2 Dining room | Good | None Detected |
| A39 | Gray | Mortar | #2 Main floor chimney | Good | None Detected |
| A40 | White | Drywall mud | #2 Closet in hall | Good | 2.9% (chrysotile) |
| Dup 4 (A40) | White | Drywall mud | #2 Closet in hall | Good | 2.6% (chrysotile) |
| A41 | White | Drywall mud | #2 Closet #2 | Good | Trace (chrysotile) |
| A42 | White | Drywall mud | #2 Washroom | Good | None Detected |
| A43 | Light brown | Plaster | #2 Foyer | Fair | None Detected |
| A44 | Black | Tar paper | #2 Exterior south (over wood siding) | Good | None Detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|------------------------|-----------------------|------------------------------|---|-------------|-------------------------------|
| A45 | Brown | Vermiculite | #54 Walls/ceiling | Poor | 0.75% (actinolite) |
| A46 | Gray | Window putty | #2A Garage window | Poor | None Detected |
| A47 | Pink | Floor tile | #41 Kitchen | Poor | None Detected |
| A48a | Beige | Floor tile | #41 Kitchen | Poor | None Detected |
| A48b | Beige | Mastic | #41 Kitchen | Poor | None Detected |
| A49 | Gray | Brick mortar | #41 Basement chimney | Good | None Detected |
| Dup 5 (A49) | Gray | Brick mortar | #41 Basement chimney | Good | None Detected |
| A50 | White | 2x2 pinhole ceiling tile | #41 Basement foyer ceiling | Fair | None Detected |
| A51 | White | 2x2 pinhole ceiling tile | #41 Basement foyer ceiling | Fair | None Detected |
| A52 | Purple | 2x2 pinhole ceiling tile | #41 Basement in front of cold room | Fair | None Detected |
| A53 | White | Drywall mud | #41 Main bedroom behind door | Good | None Detected |
| A54 | White | Drywall mud | #41 Washroom closet | Good | None Detected |
| A55 | White | Drywall mud | #41 2 nd bedroom behind door | Good | None Detected |
| A56a | Light purple | 1x3 ceiling tile | #41 Basement by fire detector | Good | None Detected |
| A56b | White | Joint compound | #41 Basement by fire detector | Good | None Detected |
| A57 | Purple | 1x3 ceiling tile | #41 Basement by light | Good | None Detected |
| A58 | Brown | Vermiculite | #41 Attic | Good | 0.24% (actinolite) |
| A59 | White | 1x1 ceiling tile | #41 Porch | Good | None Detected |
| A60 | Brown | Floor covering | #2 Porch | Fair | None Detected |
| A61 | White | Stipple | #2 Kitchen ceiling | Good | None Detected |
| A62 | Gray | Mortar | #38A Chimney | Good | None Detected |
| A63 | Brown | Vermiculite | #2 Attic | Good | Trace (actinolite) |
| A64 | Metallic brown | Sink insulation | #53 AV room | Good | 4.5% (chrysotile) |
| A65 | White | Pipe elbow insulation | #21 Corridor 3 | Fair | 65% (chrysotile) |
| A66 | White | Pipe insulation | #21 Corridor 3 | Fair | 65% (chrysotile) |
| A67 | White | Pipe insulation | #21 Corridor 3 | Fair | 25% (chrysotile) |
| A68 | White | Pipe insulation | #21 Corridor 4 | Poor | 60% (chrysotile) |
| A69 | Brown | Vermiculite | #38A Ceiling | Good | 0.5% (actinolite) |
| A70a | Brown | Floor tile | #38A Room 1 furnace | Fair | 1.3% (chrysotile) |
| A70b | Black | Mastic | #38A Room 1 furnace | Fair | None Detected |
| A71 | Black | Tar paper | #38 Walls | Poor | None Detected |
| A72 | White | Caulking | #40 South window | Poor | 3.1% (chrysotile) |
| Dup 6 (A72) | White | Caulking | #40 South window | Poor | 1.8% (chrysotile) |
| A73 | White | Caulking | #38A West window | Poor | None Detected |
| A74 | Off white | Tile floor | #54 Entrance | Poor | 1.9% (chrysotile) |
| Dup 7 (A74) | Off white | Tile floor | #54 Entrance | Poor | 1.7% (chrysotile) |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|----------------|-------------------------|-----------------------------|--|-------------|-------------------------------|
| A75 | Brown | Vermiculite | #54 Walls | Poor | 0.25% (actinolite) |
| A76 | White/green | Drywall mud | #52 2 nd floor | Good | None Detected |
| A77 | White/green | Drywall mud | #52 2 nd floor | Good | None Detected |
| A78 | White/green | Drywall mud | #52 2 nd floor | Good | None Detected |
| A79 | White | Stipple | #52 2 nd floor office north | Good | None Detected |
| A80 | White | Stipple | #52 2 nd floor kitchen north | Good | None Detected |
| A81 | White | Stipple | #52 2 nd floor kitchen south | Good | None Detected |
| A82a | Brown streak | Linoleum | #52 2 nd floor kitchen | Good | None Detected |
| A82b | Tan | Mastic | #52 2 nd floor kitchen | Good | None Detected |
| A83 | Off white | Floor tile | #52 Main floor office | Poor | 2.4% (chrysotile) |
| A84 | Yellow | Welding screen | #52 West part of east bay | Poor | None Detected |
| Dup 8 (A84) | Yellow | Welding screen | #52 West part of east bay | Poor | None Detected |
| A85 | Brown | Insulation | #52 East shop wall | Good | None Detected |
| A86a | Brown | Insulation | #52 West shop ceiling | Good | None Detected |
| A86b | Brown | Wrap | #52 West shop ceiling | Good | None Detected |
| Dup 9 (A86) | Brown | Insulation | #52 West shop ceiling | Good | None Detected |
| A87 | White | Window glazing | #52 South shop window | Fair | 1.3% (chrysotile) |
| A88 | Brown | Vermiculite | #41 Attic | Good | 0.57% (actinolite) |
| A89 | Brown | Vermiculite | #41 Attic | Good | 0.30% (actinolite) |
| A90 | Brown | Vermiculite | #2 Attic | Good | 0.25% (actinolite) |
| A91 | Brown | Vermiculite | #2 Attic | Good | Trace (actinolite) |
| A92 | Brown | Vermiculite | #38A Attic | Good | 0.25% (actinolite) |
| A93 | Brown | Vermiculite | #38A Attic | Good | 0.5% (actinolite) |
| A94 | Green/ black | 9"x9" Floor tile | #21 Basement office #6 | Good | 5.9% (chrysotile) |
| A95 | Green/ black | 9"x9" Floor tile | #21 Basement office #6 | Good | 6.2% (chrysotile) |
| A96 | Green/ black | 9"x9" Floor tile | #21 Basement office #4 | Good | 5.7% (chrysotile) |
| A97 | Brown | Sheet linoleum | #21 Main Room 103 | Fair | None Detected |
| A98 | Brown | Sheet linoleum | #21 Main post office | Fair | None Detected |

BOLD – over criteria*

* Criteria: ≥1% asbestos: asbestos containing material as defined by the Alberta Asbestos Abatement Manual, July 2009. Vermiculite is positive for asbestos with asbestos present in any amount.

- all building materials containing more than 1% (by weight) asbestos must be removed prior to demolition (Work Safe Alberta ASB003 – Asbestos Revised July 2009 and OHS Code Part 4) *with some exceptions*



Due to the size and amount of ACM possibly present on this site, representative sampling was conducted. It was not practical or necessary to sample every item which may be an ACM. If the representative samples test positive for asbestos, it is assumed the identical materials, which were not tested, are also positive. For example, the drywall mud and pipe elbow insulation tested positive and therefore all drywall mud and pipe insulation is assumed to be positive for asbestos.

Below is a list of the types of materials sampled and the results for asbestos (# samples positive and/or # samples negative) in brackets.

#2 Residence (17 asbestos samples)

- White siding (1 negative)
- White stipple (4 negative)
- Black wire insulation (1 negative)
- Gray mortar (1 negative)
- Gray window putty (1 negative)
- Drywall mud (1 positive, 1 trace, 1 negative)
- Tar Paper (1 negative)
- Vermiculite (3 positive)
- Brown linoleum (1 negative)
- White siding (1 negative)

#2A Garage (1 asbestos sample)

- Gray window putty (1 negative)

#10 Machine Pole Barn (0 asbestos samples)

- No asbestos samples taken

#21 Administration (35 asbestos samples)

- Red/brown duct putty – (1 negative)
- Gray mortar – (3 negative)
- Light brown roof panel (3 negative)
- Black roof tar (2 negative)
- Plaster (7 negative)
- Brown 2x2 perforated ceiling tile (1 negative)
- Brown tree bark sheet linoleum (1 negative)
- Blue/gray lines sheet linoleum (1 negative)
- White stipple (5 negative)
- White window caulking (2 negative)
- Brown sheet linoleum (2 negative)
- Green/black floor tile (3 positive)
- Pipe elbow insulation (1 positive)
- Pipe insulation (3 positive)



#38 Pump House (1 asbestos sample)

- Black tar paper (1 negative)

#38A Beef Unit Garage (7 asbestos samples)

- Vermiculite (3 positive)
- Brown floor tile (1 positive)
- Floor tile mastic (1 negative)
- Window caulking (1 negative)
- Mortar (1 negative)

#40 Beef Unit Test Barn (1 asbestos sample)

- Window caulking (1 positive)

#41 Beef Unit Residence (16 asbestos samples)

- Pink floor tile (1 negative)
- Beige floor tile and mastic (1 negative)
- Mortar (1 negative)
- 2 x 2 ceiling tile (3 negative)
- Drywall mud (4 negative)
- 1 x 3 ceiling tile (2 negative)
- Vermiculite (3 positive)
- 1 x 1 ceiling tile (1 negative)

#41A Shed (no asbestos samples)

#42A Beef Unit Bull Barn (no asbestos samples)

#42B Dry Cow Feedlot (no asbestos samples)

#42 F, H, I Beef Unit Hay Sheds (no asbestos samples)

#42 J Cow and Calf Shelter (2 buildings) (no asbestos samples)

#42L Storage (Hay Shed) (no asbestos samples)

#52 Machine and Vehicle Repair (14 asbestos samples)

- Drywall mud (3 negative)
- Stipple (3 negative)
- Brown Streak Linoleum and mastic (1 negative)
- Off white floor tile (1 positive)
- Welding screen (1 negative)
- Insulation (3 negative)
- Window putty (1 positive)



#53 Header House (7 asbestos samples)

- Transite board (2 positive)
- Brown streak Floor tile (2 positive)
 - Mastic (2 negative)
- Sink insulation (1 positive)

#54 Animal Hospital (4 asbestos samples)

- Vermiculite (3 positive)
- Off white floor tile (1 positive)

The following is considered to be ACM (refer to Appendix 1 for room details, diagrams outlining the locations and a photographic log):

- The **plumbing insulation** around the pipes and pipe elbows in building # 21 Administration contains from 25% to 65% chrysotile asbestos.
- The **drywall mud** in building #2 contains up to 2.9% chrysotile asbestos. All areas of the building contain various amounts of drywall on either the walls or ceiling.
- There are three different patterns of **floor tiles** that contain up to 6.3% chrysotile asbestos. The tile patterns are: brown streak, off white, green/black and brown. There was no asbestos found in the associated mastic or leveling compound.
 - Black/green floor tile is contained in #21 Administration building in 3 offices (4, 6 and 8) in the basement.
 - Off White floor tile located in the main floor office of building #52 Machine and Vehicle Repair and the entrance way of #54 Animal Hospital
 - Brown streak floor tile located in the AV room and office in the building #53 Header House
- The **vermiculite insulation** found on site contained trace amounts up to 0.75% actinolite asbestos.
 - #2 Residence had ACM vermiculite insulation in the attic
 - #38A Office and Garage had ACM vermiculite insulation in the attic
 - #41 Beef Unit Residence had ACM vermiculite insulation in the attic
 - #54 Animal Hospital had ACM vermiculite insulation in the walls and attic
- There are **insulating coatings under lab sinks** that contain around 4.5% chrysotile asbestos in the AV room of building #53 Header House. The insulation coating, which is the dark metallic brown is the asbestos containing insulation.
- There is window **caulking/glazing** located:
 - on the south window of the #40 Beef Unit Test Barn which contained 3.1% chrysotile asbestos
 - southeast window of the #52 Machine and Vehicle Repair



- **Transite boards** located in boiler room of building #53 Header House tested positive for 25% to 35% chrysotile asbestos. These boards were pink/brown and brown in colour.

3.3.2 LEAD PRODUCTS

Thirty seven (including 3 duplicates) representative samples were sampled and placed in sealable containers for lead content analysis. Please refer to Appendix 1 for a detailed description, a sampling diagram, a photographic log and a copy of the laboratory reports. Nine of the samples are considered lead based paint containing 0.5%, or above, lead by weight.

Table 2: Lead in Paint Analysis Results Summary for Lacombe

| SAMPLE | COLOUR | LOCATION (#- BUILDING NO.) | RESULTS (% LEAD BY WEIGHT)* |
|------------------------|---------------------|----------------------------------|--------------------------------------|
| A9 | White | #21 North stairwell | 0.023** |
| P2 | Green | #21 113 janitor closet | 0.21 |
| P3 | White on dark green | #21 116 wall | 0.063 |
| P4 | Purple on white | #21 118 wall | 0.085 |
| P5 | Brown | #21 Electric room | 0.26** |
| A24 | Pink/brown | #53 Boiler room | Not analyzed due to asbestos content |
| A25 | Brown | #53 Boiler room | Not analyzed due to asbestos content |
| P8 | Pink over yellow | #53 AV room | 0.35** |
| P9 | White | #53 Gym | <0.0085 |
| Dup 1 (P9) | White | #53 Gym | <0.0067 |
| P10 | Yellow over green | #53 Corridor 5 | 0.14** |
| P11 | White | #21 Exterior window frame | 0.95* |
| P13 | Dark green | #2 Exterior trim | 5.7* |
| P14 | Green | #2A Interior trim | <0.0075** |
| P15 | Gray | #41 Basement floor | Void |
| A50 | White | #41 Basement foyer ceiling | <0.0092** |
| A51 | White | #41 Basement foyer ceiling | <0.0091** |
| P16 | White | #38A Garage | 0.35 |
| Dup 3 (P16) | White | #38A Garage | 0.54* |
| P17 | White | #41A Shed | 2.5* |
| P18 | Green | #2 Basement stairs | 0.2** |
| P19 | White | #2 Interior of basement | 0.16 |
| P20 | White | #2 Exterior | <0.0093 |
| P21 | White | #38A Exterior | 1.5** |
| P22 | Gray | #38A Floor | 0.0059** |
| P23 | White | #38A Walls | <0.0074** |
| P24 | White | #38 Pump house | 0.87* |
| Dup 5 (P24) | White | #38 Pump house | 1.2* |
| P25 | Brown | #40 Interior walls | <0.0083** |



| SAMPLE | COLOUR | LOCATION (#- BUILDING NO.) | RESULTS (% LEAD BY WEIGHT)* |
|------------|--------------|-------------------------------|--------------------------------|
| P26 | White | #40 Interior walls | 0.073** |
| P27 | Green | #42B Exterior doors | 0.4** |
| P28 | White | #54 Exterior white | 0.072 |
| P29 | White | #54 Interior white | 0.75* |
| P30 | Red | #10 Interior of barn | 0.0093** |
| P31 | White | #10 Exterior of barn | 1.9** |
| P32 | Yellow | #52 Shelves in tool room | 0.027** |
| P33 | Gray | #52 Work bench east bay | 0.093** |

BOLD – over criteria

* lead >0.5% by weight is considered to be lead containing paint (Work Safe Alberta CH061 and the Federal Hazardous Products Act)

**Matrix/substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks

***Insufficient sample provided to perform QC re-analysis

Below is a list of the colours of paints sampled and the results (# samples positive and/or # samples negative for lead based paint) in brackets.

#2 Residence (4 paint samples)

- Dark green exterior (1 positive)
- White exterior (1 negative)
- White interior (1 negative)
- Green interior (1 negative)

#2A Garage (1 paint sample)

- Green interior (1 negative)

#10 Machine Pole Barn (2 paint samples)

- Red interior (1 negative)
- White exterior (1 positive)

#21 Administration (6 paint samples)

- White interior (1 negative)
- White exterior (1 positive)
- Green interior (1 negative)
- White on dark green (1 negative)
- Purple on white (1 negative)
- Brown (1 negative)

#38 Pump House (1 paint sample)

- White exterior (1 positive)



#38A Beef Unit Garage (3 paint samples)

- White exterior (2 positive)
- Gray interior (1 negative)
- White interior (1 negative)

#40 Beef Unit Test Barn (2 paint samples)

- White interior (1 negative)
- Brown interior (1 negative)

#41 Beef Unit Residence (3 paint samples)

- White interior (2 negative)
- Gray interior (1 negative)

#41A Shed (1 paint sample)

- White exterior (1 positive)

#42A Beef Unit Bull Barn (no paint samples)

#42B Dry Cow Feedlot (1 paint samples)

- Green exterior (1 negative)

#42 F, H, I Beef Unit Hay Sheds (no paint samples)

#42 J Cow and Calf Shelter (2 buildings) (no paint samples)

#42L Storage (Hay Shed) (no paint samples)

#52 Machine and Vehicle Repair (2 paint samples)

- Yellow interior (1 negative)
- Gray interior (1 negative)

#53 Header House (5 paint samples)

- Pink/brown interior (1 negative)
- Brown interior (1 negative)
- Pink/yellow interior (1 negative)
- White interior (1 negative)
- Yellow/green interior (1 negative)

#54 Animal Hospital (2 paint samples)

- White exterior (1 negative)
- White interior (1 positive)



The following is considered lead containing paint:

- **White** paint on the exterior of the following buildings:
 - #10 Machine Pole Barn
 - #21 Administration
 - #38 Pump House
 - #38A Office and Garage
 - #41A shed
 - #54 Animal Hospital
- **White** paint on the interior of #54 Animal Hospital
- **Dark green** paint on the exterior trim of the #2 Residence and #2A Residence garage.

3.3.3 POLYCHLORINATED BIPHENYLS (PCBs)

There were fluorescent light fixtures found throughout the entire building, and transformers/electrical equipment in the vicinity of the buildings, which would be suspect to contain PCBs. The subject site has had the PCB ballasts retrofitted to non PCB ballasts.

3.3.4 MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings.

There was one mercury thermostat in #2 Residence, three in #21 Administration Building, one in #38A Beef Unit Garage, two in #52 Vehicle & Machine Repair, one in #53 Header House and one in the #54 Animal Hospital.

Table 3: Mercury Results Summary for Lacombe

| BUILDING | LOCATION | TYPE/QUANTITY |
|--|--------------------------|-----------------------------------|
| Throughout entire area and located in every room | Light bulbs and tubes | Fluorescent light tubes and bulbs |
| #2 Residence | Main floor hallway | 1 mercury thermostat |
| #21 Administration | Boiler Room | 1 mercury switch |
| #21 Administration | 118 Office | 1 mercury thermostat |
| #21 Administration | Attic | 1 mercury thermostat |
| #38A Beef Unit Garage | West wall main room | 1 mercury thermostat |
| #52 Machine & Vehicle Repair | Upper Kitchen | 1 mercury thermostat |
| #52 Machine & Vehicle Repair | Bay E | 2 mercury thermostat |
| #53 Header House | Corridor | 1 mercury thermostat |
| #54 Animal Hospital | Hospital Area; main room | 1 mercury thermostat |



3.3.5 OZONE DEPLETING SUBSTANCES (ODS)

Many of the ODS in the building have already been inventoried and many have been removed. The table below outlines the remaining ODS of concern.

Table 4: ODS Results Summary for Lacombe

| LOCATION (BUILDING/FLOOR/ROOM) | DESCRIPTION OF THE SYSTEM | TYPE OF ODS | ESTIMATED QUANTITY |
|---|---------------------------|-------------|--------------------|
| #52 Machine & Vehicle Repair/2 nd /kitchen | Kitchen fridge | R-12 | 5 oz |
| #54 Animal Hospital/exterior | Chiller for cooler | R-502 | unknown |

The following is a summary of the ozone depleting substances still present on site:

- There was 1 **fridge** which contains R-12.
- There is 1 **chiller** which contains R-502.

3.3.6 RADIOACTIVE MATERIALS

Four radioactive smoke detectors were found on the subject site.

Table 5: Radioactive Materials Results Summary for Lacombe

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|---|----------------|--------------------|
| #2 Residence/Main Floor/South Bedroom | Smoke detector | 1 |
| #41 Beef Unit Residence /Upstairs /Hallway | Smoke detector | 1 |
| #41 Beef Unit Residence /Downstairs/ Foyer | Smoke detector | 1 |
| #52 Machine & Vehicle Repair/upstairs/kitchen | Smoke detector | 1 |

3.3.7 MISCELLANEOUS CHEMICALS

Miscellaneous chemicals were observed at the following locations:

Table 6: Miscellaneous Chemicals Summary for Lacombe

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|------------------------------------|---|--------------------|
| #10 Pole Barn | Engine oil, transmission fluid and fertilizer | - |
| #21 Administration/janitors closet | Miscellaneous cleaning chemicals | - |
| #38A Office and Garage | Fertilizer and sterilizer storage | - |
| #52 Machine & Vehicle Repair | Chemicals generally found in shops: solvents, grease, oils, degreasers, batteries, antifreeze, etc. | - |
| #54 Header House | Chemicals generally found in utility rooms; solvents and oils | - |



3.3.8 MOULD

Visible mould was not observed at the subject site. However, water damage and conditions which may lead to mould were observed. The table below summarizes the locations of the damage.

Table 7: Water Damage Results Summary for Lacombe

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|-------------------------------------|---------------------------------------|-----------------------|
| #21 Admin/attic | Leak on west side | - |
| #21 Admin/118 Office | South wall | 6 m ² |
| #21 Admin/120 Office | South wall | 3 m ² |
| #41 Beef Unit Residence | Snow buildup in attic under roof vent | 0.3 m in diameter |

3.3.9 PHENOLS

Wood containing cresols and phenols (creosote) was observed in the #10 Machine Pole Barn, #42A Beef Unit Bull Barn, #42B Dry Cow Feedlot, #42F, H, I Hay Sheds, #42J Cow and Calf Shelters, #42L Storage, and #54 Animal Hospital.

Table 8: Phenols Results Summary for Lacombe

| HAZARDOUS MATERIAL | RESULT | GUIDELINE* |
|--------------------|----------|--------------|
| Cresols | 72 mg/kg | 100 mg/kg |
| 2-methylphenol | 20 mg/kg | No guideline |
| 3 & 4-methylphenol | 52 mg/kg | No guideline |

BOLD – over criteria

* Alberta User Guide for Waste Managers by Alberta Environmental Protection

Solids contaminated with cresol or cresylic acid are prohibited from landfill disposal if they are present at levels exceeding 100 mg/kg.

3.3.10 OTHER

PESTS

Building 2 Residence contained a substantial amount of mouse feces in the attic.

Building 2A Garage contained an infestation of mice.

Building 54 Animal Hospital contained a substantial amount of bird feces in the attic.

SPILLS/STAINS

Building 10 Machine Pole Barn has some suspected hydrocarbon staining on the dirt floor.



3.3.11 SUMMARY OF RESULTS BY BUILDING

#2 Residence

The following table is a summary of the hazardous materials identified in the #2 Residence. Refer to Appendix 1b-3 – 1b-4 for diagrams and Appendix 1c-1, 1c-2 and 1c-6 for photographs.

Table 9: #2 Residence Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------------|---|---|
| ACM Drywall Mud | Closet in hall; assumed in all of the rooms | 334 m ² |
| ACM Vermiculite Insulation | Attic – vermiculite under batten wool | Entire attic 200 m ² |
| Lead in Paint | Exterior trim dark green paint | 2 man doors and 10 windows |
| Mercury thermostat | Stairway | 1 |
| Radioactive Smoke Detector | Main floor hallway | 1 |
| Rodent feces | Attic | 3 m ² Spread throughout the attic |

#2A Garage

The following table is a summary of the hazardous materials identified in the #2 Residence. Refer to Appendix 1b-5 for diagrams and Appendix 1c-6 for photographs.

Table 10: #2A Garage Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|--|--|
| Lead in Paint | Exterior trim dark green paint; all window and door frames | 1 man door, 1 garage door, 2 window frames |
| Rodent feces | Attic, walls and floor | Present in the walls and attic Floor Area = 22 m ² |

#10 Machine Pole Barn

The following table is a summary of the hazardous materials identified in the #10 Machine Pole Barn. Refer to Appendix 1b-4 for diagrams and Appendix 1c-7 for photographs.

Table 11: #10 Machine Pole Barn Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------|--|--------------------|
| Lead in Paint | White exterior paint on barn Suspect this paint is located under the metal siding | 650 m ² |
| Hydrocarbon staining | North portion of the building | 2 m ² |



#21 Administration

The following table is a summary of the hazardous materials identified in the #21 Administration. Refer to Appendix 1b-7 – 1b-9 for diagrams and Appendix 1c-2, 3 and 5 for photographs.

Table 12: #21 Administration Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---------------------------|---|--------------------|
| ACM Pipe Elbow Insulation | Corridor #3 and #4 – assume entire building | unknown |
| ACM Pipe Insulation | Corridor #3 and #4 – assume entire building | unknown |
| ACM floor tile | Green/black floor tile (office 4, 6 and 8) | 30 m ² |
| Lead in Paint | Exterior window and door frame-white paint | 100 windows |
| Mercury thermostat | Attic, 118 Office, Boiler room | 3 |
| Water damage | Attic, 118 Office, 120 Office | 9 m ² |

#38 Pump House

The following table is a summary of the hazardous materials identified in the #38 Pump House. Refer to Appendix 1b-10 for diagrams and Appendix 1c-7 for photographs.

Table 13: #38 Pump House Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|--|--------------------|
| Lead in paint | White exterior paint; exterior of building | 50 m ² |

#38A Beef Unit Garage

The following table is a summary of the hazardous materials identified in the #38 Beef Unit Garage. Refer to Appendix 1b-11 for diagrams and Appendix 1c-3 and 1c-7 for photographs.

Table 14: #38A Beef Unit Garage Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|--|--------------------|
| ACM Floor Tile | Room 1; directly under the furnace | 0.5 m ² |
| ACM insulation | Attic; entire attic; approx. 0.3 m thick | 125 m ² |
| Lead in paint | White exterior paint; exterior of building | 150 m ² |
| Mercury Thermostat | Room 1 | 1 |

#40 Beef Unit Test Barn

The following table is a summary of the hazardous materials identified in the #40 Beef Unit Test Barn. Refer to Appendix 1b-12 for diagrams and Appendix 1c-3 for photographs.



Table 15: #40 Beef Unit Test Barn Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|-------------|--------------------|
| ACM Caulking | All windows | 41 windows |

#41 Beef Unit Residence

The following table is a summary of the hazardous materials identified in the #41 Beef Unit Residence. Note: there was a small buildup of snow (0.3 m in diameter) in the attic under the roof vent. Refer to Appendix 1b-13 - 14 for diagrams and Appendix 1c-5 for photographs.

Table 16: #41 Beef Unit Residence Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------------|-------------------------------------|--------------------|
| ACM Vermiculite Insulation | Attic | 140 m ² |
| Radioactive Smoke Detector | Upstairs Hallway and basement foyer | 2 |

#41A Shed

The following table is a summary of the hazardous materials identified in the #41A Garage/Shed. Refer to Appendix 1b-15 for a diagram and Appendix 1c-6 for photographs.

Table 17: #41A Shed Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|---------------------------------|--------------------|
| Lead in paint | White paint on exterior of shed | 40 m ² |

#42A Beef Unit Bull Barn

There were no hazardous materials identified in the #42A Beef Unit Bull Barn.

#42B Dry Cow Feedlot

There were no hazardous materials identified in the #42B Dry Cow Feedlot

#42F,H,I Beef Unit Hay Sheds

There were no hazardous materials identified in #42F,H,I Beef Unit Hay Sheds.

#42J Cow and Calf Shelter

There were no hazardous materials identified in the #42J Cow and Calf Shelter.



#42L Storage

There were no hazardous materials identified in the #42L Storage.

#52 Machine & Vehicle Repair

The following table is a summary of the hazardous materials identified in the #52 Machine & Vehicle Repair. Refer to Appendix 1b-17 – 1b-18 for a diagram and Appendix 1c-4 for photographs.

Table 18: #52 Machine & Vehicle Repair Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-------------------------|-------------------|--------------------|
| ACM Floor Tile | Main floor office | 8 m ² |
| ACM Window Glazing | South shop window | 1 window |
| Mercury thermostat | Kitchen, East bay | 2 |
| ODS – R12 | kitchen fridge | 5 oz |
| Miscellaneous chemicals | Main shop area | - |

#53 Header House

The following table is a summary of the hazardous materials identified in the #53 Header House. Refer to Appendix 1b-19 for a diagram and Appendix 1c-1 -2 & 5 for photographs.

Table 19: #53 Header House Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---------------------|-------------------|--------------------|
| ACM Transite Board | Boiler Room | 115 m ² |
| ACM Floor Tile | AV Room 2E and 3E | 120 m ² |
| ACM Sink Insulation | AV Room | 1 sink |
| Mercury Thermostat | Corridor | 1 |

#54 Animal Hospital

The following table is a summary of the hazardous materials identified in the #54 Animal Hospital. There is a substantial amount of bird feces in the west portion of the attic area. The attic area is open to the corral area. Refer to Appendix 1b-20 for a diagram and Appendix 1c-1 & 7 for photographs.



Table 20: #54 Animal Hospital Hazardous Materials Summary for Lacombe

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------------|---|---|
| ACM Vermiculite Insulation | All ceiling and walls (excluding the corral area) | Attic = 100 m ² Walls = 72 m ² |
| ACM Floor Tile | Entrance floor | 2 m ² |
| Lead in paint | White interior paint; all interior walls excluding the cooler | 200 m ² |
| Mercury thermostat | Main room | 1 |
| ODS | Chiller for cooler; exterior of building | 1 unit |
| Bird feces | Attic area | 100 m ² |



3.4 ASSESSING RISK EXPOSURE FOR ASBESTOS

There are eight major factors which assist in evaluating the condition of a particular asbestos installation.

The eight factors include:

1. Condition of Material
2. Water Damage
3. Exposed Surface Area
4. Accessibility
5. Activity and Movement
6. Air Plenum or Direct Air Stream
7. Friability
8. Asbestos Content

These factors have been put together into the following tables to allow for assessment to determine the degree of risk associated with existing asbestos. The parameters in Table 21 are applied to the ACM to derive a risk rating. These risk ratings are then compared to Table 22 to determine what type of action is required.

Table 21: Assessing Risk Exposure

| FACTOR | DESCRIPTION | RATING OF RISK EXPOSURE |
|---------------------------|---|-------------------------|
| Accessibility of Material | Accessible in high activity areas | High (h) |
| | Accessible in low activity areas beyond the reach of the area occupants | Medium (m) |
| | Enclosed | Low (l) |
| Condition of Materials | Severely damaged | High (h) |
| | Mild to moderate damage | Medium (m) |
| | Good condition | Low (l) |
| Friability of Materials | Easily breaks apart | High (h) |
| | Mild to moderate friability | Medium (m) |
| | Non-friable | Low (l) |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.



Table 22: Determining Level of Control Required

| | ASBESTOS NOT PRESENT IN RETURN AIR PLENUM | | ASBESTOS PRESENT IN RETURN AIR PLENUM |
|----------------------------|---|--|---|
| | LESS THAN 20% ASBESTOS CONTENT IN MATERIAL | GREATER THAN 20% ASBESTOS CONTENT IN MATERIAL | |
| Immediate Control Required | 2 Hs or 3 Ms | 1 H or 2 Ms | Control required unless 3 Ls and less than 20% asbestos content in material |
| Control Required | 1 H or 2 Ms | 1 M | |
| No Control Required | 1 M or 3 Ls | 3 Ls | |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.

The table below outlines the results of the above methodology to determine priorities for dealing with ACM and which ACM may be causing a high risk to occupants of the building.

Table 23: ACM Risk of Exposure for Lacombe

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE ACCESSIBLE (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|---------------|--------------------------------|-------------------|------------------|--------------------|--|-----------------------------|
| A24 | Pink/brown transite board | #53 Boiler room | Good | 35% (chrysotile) | (M)(L)(L) | Control |
| A25 | Brown transite board | #53 Boiler room | Good | 30% (chrysotile) | (M)(L)(L) | Control |
| A26a | Brown streak floor tile | #53 AV room 2E | Good | 3.7% (chrysotile) | (H)(L)(L) | Control |
| A27a | Brown streak floor tile | #53 3E office | Fair | 6.3% (chrysotile) | (H)(M)(L) | Control |
| A29 | Brown Vermiculite | #54 Walls/ceiling | Poor | 0.25% (actinolite) | (H)(H)(H) | Immediate |
| A40 | White drywall mud | #2 Closet in hall | Good | 2.9% (chrysotile) | (L)(L)(H) | Control |
| A45 | Brown Vermiculite | #54 Walls/ceiling | Poor | 0.75% (actinolite) | (H)(H)(H) | Immediate |
| A58 | Brown Vermiculite | #41 Attic | Good | 0.24% (actinolite) | (L)(L)(H) | Control |
| A63 | Brown Vermiculite | #2 Attic | Good | Trace (actinolite) | (L)(L)(H) | Control |
| A64 | Metallic brown sink insulation | #53 AV room | Good | 4.5% (chrysotile) | (M)(L)(L) | No control |
| A65 | White pipe elbow insulation | #21 Corridor 3 | Fair | 65% (chrysotile) | (L)(M)(M) | Control |
| A66 | White pipe insulation | #21 Corridor 3 | Fair | 65% (chrysotile) | (L)(M)(M) | Control |
| A67 | White pipe insulation | #21 Corridor 3 | Fair | 25% (chrysotile) | (L)(M)(M) | Control |

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE ACCESSIBLE (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|----------------------------------|-------------------|-----------|-----------------------|--|---------------------|
| A68 | White pipe insulation | #21 Corridor 4 | Poor | 60% (chrysotile) | (L)(M)(H) | Immediate |
| A69 | Brown Vermiculite | #38A Ceiling | Good | 0.5% (actinolite) | (L)(L)(H) | Control |
| A70a | Brown furnace floor tile | #38A Room 1 | Fair | 1.3% (chrysotile) | (M)(M)(L) | Control |
| A72 | White window caulking | #40 South window | Poor | 3.1% (chrysotile) | (M)(H)(L) | Control |
| A74 | Off white tile floor | #54 Entrance | Poor | 1.9% (chrysotile) | (H)(H)(L) | Immediate |
| A75 | Brown Vermiculite | #54 Walls/ceiling | Poor | 0.25% (actinolite) | (H)(H)(H) | Immediate |
| A83 | Off white office floor tile | #52 Main floor | Poor | 2.4% (chrysotile) | (H)(M)(L) | Control |
| A87 | White window glazing shop window | #52 South window | Fair | 1.3% (chrysotile) | (M)(M)(L) | Control |
| A88 | Brown Vermiculite | #41 Attic | Good | 0.57% (actinolite) | (L)(L)(H) | Control |
| A89 | Brown Vermiculite | #41 Attic | Good | 0.30% (actinolite) | (L)(L)(H) | Control |
| A90 | Brown Vermiculite | #2 Attic | Good | 0.25% (actinolite) | (L)(L)(H) | Control |
| A91 | Brown Vermiculite | #2 Attic | Good | Trace (actinolite) | (L)(L)(H) | Control |
| A92 | Brown Vermiculite | #38A Attic | Good | 0.25% (actinolite) | (L)(L)(H) | Control |
| A93 | Brown Vermiculite | #38A Attic | Good | 0.5% (actinolite) | (L)(L)(H) | Control |

According to the above risk assessment the following ACM items should be dealt with immediately:

#21 Administration

- Any ACM pipe insulation which is exposed (pipe wrap damaged or missing)
- Sample A68 in the corridor 4 ceiling has exposed pipe insulation

#54 Animal Hospital

- Vermiculite insulation leaking out of the walls/ceiling
- Severely damaged floor tile in the entrance hallway

3.5 CONCLUSIONS

➤ ASBESTOS

- The **plumbing insulation**, in the #21 Administration building, around the pipe elbows and along the pipes contains from 25% to 65% chrysotile asbestos.
 - The amount of asbestos insulation around the piping is not estimated because there was only limited access to the mechanical areas which contain the ACM insulation.

Any ACM plumbing insulation which is exposed or damaged (the protective wrap has been damaged or removed) may cause a high risk of exposure to occupants.

- The **vermiculite insulation** in several of the buildings contains up to 0.75% actinolite asbestos.

The ACM vermiculite insulation is located in the attics of Residence #2, #38A Beef unit office & garage, #41 Beef unit residence, #38A Beef unit office & garage and the walls/ceiling of the #54 Animal hospital

The vermiculite insulation poses a relatively high risk of exposure when it is disturbed because it is highly friable.

- Some of the **drywall mud** tested in #2 Residence contains trace to 2.9% chrysotile asbestos. All areas of the building contain various amounts of drywall on either the walls or ceiling. The drywall in the basement and washroom in the bathtub area appeared newer and the drywall mud is not suspected to contain asbestos.
 - This house has and is undergoing renovation. Unless the date of drywall replacement is known, or the drywall in the immediate area of renovation is tested, it is assumed all drywall mud on the main floor contains asbestos.
- There are three different patterns of **floor tiles** that contain up to 6.3% chrysotile asbestos. The tile patterns are: brown streak, off white, green/black and brown. There was no asbestos found in the associated mastic or leveling compound.

The green/black tiles are located in the #21 Administration building. The brown tiles are located in furnace room of #38A Beef unit office. The off white tiles are located in #52 Machine and vehicle repair shop main floor office and #54 Animal hospital entrance. The brown streak floor tiles are located #53 Headerhouse AV room and office 3E.

ACM floor tiles without asbestos in the mastic pose a low risk of exposure as long as they are in good condition.



- The brown and pink/brown **transite boards** contain 30% to 35% chrysotile asbestos. The ACM panel boards observed were all in good condition. They are contained in the boiler room of the #53 Headerhouse.

The panel boards pose a low risk of exposure because they are moderately accessible by maintenance staff only and are non-friable.

The panel boards are a low hazard as long as they are not disturbed. If the boards need to be disturbed by cutting, drilling, etc. they will release asbestos fibres and become a high risk hazard.

- There is an **insulating coating under the sink** located in the AV room of #53 Headerhouse that contain asbestos.

There is a low asbestos content, low friability and low accessibility and this sink insulation does not pose a risk to occupants.

- There is **exterior caulking** located on the #40 Beef test barn south window which contains 3.1% chrysotile asbestos. It is assumed all windows in the test barn are similar and all contain asbestos in the caulking.

The caulking has a low asbestos content and low friability; however it is in poor condition. This may pose a risk of exposure due to its poor condition.

- The white **window glazing** on the south shop window of the #52 Machine and vehicle repair shop contains 1.3% chrysotile asbestos.

The window glazing has a low asbestos content and low friability; however it is in poor condition. This may pose a risk of exposure due to its poor condition.

➤ **LEAD**

- **White** paint on the exterior of several buildings including the #10 machine pole barn, the window frames of the #21 Administration building #38A Beef unit office and garage, #38 Beef unit pump house and the #41A Beef unit residence shed. Lead containing paint was also found in the interior of the #54 Animal hospital and the #41 Beef unit residence shed and #38A garage.
- **Dark green** paint on the exterior trim of the #2 Residence and #2A Residence garage.

Lead based paint does not pose a risk unless it is disturbed and lead dust is created enabling the lead to become airborne. The lead dust can become a hazard because it can be ingested or inhaled.



➤ **PCBs**

There are no suspect materials which may contain PCBs.

➤ **MERCURY**

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings.

There was one mercury thermostat in #2 Residence, three in #21 Administration Building, one in #38A Office and garage, two in #52 Vehicle & Machine Repair, one in #53 Header House and one in the #54 Animal Hospital. There are three mercury thermostats in the #21 Administration building and one in the #53 header house.

➤ **OZONE DEPLETING SUBSTANCES**

Many of the ODS in the building have already been inventoried and many have been removed. There was one suspect fridge in the #52 Machine and vehicle repair shop and a chiller for the cooler in located in the #54 Animal hospital.

➤ **RADIOACTIVE MATERIALS**

Three radioactive smoke detectors were found on the subject site, one in #2 Residence and two in the #41 Beef unit residence.

➤ **MISCELLANEOUS CHEMICALS**

Miscellaneous chemicals such as various laboratory chemicals, paint, solvents, rat/mouse poisons, oils, anti-freeze, fuel, fertilizer, ATF, WD-40, etc. were observed on site.

Miscellaneous chemicals were observed at #10 Pole Barn, #21 Administration, #38A Office and Garage, #52 Machine and Vehicle and #54 Header House.

➤ **MOULD**

Water damage which can lead to mould growth was observed at the following locations: #21 Administration building; attic (leak on west side), 118 office (south wall) and 120 office (south wall).

➤ **PHENOLS**

One representative sample was taken of creosote treated wood and the sample was within the guidelines for disposal at an appropriate landfill.



➤ **OTHER**

PESTS

Building #2 Residence and 2A Garage have rodents causing a buildup of fecal matter.

Building #54 Animal Hospital contained a substantial amount of bird feces in the attic.

SPILLS/STAINS

Building #10 Machine Pole Barn has some suspected hydrocarbon staining on the dirt floor.



3.6 RECOMMENDATIONS

➤ ASBESTOS

The table below summarizes the extent and potential impact of the asbestos in the building.

Table 24: Extent and Recommendations of ACM for Lacombe

| ACM | EXTENT | IMPACT* |
|--------------------------------|---|---|
| No Issues (currently) | Caution | Immediate abatement |
| #2 Residence | | |
| Vermiculite Insulation | Attic (200 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| Drywall Mud | Entire main floor Estimated: 334 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and the drywall mud should first be abated. |
| #21 Administration | | |
| Floor Tiles | 3 offices (green/black tiles) Estimated: 30 m ² | The floor tiles are in good condition. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |
| Elbow/pipe Insulation | Building mechanical areas | There was exposed pipe insulation in corridor 4. There is a high risk to occupants when the ACM wrap is damaged or the ACM is exposed. All damaged or exposed ACM insulation should be abated. |
| #38A Beef unit garage | | |
| Floor Tiles | Room 1 (Brown tiles) Estimated: 0.5 m ² | The tiles are in good condition and located under a furnace. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |
| Vermiculite Insulation | Attic (125 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #40 Beef unit test barn | | |
| Exterior Caulking | Beef test barn-south windows 41 windows | The exterior caulking is located in a relatively unused area but it is in poor condition. There is little risk to the occupants. |

| #41 Beef unit residence | | |
|--------------------------------|---|--|
| Vermiculite Insulation | Attic (140 m ²) | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #52 Machine and vehicle repair | | |
| Window Glazing | South window 1 window | The exterior glazing is located in a relatively unused area and is in fair condition. As long as there is no disturbance to the ACM there is low risk to occupants. |
| Floor Tiles | Main floor office (off-white tiles) Estimated: 8 m ² | The tiles were in average condition. As long as the tiles are in good/average condition, there is low risk. If any tiles become damaged tiles should be removed and replaced. |
| #53 Header house | | |
| Transite Boards | Boiler room Estimated: 115 m ² | The panels are in good condition. The panel boards are only accessible by maintenance staff. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All maintenance staff should be educated and trained regarding this ACM. |
| Floor Tiles | AV room 2E, Office 3E (Brown streak tiles) Estimated: 120 m ² | The tiles were in average condition. As long as the tiles are in good/average condition, there is low risk. If any tiles become damaged tiles should be removed and replaced. |
| Sink insulation | AV room 2E Estimated: 1 sink | The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks. |
| #54 Animal hospital | | |
| Vermiculite Insulation | Animal hospital (attic: 100 m ²) (walls: 72 m ²) | There is a high risk to occupants if the ACM is exposed and disturbed. ACM is present in the attic and walls. The animal hospital walls and ceiling are compromised and the vermiculite is leaking onto the floor. This area has a high risk of exposure and should be abated as soon as possible. If the area cannot be abated, the vermiculite should be cleaned up (by qualified personnel) and the compromised walls and ceiling repaired before entry of unprotected personnel. |
| Floor Tiles | Entrance floor (off-white tiles) Estimated: 2 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in poor condition and lifting from the floor. These tiles should be abated. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.

Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.

➤ LEAD

There are several areas which contain lead based paint in the buildings. Lead based paint does not pose a risk unless it is disturbed and dust is created allowing for the lead to become airborne. The table below summarizes the locations and extent of the lead based paint.

Table 25: Extent and Recommendations of Lead Based Paint for Lacombe

| LEAD PAINT | EXTENT | IMPACT* |
|----------------------------------|---|--|
| #2 Residence | | <p>There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. Disturbance of lead based paint causes the release of lead in the dust.</p> <p>If the lead based paint is to be disturbed, then the workers must wear appropriate PPE.</p> <p>When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition.</p> |
| Exterior Dark green | Trim Total Estimate: 2 man doors and 10 windows | |
| #2A Garage | | |
| Exterior Dark green | Trim Total Estimate: 1 man door, 1 garage door and 2 windows | |
| #10 Machine pole barn | | |
| Exterior White | Exterior paint on barn Total Estimate: 650 m ² | |
| #21 Administration | | |
| Exterior White | Window frames and door frames Total Estimate: 100 frames | |
| #38 Beef unit pump house | | |
| Exterior White | Exterior Total Estimate: 50 m ² | |
| #38A Beef unit office and garage | | |
| Exterior White | Exterior Total Estimate: 150 m ² | |
| #41A Beef unit residence shed | | |
| Exterior White | Exterior Total Estimate: 40 m ² | |
| #54 Animal hospital | | |
| Interior White | All interior walls excluding the cooler Total Estimate: 200 m ² | |

*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.

PPE: personal protective equipment



➤ **PCBs**

There were no suspect materials observed which may contain PCBs.

➤ **MERCURY**

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are several hundred of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. All fluorescent lights should be stored to protect from breakage and recycled accordingly.

There was one mercury containing thermostat in the #2 Residence, three in the #21 Administration Building, two in #52 Vehicle & Machine Repair, one in #53 Header House and one in #54 Animal Hospital.

As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants. Any mercury items should be recycled and disposed of according to current regulations.

A best practice would be to replace the mercury containing thermostats with non-mercury containing units. These newer units are also typically more energy efficient than older mercury-containing units.

➤ **OZONE DEPLETING SUBSTANCES**

Many of the ODS in the building have already been inventoried and many have been removed. One fridge was located in the #38 Beef unit pumphouse and the #52 Machine and vehicle repair shop. A chiller for the cooler is located in the #54 Animal hospital. The ODS units should be recycled/recovered by a qualified and experienced worker according to Ozone Depleting Substances and Halocarbons Regulations.

➤ **RADIOACTIVE MATERIALS**

Three radioactive smoke detectors were found on the subject site, one in #2 Residence and two in the #41 Beef unit residence and.

When radioactive materials are not in use and are to be disposed of they should be disposed of according to the current regulations of the Nuclear Safety Control Act and Nuclear Substances and Radiation Devices Regulations.

Radioactive smoke detectors, in quantities of 10 or less, may be disposed in normal household garbage.



➤ **MISCELLANEOUS CHEMICALS**

All miscellaneous chemicals need to be disposed of and stored according to current regulations and manufactures recommendations.

➤ **MOULD**

Water damage which may lead to mould growth, was observed at the following locations in the #21 Administration building: attic (leak on west side), 118 office (south wall) and 120 office (south wall).

It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated.

➤ **OTHER**

PESTS

#2 Residence has mouse feces in the attic and a mouse infestation in the #2A garage. #54 Animal Hospital has bird feces in the attic.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

Since the affected attic areas contain ACM vermiculite, the cleaning should only be done by qualified personnel as an ACM abatement activity.

#54 Animal Hospital attic space should be boarded off or wire put up to restrict the birds entry into this area.

SPILLS/STAINS

#10 Machine Pole Barn has some suspected hydrocarbon staining on the dirt floor. Phase I Environmental Site Assessments should be completed to address this stain and other areas of potential contamination.

If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where the hazards may be present and how to proceed if they observe some suspect materials.



A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.



4.0 BEAVERLODGE

The following are the results of the investigation at the Beaverlodge Research Centre. Please refer to Appendix 2 for a detailed room description, sampling diagrams, a photographic log and a copy of the laboratory reports.

4.1 SCOPE OF WORK

The hazardous materials assessment includes:

- assessment and sampling of suspect materials which may contain asbestos and lead based paint;
- assessment of polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS), radioactive materials and mould;
- analysis and reporting of findings with recommendations.

4.2 SITE DESCRIPTION

The subject site is located at the Beaverlodge Research Center situated just south of the Town of Beaverlodge, AB. The site consists of seventeen different buildings, only fourteen of which are included in this audit.

#1 ADMINISTRATION OFFICE

The administration block is a two-story building with a basement. The exterior is stucco with small white rocks and the roof is tar and gravel. The second floor is all offices and the main floor is a combination of offices, storage and conference rooms. The basement is a combination of offices/conference room with some storage, furnace room and a computer room. There was an addition to the west side of the building in the 1970's. The "older" east side has plaster walls on the 1st and 2nd floor but drywall in the basement. The "newer" side has drywall for all 3 levels. The flooring was either carpet or linoleum and/or floor tiles on concrete or wood. The administration building was originally constructed in 1951 and has an area of 750 m².

#10 CANOLA LABORATORY

This is a two-story building with mixed construction consisting of cement stucco exterior walls and asphalt shingles on the roof. The interior walls and ceiling was wood frame with drywall. The second floor is mainly offices and storage space. The basement was for storage and also contained the boiler/furnace room. The main floor was a laboratory with chemical storage. Due to a recent flood, there was a mould problem in the basement which was addressed under a separate cover. The lab was constructed in 1957 and has an area of 562 m².

#14 SOILS RESEARCH BUILDING

The building is a two-story building with mixed construction consisting of the cement stucco exterior walls and a gravel/tar roof. The second floor is mainly offices and labs. The main floor was a laboratory with storage. The soils building was constructed in 1930 and has an area of 328 m². This building was slated for demolition and there were no occupants at the time of the assessment.

#15 ECOLOGY BUILDING

The three-story building consists of exterior wood siding, painted white and interior wood framing and wood walls. This building was considered a "heritage" building. There are cedar shingles on the roof and a concrete floor. The third floor is used for storage and the second and main floors are mainly used as a laboratory and for storage. The ecology building was constructed in 1947 and has an area of 415.5 m².

#17 CARPENTER SHOP

The building consists of exterior wood siding, painted blue and interior wood framing and drywall walls. There is asphalt sheeting on the roof and a concrete floor. This is a one-story building with a mezzanine and a basement. There was a rupture in the ceiling with vermiculite leaking out. The shop was constructed in 1951 and has an area of 232 m².

#18 APICULTURE LABORATORY

The building consists of exterior wood siding, painted white and interior wood framing and drywall walls. The asphalt shingles on the roof are newer. This is a two-story laboratory with several walk-in coolers on the main floor. The attic insulation is vermiculite. The apiculture lab was constructed in 1958 and has an area of 208 m².

#25 HONEY EXTRACTION BUILDING

The building has exterior walls consisting of brown and yellow metal siding and a metal roof. The interior walls and ceiling consist of wood plywood, metal and fiberglass insulation. The floor is bare concrete and water damage was noted on the washroom ceiling. The extraction building was constructed in 1962 and has an area of 245 m².

#26 STORAGE

The building has exterior walls consisting of green metal siding and a metal roof. The interior walls and ceiling consist of drywall. The floor is concrete, painted gray and mould was noted on some pipes along the walls in the threshing room. There was significant water damage in this building. Vermiculite insulation was noted in the attic. The space was mainly used as a laboratory, office space and storage. The storage building was constructed in 1966 and has an area of 985.5 m².



#35 GARAGE

The building has exterior walls consisting of yellow metal siding and a metal roof. The interior walls were pressboard and panel board. Vermiculite insulation was noted in the exterior wall cavities and the floor is concrete and tile. The building was used for offices as well as storage. The garage was constructed in 1971 and has an area of 669 m².

#36 FORAGE BUILDING

The building consists of exterior blue metal siding and a metal roof. Several fridges and coolers are located in the building. The building is used for equipment storage. The forage building was constructed in 1960 and has an area of 209 m².

#39 APICULTURE STORAGE

The building has exterior walls consisting of yellow and brown metal siding and a metal roof. The interior walls and ceiling were painted metal (drywall on south wall only). The building is used to store bee hive cells. The storage building was constructed in 1983 and has an area of 107 m².

#40 SEED STORAGE

The building has exterior walls consisting of yellow and brown metal siding and a metal roof. The interior walls and ceiling were painted metal and there is a bare concrete floor. The building is used to store farm equipment. The storage building was constructed in 1983 and has a total area of 31 m².

CINDER BLOCK STORAGE

The building has exterior walls consisting of cinder block with brown metal trim and asphalt shingles on the roof. The interior walls were cinder block with a drywall ceiling. There is a bare concrete floor and fiberglass insulation in the attic. The building was used for storage. The storage building was constructed in the 1980's and has a total area of 30 m².

#43 SOILS FIELD BUILDING

The building has exterior walls consisting of yellow and brown metal siding and a metal roof. The interior walls and ceiling were painted metal and there is a bare concrete floor. There is an incubator and fridges in the building. The building is used to store farm equipment. The soils building was constructed in 1984 and has an area of 134 m².



#45 CHEMICAL STORAGE

The building has exterior walls consisting of yellow and brown metal siding and a metal roof. The interior walls and ceiling were painted metal and there is a thick bare concrete floor with in-floor heating. The building is used to store chemicals. Chemical spillage containment cisterns are located on the side of the building. The storage building was constructed in 1986 and has an area of 76 m².

For a detailed list of the rooms and construction materials, refer to Appendix 2a.

4.3 RESULTS

4.3.1 ASBESTOS CONTAINING MATERIALS (ACM)

Two hundred and thirty eight samples (including 10 duplicates) of suspected ACM were collected and sent for analysis. The results are summarized in the table below and are contained in Appendix 2.

Table 26: Asbestos Analysis Results Summary for Beaverlodge

| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|------------------------|--------------------------|-------------------------|--|-------------|-------------------------------|
| A1 | White/ silver | Sink insulation | #15 south lab sinks | Good | 1.4% (chrysotile) |
| A2 | White | Ceiling tile | #15 growth cabinet ceiling | Good | None detected |
| A3a | White w/gray | 9x9 floor tile | #15 south lab floor tile E wall | Good | 1.3% (chrysotile) |
| A3b | Black | Mastic | #15 south lab floor tile E wall | Good | None detected |
| A4a | White w/gray | 9x9 floor tile | #15 south lab floor tile west doorway | Fair | 1.2% (chrysotile) |
| A4b | Black | Mastic | #15 south lab floor tile west doorway | Fair | None detected |
| A5 | White w/gray | 9x9 floor tile | #15 south storage | Fair | 1.3% (chrysotile) |
| A6 | White | Ceiling tile | #15 south storage ceiling | Good | None detected |
| A7a | White/ blue | 12x12 floor tile | #15 west door way | Poor | 1.8% (chrysotile) |
| Dup 4 (A7a) | White/ blue | 12x12 floor tile | #15 west door way | Poor | 1.2% (chrysotile) |
| A7b | Brown | Mastic | #15 west door way | Poor | None detected |
| Dup 4 (A7b) | Brown | Mastic | #15 west door way | Poor | None detected |
| A8a | White/ blue | 12x12 floor tile | #15 main floor office | Poor | 1.6% (chrysotile) |
| A8b | Yellow | Mastic | #15 main floor office | Poor | None detected |
| A9 | White/ blue | 12x12 floor tile | #15 middle of north lab | Poor | 1.8% (chrysotile) |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|----------------|-------------------------|--------------------------------|---|-------------|-------------------------------|
| A10 | White | Ceiling tile | #15 north lab ceiling | Poor | None detected |
| A11 | Gray | Counter top | #15 north lab counter on north wall | Fair | 20% (chrysotile) |
| A12 | Gray | Counter top | #15 north lab counter on east wall | Fair | None detected |
| A13 | Gray | Cement board – fume hood | #15 north lab fume hood | Good | None detected |
| A14 | Gray | Cement board – acid cabinet | #15 north lab inside acid cabinet under fume hood | Good | None detected |
| Dup 1 (A14) | Gray | Insulation board | #15 north lab inside acid cabinet under fume hood | Good | None detected |
| A15 | Yellow | Drywall mud | #15 utility room NW corner | Good | 1.4% (chrysotile) |
| A16 | Yellow | Drywall mud | #15 utility room SW corner | Good | 1.6% (chrysotile) |
| A17 | White | Fibre board | #15 hallway bulletin board | Good | None detected |
| A18 | White w/blue | 12x12 floor tile | #15 hallway utility room | Fair | 2.1% (chrysotile) |
| A19 | White | Ceiling tile | #15 main floor east entrance | Good | None detected |
| A20 | Gray | Counter top | #15 2nd floor table adjacent stairs north | Poor | 15% (chrysotile) |
| A21 | Green | Counter top | #15 2nd floor table adjacent stairs east | Fair | 20% (chrysotile) |
| A22 | Brown | Counter top | #15 2 nd floor cabinet counter on east wall | Fair | None detected |
| A23 | Black | Counter top | #15 2 nd floor table on south wall | Poor | None detected |
| A24 | White | Insulation board | #15 door between 1 st & 2 nd floor | Poor | None detected |
| A25 | White | Insulation board | #15 ceiling south of 3 rd floor stairs | Good | None detected |
| A26 | White/ brown | Fibre board | #15 2 nd floor walls SE corner | Fair | None detected |
| A27 | White/ brown | Fibre board | #15 2 nd floor walls NE corner | Fair | None detected |
| A28 | White/ brown | Fibre board | #15 2 nd floor walls NW side | Fair | None detected |
| A29 | Black | Tar paper | #15 2 nd floor south east end | Good | None detected |
| A30 | Black | Tar paper | #15 main floor south storage ceiling | Good | None detected |
| A31a | Green | Linoleum | #15 main floor office | Good | None detected |
| A31b | Tan | Mastic | #15 main floor office | Good | None detected |
| A32 | Green | Levelling compound | #15 middle of north lab | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|----------------|--------------------------|---|---|-------------|-------------------------------|
| Dup 5 (A32) | Green | Levelling compound | #15 middle of north lab | Good | None detected |
| A33 | Brown | Linoleum | #1 main floor east door shoe rack | Fair | 25% (chrysotile) |
| A34 | White | Plaster | #1 basement east stairwell | Good | None detected |
| A35 | Blue | Drywall mud | #1 basement office ceiling | Good | None detected |
| A36 | Blue speckle | Sheet linoleum | #1 basement office at floor drain | Good | None detected |
| A37 | White | Drywall mud | #1 basement hall | Poor | 2.4% (chrysotile) |
| A38 | White | Pipe wrap | #1 basement library tape on fiberglass insulation | Good | None detected |
| A39 | White | 12x12 holes ceiling tile | #1 basement library north strip | Good | None detected |
| Dup 2 (A39) | White | 12x12 holes ceiling tile | #1 basement library north strip | Good | None detected |
| A40 | White | 12x12 grid ceiling tile | #1 basement library ceiling | Good | None detected |
| A41 | Brown w/white | 9x9 brown/white floor tile | #1 basement hallway floor | Fair | 1.6% (chrysotile) |
| A42 | White | Drywall mud | #1 basement furnace room | Good | 1.8% (chrysotile) |
| A43 | Yellow | Insulating board | #1 make-up air duct basement | Good | None detected |
| A44 | Silver | Sink insulation | #1 basement furnace room | Fair | None detected |
| A45 | White | 12x12 holes ceiling tile | #1 basement storage room | Good | None detected |
| A46 | Silver | Sink insulation | #1 basement dark room | Good | 1.4% (chrysotile) |
| A47 | Black | Fibre board | #1 basement dark room | Good | None detected |
| A48 | Blue | Blue speckle sheet linoleum | #1 basement storage room | Good | None detected |
| A49 | Brown | Squares linoleum | #1 basement conference room | Good | 25% (chrysotile) |
| A50 | White | 12x12 holes ceiling tile | #1 basement conference room | Good | None detected |
| A51 | White | Drywall mud | #1 basement conference room SW corner | Good | 1.3% (chrysotile) |
| A52 | White | Drywall mud | #1 basement kitchen SE corner | Good | 1.2% (chrysotile) |
| A53 | Bronze | Sink insulation | #1 basement kitchen sink | Good | 1.3% (chrysotile) |
| A55 | White | 12x12 holes ceiling tile | #1 main floor hall (middle) | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|------------------------|-------------------------|-----------------------------|--|-------------|-------------------------------|
| A56 | Brown | Squares linoleum | #1 main floor storage east | Poor | 25% (chrysotile) |
| A57 | White | 12x12 holes ceiling tile | #1 main floor office 6 SE corner | Good | None detected |
| A58 | Green | Plaster | #1 main floor reception closet | Good | None detected |
| A59 | Green | Plaster | #1 main floor office 1 SW corner | Good | None detected |
| A60 | White | Ceiling texture | #1 main floor hall in front of reception | Good | 3.5% (chrysotile) |
| A61 | White | Ceiling texture | #1 main floor hall at east stairs | Good | 3.3% (chrysotile) |
| A62 | White | Ceiling texture | #1 main floor office 3 SW area | Good | 3.8% (chrysotile) |
| A63 | White | 12x12 holes ceiling tile | #1 main floor office 5 SW corner | Good | None detected |
| A64 | White | 12x12 holes ceiling tile | #1 main floor reception north | Good | None detected |
| A65 | Pink | Plaster | #1 main floor office 3 SW corner | Good | None detected |
| A66 | White | Drywall mud | #1 2 nd floor attic access | Good | None detected |
| A67 | White | Drywall mud | #1 2 nd floor office 25 south wall | Good | None detected |
| A68 | White | Drywall mud | #1 2nd floor office 20 NW corner | Good | 1.3% (chrysotile) |
| A69 | Brown | Insulating paper | #1 2 nd floor attic access | Good | None detected |
| A70 | Multi | Stucco | #1 exterior main entrance | Good | 1.3% (chrysotile) |
| A71 | Multi | Stucco | #1 exterior main entrance | Good | 1.4% (chrysotile) |
| A72 | Multi | Stucco | #1 exterior main entrance | Good | 1.3% (chrysotile) |
| Dup 3 (A72) | Multi | Stucco | #1 exterior main entrance | Good | 1.2% (chrysotile) |
| A73 | White | 12x12 grid ceiling tile | #1 basement library west | Good | None detected |
| A74 | White | 12x12 grid ceiling tile | #1 basement library NE | Good | None detected |
| A75 | Brown/ white | 9x9 floor tile | #1 basement hallway | Fair | 1.6% (chrysotile) |
| A76 | Gray | Cement | #1 exterior under stucco NE corner | Good | 0.3% (chrysotile) |
| A77 | Gray | Cement | #1 exterior under stucco N wall | Good | None detected |
| A78 | Gray | Cement board | #18 basement cooler #1 outside wall | Good | None detected |
| A79 | Gray | Caulking | #18 basement cooler #2 inside | Good | 10% (chrysotile) |
| A80 | Gray | Cement board | #18 basement cooler #2 inside wall | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|-------------|--------------------------|----------------------------|--|-------------|-------------------------------|
| A81 | Gray | Cement board | #18 basement cooler #4 ceiling | Good | None detected |
| A82 | Black | Door seal | #18 basement cooler #2 door | Good | None detected |
| A83 | Gray | Parchment | #18 stairwell on south wall | Good | None detected |
| A84 | Brown | Squares linoleum | #18 south lab | Good | None detected |
| A85 | White | Insulation | #18 south lab sink insulation | Good | None detected |
| A86 | Gray | Cement board | #18 north lab fume hood | Good | None detected |
| A87 | Gray | Parchment | #18 exterior on concrete | Good | None detected |
| A88 | Black | Tar paper | #18 exterior SW corner | Good | None detected |
| A89 | Brown | Vermiculite | #18 attic north | Good | 0.14% (actinolite) |
| A90 | Brown | Vermiculite | #18 attic south | Good | 0.87% (actinolite) |
| A91 | Brown | Vermiculite | #18 attic east | Good | 0.93% (actinolite) |
| A92 | Gray | Mortar | #18 chimney on north side of building | Fair | None detected |
| A93 | Brown | Fibre board | #10 2 nd floor office 1 bulletin board | Good | None detected |
| A94 | Brown streak | Floor tile | #10 2 nd floor office 10 | Good | None detected |
| A95 | Brown streak | Floor tile | #10 2 nd floor office 8 | Good | None detected |
| A96 | Black/ silver | Light insulation | #10 2nd floor office 4 light fixture backing | Good | 95% (chrysotile) |
| A97 | White/rose | Linoleum | #10 2 nd floor washrooms | Fair | None detected |
| A98a | Brown | 12x12 floor tile | #10 2nd floor office 5 | Good | 1.4% (chrysotile) |
| A98b | Yellow | Mastic | #10 2 nd floor office 5 | Good | None detected |
| A98c | Tan | Fibrous | #10 2 nd floor office 5 | Good | None detected |
| A99 | White | 12x12 grid ceiling tile | #10 2 nd floor hallway middle | Good | None detected |
| A100 | White | 12x12 grid ceiling tile | #10 2 nd floor hallway NE | Good | None detected |
| A101 | White | 12x12 grid ceiling tile | #10 main floor at breaker box | Good | None detected |
| A102 | Silver/ black | Light insulation | #10 main floor storage light | Good | 50% (chrysotile) |
| A103 | Brown/ black | Wall tile | #10 main floor entrance hall | Good | None detected |
| A104 | White | Fibre board | #10 main floor hall bulletin board | Good | None detected |
| A105 | White | 12x12 grid ceiling tile | #10 main floor SW lab | Good | None detected |
| A106 | White | 12x12 grid ceiling tile | #10 main floor SE lab east wall | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|-------------------------|------------------------|-----------------------------|---|-------------|-------------------------------|
| A107 | Gray | Wall tile | #10 main floor SW lab | Good | None detected |
| A108 | Green | Floor tile | #10 main floor between SW and NW lab | Good | None detected |
| A109 | Gray | Cement board | #10 main floor NW lab fume hood | Good | None detected |
| A110 | Gray | Cement board | #10 main floor NW lab sink back splash | Fair | None detected |
| A111 | Brown | Fibre board | #10 main floor N entry stairwell | Good | None detected |
| A112a | Yellow | Floor tile | #10 NW entry upstairs | Fair | None detected |
| A112b | Black | Mastic | #10 NW entry upstairs | Fair | None detected |
| A113a | Multi brown | Floor tile | #10 NW entry stair runner down | Fair | None detected |
| A113b | Black | Tar paper | #10 NW entry stair runner down | Fair | None detected |
| A114a | Light brown | 9x9 floor tile | #10 basement storage 7 | Poor | 2.0% (chrysotile) |
| A114b | Black | Mastic | #10 basement storage 7 | Poor | None detected |
| A115a | Dark brown | 9x9 floor tile | #10 basement storage 7 | Poor | 3.25% (chrysotile) |
| A115b | Black | Mastic | #10 basement storage 7 | Poor | None detected |
| A116a | Light brown | 9x9 floor tile | #10 basement storage 8 | Poor | 2.25% (chrysotile) |
| A116b | Black | Mastic | #10 basement storage 8 | Poor | None detected |
| A117a | Dark brown | 9x9 floor tile | #10 basement storage 8 | Poor | 2.5% (chrysotile) |
| A117b | Black | Mastic | #10 basement storage 8 | Poor | None detected |
| A118 | Black | Caulking | #10 basement cooler storage 5 | Good | 25% (chrysotile) |
| A119 | Gray | Caulking | #10 basement cooler storage 5 | Good | 10% (chrysotile) |
| A120 | White | Pipe insulation | #10 basement storage 4 | Good | 50% (chrysotile) |
| Dup 6 (A120) | White | Pipe insulation | #10 basement storage 4 | Good | 85% (chrysotile) |
| A121 | White | Insulation | #10 basement furnace | Poor | 65% (chrysotile) |
| A122 | Gray/ green | Floor levelling compound | #10 basement storage 9 | Poor | None detected |
| A123 | White | Drywall mud | #10 basement storage 6 | Poor | None detected |
| A124 | White | Drywall mud | #10 basement storage 7 closet | Poor | None detected |
| A125 | White | Drywall mud | #10 basement hall | Poor | None detected |
| A126 | White | Drywall mud | #10 2nd floor office 6 closet | Good | 1.5% (chrysotile) |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|---------------|---------------|--------------------------|--|-------------|-------------------------------|
| A127 | White | Drywall mud | #10 2 nd floor janitor closet | Good | Sample not analyzed |
| A128 | White | Drywall mud | #10 2nd floor storage closet | Good | 1.25% (chrysotile) |
| A129 | White | Drywall mud | #10 main floor under electrical box | Good | 1.5% (chrysotile) |
| A130 | White | Drywall mud | #10 main floor NW entrance | good | None detected |
| A131 | White/gray | Stucco/cement | #10 exterior N wall entrance | Good | None detected |
| A132 | White/gray | Stucco/cement | #10 exterior S main entrance | Good | None detected |
| A133 | White/gray | Stucco/cement | #10 exterior NW corner | Good | None detected |
| A134 | Black | Tar paper | #10 exterior N wall entrance | Good | None detected |
| A135a | Gray | 12x12 floor tile | #14 entry tile under linoleum | Fair | 1.5% (chrysotile) |
| A135b | Tan | Mastic | #14 entry tile under linoleum | Fair | None detected |
| A136 | White | 12x12 holes ceiling tile | #14 entry ceiling tile | Good | None detected |
| A137a | White/gray | 9x9 floor tile | #14 porch floor | Poor | trace (chrysotile) |
| A137b | Black | Mastic | #14 porch floor | Poor | None detected |
| A138 | White | Stucco | #14 porch west building wall | Good | None detected |
| A139 | Gray | Cement board | #14 SW lab leaning on wall x 2 boards | Good | 25% (chrysotile) |
| A140 | White | Drywall mud | #14 SW lab SW corner | Good | None detected |
| A141 | Bronze | Sink insulation | #14 SW lab sinks | Good | 2.3% (chrysotile) |
| A142 | White | 12x12 holes ceiling tile | #14 SW lab ceiling | Good | None detected |
| A143a | White/gray | 9x9 floor tile | #14 SW lab floor | Fair | Trace (chrysotile) |
| A143b | Black | Mastic | #14 SW lab floor | Fair | 1.3% (chrysotile) |
| A144 | Gray | Parchment | #14 furnace room N wall | Good | None detected |
| A145a | Gray/blue | 12x12 floor tile | #14 furnace room floor | Fair | None detected |
| Dup 7 (A145a) | Gray/blue | 12x12 floor tile | #14 furnace room floor | Fair | None detected |
| A145b | Black | Mastic | #14 furnace room floor | Fair | None detected |
| Dup 7 (A145b) | Black | Mastic | #14 furnace room floor | Fair | None detected |
| A146 | White | Drywall mud | #14 furnace room walls | Fair | 2.1% (chrysotile) |
| A147 | White | Sink insulation | #14 washroom sink | Poor | None detected |
| A148 | White | Spackle ceiling tile | #14 washroom ceiling | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|--------------|--------------------|-------------------------------|--|-------------|-------------------------------|
| A149 | Black/white | Insulating fabric | #14 storage ceiling | Fair | None detected |
| A150 | White | Drywall mud | #14 growth chamber room ceiling | Fair | 2.1% (chrysotile) |
| A151 | White | Spackle ceiling tile | #14 main floor hall | Good | None detected |
| A152 | Brown | Fibre board | #14 growth chamber room ceiling | Fair | None detected |
| A153a | Light brown | 9x9 floor tile | #14 under stairs floor | Poor | 3.5% (chrysotile) |
| A153b | Black | Mastic | #14 under stairs floor | Poor | 1.2% (chrysotile) |
| A154 | Dark brown | 9x9 floor tile | #14 under stairs floor | Poor | 4.7% (chrysotile) |
| A155a | Light brown | 9x9 floor tile | #14 NW lab floor | Fair | 1.5% (chrysotile) |
| A155b | Black | Mastic | #14 NW lab floor | Fair | Trace (chrysotile) |
| A156a | Dark brown | 9x9 floor tile | #14 NW lab floor | Fair | 4.8% (chrysotile) |
| A156b | Black | Mastic | #14 NW lab floor | Fair | 1.2% (chrysotile) |
| A157 | Gray | Cement board | #14 NW lab fume hood | Good | None detected |
| A158 | White | Drywall mud | #14 NW lab ceiling | Fair | 1.8% (chrysotile) |
| A159 | White/gray | Parchment | #14 NW lab north wall | Good | None detected |
| A160 | Gray | Sink insulation | #14 NE lab sinks | Good | 1.7% (chrysotile) |
| A161 | White | Flat ceiling tile | #14 NE lab ceiling N | Poor | None detected |
| A162 | Brown | Squares sheet linoleum | #14 NE lab west corner | Poor | 20% (chrysotile) |
| A163 | White | Flat ceiling tile | #14 NE Lab east | Poor | None detected |
| A164 | White | Flat ceiling tile | #14 NE lab south | Poor | None detected |
| A165 | White | Spackle ceiling tile | #14 hall south end | Good | Sample not received |
| A166 | Gray | Cement board | #14 2nd floor power panel room | Good | 25% (chrysotile) |
| A167a | Dark gray | 9x9 floor tile | #14 2nd floor power panel room | Fair | 4.8% (chrysotile) |
| A167b | Black | Mastic | #14 2 nd floor power panel room | Fair | None detected |
| A168a | Dark gray | 9x9 floor tile | #14 2nd floor power panel room | Fair | 1.7% (chrysotile) |
| A168b | Black | Mastic | #14 2 nd floor power panel room | Fair | None detected |
| A169 | White | 12x12 holes ceiling tile | #14 lab 1 | Fair | None detected |
| A170 | White | Sink insulation | #14 lab 1 sinks | Good | None detected |
| A171a | White/gray | 9x9 floor tile | #14 lab 1 north wall | Poor | 1.3% (chrysotile) |
| A171b | Black | Mastic | #14 lab 1 north wall | Poor | None detected |
| A172 | White | Sink insulation | #14 lab 2 N sink | Poor | None detected |

| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|---------------------|---------------------|--------------------------|--|-------------|-------------------------------|
| A173 | White | 12x12 holes ceiling tile | #14 lab 2 north ceiling | Poor | None detected |
| A174a | White/gray | 9x9 floor tile | #14 lab 2 NE corner | Poor | 0.75% (chrysotile) |
| A174b | Black | Mastic | #14 lab 2 NE corner | Poor | None detected |
| A175 | White | 12x12 holes ceiling tile | #14 2 nd floor hall S wall | Fair | None detected |
| A176 | White/gray | Cement board | #14 2nd floor hall SW corner | Poor | 25% (chrysotile) |
| A177 | White/gray | Cement board | #14 office 1 ceiling above stairs | Good | 25% (chrysotile) |
| Dup 8 (A177) | White/gray | Cement board | #14 office 1 ceiling above stairs | Good | 25% (chrysotile) |
| A178 | White/gray | 9x9 floor tile | #14 office 2nd floor NE corner | Good | 1.3% (chrysotile) |
| A179 | White | Stucco | #14 exterior north door | Good | None detected |
| A180 | White | Stucco | #14 exterior SW corner | Good | None detected |
| A181 | Brown/silver | Vermiculite | #17 attic SE access | Good | 0.25% (actinolite) |
| A182 | Brown/silver | Vermiculite | #17 attic SE access | Good | 0.25% (actinolite) |
| A183 | Brown/silver | Vermiculite | #17 attic SE access | Good | Trace (actinolite) |
| A184 | White | Drywall mud | #17 garage ceiling SE | Good | 2.4% (chrysotile) |
| A185 | Brown/silver | Vermiculite | #17 attic SW access | Good | 0.25% (actinolite) |
| A186 | White | Drywall mud | #17 office SW corner | Good | 1.5% (chrysotile) |
| A187a | Gray | 12x12 floor tile | #17 office door | Good | 1.7% (chrysotile) |
| A187b | Tan | Mastic | #17 office door | Good | None detected |
| A188a | Light gray | 12x12 floor tile | #17 office middle | Good | None detected |
| A188b | Tan | Mastic | #17 office middle | Good | None detected |
| A189a | Gray | 9x9 floor tile | #17 washroom | Good | 1.6% (chrysotile) |
| A189b | Tan | Mastic | #17 washroom | Good | None detected |
| A190 | White | Drywall mud | #17 washroom NE corner | Good | 2.7% (chrysotile) |
| Dup 9 (A190) | White | Drywall mud | #17 washroom NE corner | Good | 1.9% (chrysotile) |
| A191 | White | Caulking | #17 SE window | Poor | None detected |
| A192 | White/ blue | 9x9 floor tile | #35 office 1 floor NE | Fair | 0.25% (chrysotile) |
| A193a | Gray/ black | 12x12 floor tile | #35 office 1 floor NE | Fair | 0.75% (chrysotile) |
| A193b | Tan | Mastic | #35 office 1 floor NE | Fair | None detected |
| A194 | White | 12x12 holes ceiling tile | #35 office 1 ceiling SW corner | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|-----------------------|-------------------|---------------------------|--|-------------|-------------------------------|
| A195 | White | 12x12 flat ceiling tile | #35 washroom ceiling | Good | None detected |
| A196 | White | 12x12 holes ceiling tile | #35 main entry west wall | Good | None detected |
| A197 | White | Drywall mud | #35 office 2 | Good | None detected |
| A198 | Brown/gray | Vermiculite | #35 cinder block wall | Good | 0.46% (actinolite) |
| A199 | Gray | Drywall mud | #26 threshing room south wall | Fair | 3.3% (chrysotile) |
| A200 | Gray | Cement Board | #26 threshing room NW enclosure | Good | 25% (chrysotile) |
| Dup 12 (A200) | Gray | Cement Board | #26 threshing room NW enclosure | Good | 25% (chrysotile) |
| A201a | White/ gray | 9x9 floor tile | #26 Lab 1 south floor | Good | 0.25% (chrysotile) |
| Dup 11 (A201a) | White/gray | 9x9 floor tile | #26 Lab 1 south floor | Good | 1.1% (chrysotile) |
| A201b | Tan | Mastic | #26 Lab 1 south floor | Good | None detected |
| A202 | White/ gray | Duct tape | #26 Lab 1 NE pipe | Good | None detected |
| A203a | White/ gray | 12x12 floor tile | #26 office 1 | Good | None detected |
| A203b | Black | Mastic | #26 office 1 | Good | None detected |
| A204 | Gray | Drywall mud | #26 seed storage | Poor | 3.2% (chrysotile) |
| A205 | Black | Door seal | #26 cooler door | Poor | None detected |
| A206 | Gray/white | Cement board | #26 furnace room south wall | Good | 25% (chrysotile) |
| A207 | Gray | Drywall mud | #26 furnace room east wall | Poor | 3.7% (chrysotile) |
| A208 | Gray | Drywall mud | #26 air drying room | Good | 2.5% (chrysotile) |
| A209a | White/gray | 9x9 floor tile | #26 office 2 SW corner | Good | 0.5% (chrysotile) |
| A209b | Tan | Mastic | #26 office 2 SW corner | Good | None detected |
| A210a | White/gray | 12x12 floor tile | #26 lab 3 south side | Good | 0.75% (chrysotile) |
| A210b | Tan | Mastic | #26 lab 3 south side | Good | None detected |
| A211a | White/gray | 9x9 floor tile | #26 office 3 | Good | Trace (chrysotile) |
| A211b | Tan | Mastic | #26 office 3 | Good | None detected |
| A212 | Gray | Cement counter top | #26 office 3 south and east walls | Good | 25% (chrysotile) |
| A213a | Green | 9x9 floor tile | #26 washroom hall north | Poor | 0.5% (chrysotile) |
| A213b | Tan | Mastic | #26 washroom hall north | Poor | None detected |
| A214a | Green | 9x9 floor tile | #26 washroom hall south | Poor | 1.3% (chrysotile) |
| A214b | Black | Mastic | #26 washroom hall south | Poor | None detected |
| A215a | Green | 9x9 floor tile | #26 women's washroom west | Good | 0.25% (chrysotile) |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|--------------------------|--------------------------|--------------------|--------------------------------------|-------------|-------------------------------|
| A215b | Black | Mastic | #26 women's washroom west | Good | None detected |
| A216 | Gray | Drywall mud | #26 woman's washroom west | Poor | 3.1% (chrysotile) |
| A217 | Gray | Drywall mud | #26 office 4 east wall | Poor | 2.9% (chrysotile) |
| A218 | Gray | Drywall mud | #26 main hall south wall | Poor | 2.7% (chrysotile) |
| A219 | White | Caulking | #14 exterior south wall | Poor | None detected |
| A220 | White | Caulking | #14 exterior south window | Poor | None detected |
| A221 | Gray | Parchment | #14 exterior basement wall west | Poor | None detected |
| A222 | Gray | Parchment | #14 exterior basement wall south | Poor | None detected |
| A223 | Gray | Parchment | #14 exterior basement wall east | Poor | None detected |
| A224 | White | Drywall mud | #26 main hall at attic stairs | Poor | 2.0% (chrysotile) |
| Dup 10 (A224) | White | Drywall mud | #26 main hall at attic stairs | Poor | 1.2% (chrysotile) |
| A225 | Brown/ silver | Vermiculite | #26 Attic north west | Good | 0.75% (actinolite) |
| A226 | Brown/ silver | Vermiculite | #26 Attic middle east | Good | 1.25% (actinolite) |
| A227 | Brown/ silver | Vermiculite | #26 Attic south east | Good | 1.5% (actinolite) |
| A228 | Brown | Wire insulation | #26 Attic center | Fair | None detected |

BOLD – over criteria*

* Criteria: ≥1% asbestos: asbestos containing material as defined by the Alberta Asbestos Abatement Manual, July 2009. Vermiculite is positive for asbestos with asbestos present in any amount.

- all building materials containing more than 1% (by weight) asbestos must be removed prior to demolition (Work Safe Alberta ASB003 – Asbestos Revised July 2009 and OHS Code Part 4) *with some exceptions*

Due to the size and amount of ACM possibly present on this site, representative sampling was conducted. It was not practical or necessary to sample every item which may be an ACM. If the representative samples test positive for asbestos, it is assumed the identical materials, which were not tested, are also positive. For example, the drywall mud and pipe elbow insulation tested positive and therefore all drywall mud and pipe insulation is assumed to be positive for asbestos.

Below is a list of the types of materials sampled and the results for asbestos (# samples positive and/or # samples negative) in brackets.



#1 Administration Office (44 asbestos samples)

- Brown linoleum (1 positive)
- Blue speckle linoleum (2 negative)
- Squares linoleum (2 positive)
- Brown/white 9x9 floor tile (2 positive)
- White pipe wrap (1 negative)
- Drywall mud (5 positive, 4 negative)
- Plaster (3 negative)
- White ceiling texture (3 positive)
- White 12x12 holes ceiling tile (7 negative)
- White 12x12 grid ceiling tile (3 negative)
- Brown insulation paper (1 negative)
- Insulating board (1 negative)
- Silver sink insulation (1 positive, 1 negative)
- Bronze sink insulation (1 positive)
- Fiber board (1 negative)
- Multi colored stucco (3 positive)
- Gray cement (2 negative)

#10 Canola Laboratory (42 asbestos samples)

- White/rose linoleum (1 negative)
- Brown streak floor tile (2 negative)
- Brown 12" x 12" floor tile (1 positive)
 - Yellow mastic (1 negative)
- Green floor tile (1 negative)
- Yellow floor tile (1 negative)
 - Black mastic (1 negative)
- Multi brown floor tile (1 negative)
- Light brown 9" x 9" floor tile (2 positive)
 - Black mastic (2 negative)
- Dark brown 9" x 9" floor tile (2 positive)
 - Black mastic (2 negative)
- Floor leveling compound (1 negative)
- Fiber board (3 negative)
- Drywall mud (3 positive, 5 negative)
- Wall tile (2 negative)
- Grid ceiling tile (5 negative)
- Fume hood cement board (2 negative)
- Light fixture insulation (2 positive)
- Black caulking (1 positive)
- Gray caulking (1 positive)
- Pipe insulation (1 positive)
- Boiler insulation (1 positive)
- Tar paper (1 negative)
- Stucco (3 negative)



#14 Soils Research Building (62 asbestos samples)

- Gray 12 x 12 floor tile (1 positive)
 - Tan mastic (1 negative)
- White/gray 9 x 9 floor tile (2 positive, 3 negative)
 - Black mastic (1 positive, 3 negative)
- Gray/Blue 12 x 12 floor tile (1 negative)
 - Black mastic (1 negative)
- Light Brown 9 x 9 floor tile (2 positive)
 - Black mastic (1 positive, 1 negative)
- Dark Brown 9 x 9 floor tile (2 positive)
 - Black mastic (1 positive)
- Dark Gray 9 x 9 floor tile (2 positive)
 - Black mastic (2 negative)
- Squares sheet linoleum (1 positive)
- Drywall mud (3 positive, 1 negative)
- Transite (cement) board (4 positive)
- Parchment on walls (2 negative)
- Fiber board (1 negative)
- Ceiling tile 12 x 12 (5 negative)
- Spackle ceiling tile (3 negative)
- Flat ceiling tile (3 negative)
- Fume hood cement board (1 negative)
- Bronze sink insulation (1 positive)
- White sink insulation (3 negative)
- Gray sink insulation (1 positive)
- Insulation fabric (1 negative)
- Stucco (3 negative)
- Parchment – exterior (3 negative)
- Window caulking (2 negative)

#15 Ecology Building (37 asbestos samples)

- White/gray 9 x 9 floor tile (3 positive)
 - Black mastic (2 negative)
- White/blue 12 x 12 floor tile (4 positive)
 - mastic (2 negative)
- Green linoleum (1 negative)
 - Tan mastic (1 negative)
- Leveling compound (1 negative)
- Drywall mud (2 positive)
- Fiber board (4 negative)
- Ceiling tile (4 negative)
- Cement board in acid cabinet and fume hood (2 negative)
- Insulation board (2 negative)
- Tar paper (2 negative)
- White/silver sink insulation (1 positive)
- Gray countertop (2 positive, 1 negative)



- Black countertop (1 negative)
- Brown countertop (1 negative)
- Green countertop (1 positive)

#17 Carpenter Shop (14 asbestos samples)

- Gray 12 x 12 floor tile (1 positive)
 - Tan mastic (1 negative)
- Light Gray 12 x 12 floor tile (1 negative)
 - Tan mastic (1 negative)
- Gray 9 x 9 floor tile (1 positive)
 - Tan mastic (1 negative)
- Drywall mud (3 positive)
- Vermiculite (4 positive)
- Exterior window caulking (1 negative)

#18 Apiculture Laboratory (15 asbestos samples)

- Squares linoleum (1 negative)
- Gray parchment (2 negative)
- Gray cement board - fume hood (1 negative)
- Gray cement board – coolers (3 negative)
- Gray caulking – cooler (1 positive)
- White sink insulation (1 negative)
- Black door seal (1 negative)
- Black tar paper (1 negative)
- Brown vermiculite (3 positive)
- Gray mortar (1 negative)

#25 Honey Extraction Building (0 asbestos samples)

#26 Storage (33 asbestos samples)

- Gray/white 9 x 9 floor tile (1 positive, 2 negative)
 - Tan mastic (3 negative)
- White/gray 12 x 12 floor tile (2 negative)
 - Mastic (2 negative)
- Green 9 x 9 floor tile (1 positive, 2 negative)
 - Mastic (3 negative)
- Drywall mud (8 positive)
- Cement board – transite (2 positive)
- Duct tape (1 negative)
- Black door seal (1 negative)
- Cement countertop (1 positive)
- Brown wire insulation (1 negative)
- Brown/silver vermiculite (3 positive)



Note: there was vermiculite observed on the floor, leaking from the ceiling and/or wall, in the seed storage room and furnace room. There was vermiculite distributed throughout in the attic storage area.

#35 Machinery Storage & Repair (8 asbestos samples)

- White/blue 9x9 floor tile (1 negative)
- Gray/black 12x12 floor tile (1 negative)
 - Tan mastic (1 negative)
- White 12x12 holes ceiling tile (2 negative)
- White 12x12 flat ceiling tile (1 negative)
- White drywall mud (1 negative)
- Brown/gray vermiculite (1 positive)

#36 Forage Building (0 asbestos samples)

#39 Apiculture Storage (0 asbestos samples)

#40 Seed Storage (0 asbestos samples)

#43 Soils Field Building (0 asbestos samples)

#45 Chemical Storage (0 asbestos samples)

Cinder block Storage (0 asbestos samples)

Tin Shed (0 asbestos samples)

The following is considered to be ACM (refer to Appendix 2 for room details, diagrams outlining the locations and a photographic log):

#1 Administration

- a shoe rack with a brown patterned **linoleum** (25% chrysotile) located in the east entry way
- **linoleum** with a squares pattern (25% chrysotile) located in the
 - basement rooms: kitchen, conference room and entrance hall to the conference room
 - main floor rooms: storage rooms,
 - 2nd floor rooms: office 18 and 20
- 23 cm x 23cm (9" x 9") brown/white **floor tiles** that contained 2% chrysotile asbestos located:
 - basement rooms: hallway
- **sink insulation** which contain 1.3% chrysotile located on the following sinks:
 - Bronze sink insulation in the basement kitchen
 - Silver sink insulation in the basement dark room



- **white ceiling texture** with up to 3.8% chrysotile located on the main floor hallway ceiling at the main entrance and east towards the stairway
- **drywall mud** in all portions of the building which have drywall which is approximately 50% of the building
- **stucco** located on the exterior of the building which contained up to 1.4% chrysotile asbestos

#10 Canola Laboratory

- brown **floor tiles** (12" x 12") that contained 1% chrysotile asbestos located in office 5 on the 2nd floor
- dark brown and light brown **floor tiles** (9" x 9") that contained 2% chrysotile asbestos located in basement storage rooms 7 and 8 and the hallway leading to these rooms
- **drywall mud** in all portions of the building which have drywall
 - Entire main floor (8 rooms) and 2nd floor (13 rooms) and two rooms in the basement
- **light fixture insulation** located on all the incandescent light fixtures throughout the building
- **black and gray caulking** located in the basement coolers (storage 4 and 5)
- **pipe insulation** located in the basement coolers (storage 4 and 5)
- **boiler insulation** located around the boiler in the basement furnace room

#14 Soils Research Building

- **linoleum** with a squares pattern (20% chrysotile) located in the
 - 1st floor rooms NE lab, hallway, growth chamber room, entry way and washroom
- gray **floor tiles** (12" x 12") that contained 2% chrysotile asbestos located:
 - 1st floor entry way under the linoleum
- white/gray **floor tiles** (9" x 9") and associated **black mastic** that contained up to 5% chrysotile asbestos located:
 - 1st floor SW lab
 - entire 2nd floor excluding the power panel room
- **light brown and dark brown floor tiles** (9" x 9") and associated **black mastic** that contained up to 5% chrysotile asbestos located:
 - 1st floor NW lab and under the stairs
- **dark gray floor tiles** (9" x 9") that contained up to 5% chrysotile asbestos located:
 - 2nd floor in the power panel room
- **drywall mud** in all portions of the building with drywall
 - 1st floor: SW lab, NW lab, and furnace room
- **transite board** located in the walls, floors and ceilings of the 2nd floor
- **bronze sink insulation** which contains 2% chrysotile located in the 1st floor SW lab
- **gray sink insulation** which contains 2% chrysotile located in the 1st floor NE lab



#15 Ecology Building

- white/gray (9" x 9") **floor tiles** that contained 1% chrysotile asbestos located:
 - 1st floor washroom, hallway, north and south storage
- white/blue (12" x 12") **floor tiles** that 2% chrysotile asbestos located:
 - 1st floor north and south lab, office, entryway,
- **drywall mud** with up to 2% chrysotile is located in all portions of the building with drywall
 - 1st floor: furnace room
- **white/silver sink insulation** which contains 1% chrysotile located in the 1st floor south lab
- **gray countertop** contained 20% chrysotile and was located on the 1st floor north lab along the north wall and 2nd floor adjacent the stairwell on the north side
- **green countertop** contained 20% chrysotile and was located on the 2nd floor adjacent the stairwell on the east side

#17 Carpenter Shop

- gray (9" x 9") **floor tiles** that contained 2% chrysotile asbestos located:
 - washroom
- gray (12" x 12") **floor tiles** that 2% chrysotile asbestos located:
 - office
- **drywall mud** with up to 2% chrysotile is located in all portions of the building with drywall
 - entrance hallway, office, utility room, washroom and paint storage
- **vermiculite** insulation which contain 0.25% actinolite in the attic
- **2 cement countertops** stored in the basement
- **light fixture insulation** located on an incandescent light fixture stored in the storage space above the office

#18 Apiculture Laboratory

- **gray caulking** with 10% chrysotile located in the basement coolers (storage 1 to 4)
- **vermiculite** insulation which contains up to 1% actinolite in the attic

#26 Storage

- green and gray/white (9" x 9") **floor tiles** that contained 1% chrysotile asbestos located:
 - green: men's and woman's washroom, washroom hallway and office 4
 - gray/white: lab 1 and office 2 and 3
- **drywall mud** with up to 3% chrysotile is located in all portions of the building with drywall (entire building)



- **transite board** located in the walls and ceiling of the northwest portion of the threshing room and northeast portion of the furnace room
- **2 cement countertops** located in office 3 and lab 2
- **vermiculite** insulation which contains 1% actinolite in the attic

#35 Garage

- **vermiculite** insulation which contains 0.5% actinolite in cinder block wall which transects the center portion of the building

4.3.2 LEAD PRODUCTS

Fifty four (including 4 duplicates) representative samples were sampled and placed in sealable containers for lead content analysis. Please refer to Appendix 2 for a detailed description, a sampling diagram, a photographic log and a copy of the laboratory reports. Six of the samples are considered lead based paint containing 0.5%, or above, lead by weight.

Table 27: Lead in Paint Analysis Results Summary for Beaverlodge

| SAMPLE | COLOUR | LOCATION (# - BUILDING NO.) | RESULTS (% LEAD BY WEIGHT)* |
|-------------------------|---------------|--|--------------------------------|
| P1 | Brown | cinder block storage door | 0.12** |
| P2 | Yellow/ white | #25 interior work room | 0.047** |
| P3 | White | #15 exterior paint | 0.022 |
| P4 | Pink/ brown | #15 interior kick board | 0.34** |
| P5 | White | #15 office kick board | 0.38** |
| P6 | White | #15 north lab window frames | 0.31 |
| P7 | White | #15 north lab cabinets N wall | 0.33 |
| P8 | Yellow | #15 utility room | 0.25** |
| P9 | Gray | #15 1 st – 2 nd floor stairs | 0.055** |
| P10 | White | #15 2nd floor north wall | 5.4** |
| P11 | Blue | #1 basement office | 0.19** |
| P12 | White | #1 basement hall | <0.0078** |
| P13 | Yellow | #1 basement furnace room | 0.033** |
| P14 | Black | #1 basement dark room | 0.5 |
| P15 | Blue | #1 basement under west stairs | <0.0075** |
| P16 | White | #1 2 nd floor room 25 window frame | 0.13 |
| P17 | White | #1 exterior south window | 0.39 |
| Pdup 1 (P17) | White | #1 exterior south window | 0.58 |
| P18 | White | #1 ceiling main floor reception | <0.0087** |
| P19 | White | #18 basement under stairs | 0.28 |
| P20 | White | #18 Exterior west side | 2.8 |
| P21 | White | #10 2 nd floor storage | 0.012** |
| P22 | Green | #10 2 nd floor storage janitor closet | 0.07** |
| P23 | White/ yellow | #10 2 nd floor office 7 closet door | 0.014** |
| P24 | Blue | #10 2 nd floor office 5 | 0.013** |
| P26 | Purple | #10 main floor storage | 0.096** |
| P27 | Light green | #10 basement storage 6 closet | 0.0098** |
| Pdup 2 | Light green | #10 basement storage 6 closet | 0.16** |



| SAMPLE | COLOUR | LOCATION (# - BUILDING NO.) | RESULTS (% LEAD BY WEIGHT)* |
|-------------------------|----------------------|--|--------------------------------|
| (P27) | | | |
| P28 | Light blue | #10 basement storage 7 | 0.091** |
| P29 | White/ yellow | #10 basement storage 2 | 0.66 |
| P30 | White | #10 basement hallway | 0.28 |
| P31 | White | #10 exterior main entrance trim | 4.7 |
| Pdup 3 (P31) | White | #10 exterior main entrance trim | 4.5 |
| P32 | Peach | #14 interior main floor frames entry | 0.33** |
| P33 | White/yellow | #14 SW lab main | <0.008** |
| P34 | White/yellow | #14 furnace room | 0.077 |
| Pdup 4 (P34) | White/yellow | #14 furnace room | 0.099 |
| P35 | White | #14 NW lab | 0.035 |
| P36 | White | #14 lab 2 east window | 0.58 |
| P37 | White | #14 exterior frames office 1 | 3.4 |
| P38 | Blue | #17 exterior main entrance | 7.4 |
| P39 | Green | #17 garage interior | <0.008** |
| P40 | White | #17 work bench | 0.021** |
| P41 | Gray | #17 countertop work bench | 0.25 |
| P42 | Blue | #17 stairway | 0.0068 |
| P43 | Off-white | #35 office 2 walls | <0.0048 |
| P44 | Gray | #35 2 nd floor shelves | 0.47 |
| P45 | Brown | #40 exterior door frame | 0.055** |
| P46 | White | #26 threshing room south wall | 0.056 |
| P47 | White | #26 seed storage | 0.094 |
| P48 | Blue | #26 lab 2 cupboards | 0.014** |
| P49 | White | #26 exterior window | 0.19 |
| P50 | White | #26 interior women's washroom | 0.044 |

BOLD – over criteria

* lead >0.5% by weight is considered to be lead containing paint (Work Safe Alberta CH061 and the Federal Hazardous Products Act)

**Matrix/substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks

***Insufficient sample provided to perform QC re-analysis

Below is a list of the colours of paints sampled and the results (# samples positive and/or # samples negative for lead based paint) in brackets.

#1 Administration Office (8 paint samples)

- Blue interior(2 negative)
- White interior (3 negative)
- Yellow interior (1 negative)
- Black interior (1 positive)
- White exterior (1 positive)

#10 Canola Laboratory (9 paint samples)

- Green interior (1 negative)
- White/yellow interior (1 positive, 1 negative)
- Blue interior (1 negative)
- Purple interior (1 negative)



- Light green interior (1 negative)
- Light blue interior (1 negative)
- White interior (1 negative)
- White exterior (1 positive)

#14 Soils Research Building (6 paint samples)

- Peach interior (1 negative)
- White/yellow interior (2 negative)
- White interior (1 negative)
- White exterior (2 positive)

#15 Ecology Building (8 paint samples)

- White interior (1 positive, 3 negative)
- Gray interior (1 negative)
- Yellow interior (1 negative)
- Pink/brown interior (1 negative)
- White exterior (1 negative)

#17 Carpenter Shop (5 paint samples)

- Blue interior (1 negative)
- Green interior (1 negative)
- White interior (1 negative)
- Gray interior (1 negative)
- Blue exterior (1 positive)

#18 Apiculture Laboratory (3 paint samples)

- White interior (2 negative)
- White exterior (1 positive)

#25 Extracting Building (1 paint sample)

- Yellow/white (1 negative)

#26 Crop Processing & Storage (5 paint samples)

- White interior (3 negative)
- Blue (1 negative)
- White exterior (1 negative)

#35 Machinery Storage & Repair (2 paint samples)

- Off-white interior (1 negative)
- Gray interior (1 negative)

#36 Forage Building (0 paint samples)

#39 Apiculture Storage (0 paint samples)



#40 Seed Storage (1 paint sample)

- Brown exterior (1 negative)

#43 Soils Field Building (0 paint samples)

#45 Chemical Storage (0 paint samples)

Cinder block Storage (1 paint sample)

- Brown exterior (1 negative)

Tin Shed (0 paint samples)

The following is considered lead containing paint:

- **Black interior paint** in the dark room located in the basement of #1 Administration Office
- **White/yellow interior paint** in the #10 Canola Laboratory basement in storage rooms 2, 3, 1 and 9
- **White exterior paint** located:
 - #1 Administration Building doors and windows trim
 - #10 Canola Lab doors and windows trim
 - #14 Soils Research Building exterior door and window trim
 - #18 Apiculture Building exterior
- **White interior paint** in the #15 Ecology building on the walls and ceiling of the 2nd floor
- **Blue exterior paint** on the #17 Carpenter shop

Every building contained batteries such as button cell, emergency lights, alarm systems, equipment battery packs, etc.

4.3.3 POLYCHLORINATED BIPHENYLS (PCBs)

There were fluorescent light fixtures found throughout the entire site. It is understood some buildings on site have been retrofitted and there are fluorescent light ballasts of concern on site. The table below outlines the PCBs of concern.



Table 28: PCB Results Summary for Beaverlodge

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | *TYPE |
|---|------------------------------|--|
| #10 Canola Laboratory/2 nd /sw office | 2 Fluorescent light ballast | CGE 15A296A AB121969 |
| #10 Canola Laboratory/2 nd /lunch room | 1 Fluorescent light ballast | CGE Leaking |
| #14 Soils Research/1 st /SW Lab | Fluorescent light ballast | Phillips SM2E75STPC |
| #14 Soils Research/1st/SW Lab | 4 Fluorescent light ballasts | Sola 570-302SX Sola 570-302SX CGE 89G325.. Mar.1956 (Leaking) CGE 89G545.. Mar. 12 1956 (Leaking) |
| #14 Soils Research/2 nd /Lab 1 | Fluorescent light ballast | CGE 16A240N |
| #14 Soils Research/2nd/Lab 2 | 2 Fluorescent light ballasts | Sola 570-302SX CGE 16A296.. (Leaking) |
| #17 Carpenter Shop/office | 1 fluorescent light ballast | Advance (patent date 56-60) |
| #26 Storage/Main/hall | 7 Fluorescent light ballasts | CGE 17A257EW Non PCB Leaking Philips SM2E75STPC CGE 17A297TW CGE 17A296T CGE 15..... (damaged) Phillips SM2E75STPC (damaged) Phillips SM2E75STPC |
| #26 Storage/Main/Lab 1 | 2 Fluorescent light ballasts | Adlite ADM2E7553TP Adlite ADM2E7553TP |
| #26 Storage/Main/Seed storage | Fluorescent light ballast | CGE 15A296T |
| #26 Storage/Main/Air Drying Room | 2 Fluorescent light ballasts | Adlite ADM2E7553TP Adlite ADM2E7553TP |
| #26 Storage/Main/Seed Cleaning | Fluorescent light ballast | Philips SM2E75STPC (Leaking) |
| #26 Storage/Main/Lab 2 | 6 Fluorescent light ballasts | Sola 550190SX (Leaking) CGE 15A296T (Leaking PCB) Advance HQM2540FLC CGE 15A296T CGE (Damaged) Philips RQM2S40TPC |
| #26 Storage/Main/ Office 2 | 4 Fluorescent light ballasts | CGE 15A296T Philips RQM2S40TPC Philips RQM2S40TPC Philips RQM2S40TPC |
| #26 Storage/Main/ Office 3 | 2 Fluorescent light ballasts | CGE 15A296T CGE 15A296T |
| #26 Storage/Main/ Office 4 | 3 Fluorescent light ballasts | CGE 17A240A CGE 17A240N CGE 17A240N |

*All light ballasts on site should be verified and checked; not all light ballast could be verified due to leakage and location of date stamp



4.3.4 MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. The table below outlines the areas of concern.

Table 29: Mercury Results Summary for Beaverlodge

| BUILDING | LOCATION | TYPE/ESTIMATED QUANTITY |
|-------------------------------|---|-------------------------|
| #10 Canola Laboratory | 1 st floor hallway | 1 mercury thermostat |
| #14 Soils Research Building | 1 st floor hallway and 2 nd floor Lab 1 | 2 mercury thermostats |
| #14 Soils Research Building | 1 st floor growth chamber | 2 mercury thermometers |
| #15 Ecology | 1 st floor hallway | 1 mercury thermostat |
| #17 Carpenter Shop | Northwest corner of the shop | 1 mercury thermostat |
| #25 Honey Extraction Building | Main area on west wall | 1 mercury thermostat |
| #26 Storage | Cooler | 1 mercury thermometer |
| #26 Storage | Air Drying Room | 1 mercury thermostat |
| #36 Forage Building | Lab | 1 mercury thermometer |
| | Lunch Room | 1 mercury thermometer |
| | Cool Room | 1 mercury thermometer |
| #45 Chemical Storage | Centre room | 1 mercury thermostat |

4.3.5 OZONE DEPLETING SUBSTANCES (ODS)

Many of the ODS in the building have already been inventoried and many have been removed. The table below outlines the remaining ODS of concern.

Table 30: ODS Results Summary for Beaverlodge

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION OF THE SYSTEM | TYPE OF ODS | ESTIMATED QUANTITY |
|--|------------------------------|----------------|-----------------------|
| #1 Administration/main floor/storage | Mini fridge | R12 | 1 oz |
| #10 Canola Laboratory/2 nd floor/office 2 | Westinghouse Fridge | R12 | 5 oz |
| #10 Canola Laboratory/2 nd floor/office 2 | Coop Fridge | R12 | 5.25 oz |
| #10 Canola Laboratory/main floor/east hallway | Incubator (521715) | R12 | 9.0 oz |
| #10 Canola Laboratory/main floor/east hallway | Incubator (521714) | R12 | 9.0 oz |
| #10 Canola Laboratory/main floor/storage | Incubator (521717) | R12 | 9.0 oz |
| #14 Soils Research Building/1 st /growth chamber room | Growth Chamber (5215440) | R12 | * |
| #14 Soils Research Building/1 st /NW lab | Kenmore Fridge (274571) | R12 | 5 oz |
| | GE Fridge (179933) | | 4.2 oz |
| #14 Soils Research Building/2 nd /Lab 2 | Frigidaire Fridge | R12 | 4.75 oz |
| #15 Ecology Building | Fridge & Freezer | * | * |
| #18 Apiculture Laboratory (suspect) | Chest Freezer (179642) | * | * |
| #36 Forage Building | Woof Fridge (216755) | R12 | 7.1 oz |
| #36 Forage Building | GE Fridge (156891) | R12 | 7.4 oz |
| #36 Forage Building | WCI freezer (208643) | R12 | 8.0 oz |

* Unable to verify type and/or quantity

A/C = air conditioning



The following is a summary of the ozone depleting substances still present on site:

- There are 9 fridges and 3 freezers which contain R-12
- There are 3 incubators and 1 growth chamber which contain R-12

4.3.6 RADIOACTIVE MATERIALS

Radioactive items were observed at the following locations:

Table 31: Radioactive Results Summary for Beaverlodge

| Location (Building, Floor, Room) | Description | Estimated Quantity |
|--|-----------------------------------|-------------------------------|
| #1 Administration Office/basement/hallway | Smoke detector | 1 |
| #1 Administration Office/main floor/hallway | Smoke detector | 1 |
| #1 Administration Office/2 nd floor/east hallway | Smoke detector | 1 |
| #14 Soils Research Building/2 nd floor/hallway | Smoke detector | 1 |
| #18 Apiculture Laboratory/basement/under stairs sitting on a shelf | Smoke detector | 1 |
| #35 Garage/2 nd /north side, middle shelf | Smoke detectors (stored in a box) | 7 |

The smoke detectors observed are currently in use, except for the 7 stored in the #35 garage.

4.3.7 MISCELLANEOUS CHEMICALS

Miscellaneous chemicals were observed at the following locations:

Table 32: Miscellaneous Chemicals Summary for Beaverlodge

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|---|--|---------------------------|
| #10 Canola Laboratory/main floor | Miscellaneous laboratory chemicals | - |
| #10 Canola Laboratory | Fume hood filter system | 1 |
| #14 Soils Research Building | Miscellaneous laboratory chemicals | - |
| #14 Soils Research Building/lab 2 | Fume hood filter system | 1 |
| #15 Ecology Building | Miscellaneous laboratory and cleaning chemicals | - |
| #15 Ecology Building | Fume hood filter system | 2 |
| #17 Carpenter Shop/paint storage | Paint Solvents and other miscellaneous shop chemicals (WD 40, etc.) | 150 cans 20 L |
| #18 Apiculture Laboratory | fume hood located at the northeast corner of the building | 1 |
| # 25 Honey Extraction Building | Rat/mice poison storage | - |
| #35 Garage | Paints, solvents, oils, ATF, antifreeze, etc. | - |
| #44 Chemical Storage | Specialized building to house chemicals | - |
| Tin Shed | Fuel, fertilizer, etc. | - |



4.3.8 MOULD

Some suspect mould, water damage and conditions which may lead to mould were observed at the subject site. The table below summarizes the locations of the damage.

Table 33: Mould/Water Damage Results Summary for Beaverlodge

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|--|---|--|
| #10 Canola Laboratory/basement | Water damage and mould 0.3 m above floor level, visible mould on pipe box in storage 4, under window in storage 6 and on shelving units | 190 m ² |
| #10 Canola Laboratory/main floor/ storage room | Water damage on the east wall and pipe box in storage room | 10 m ² |
| #14 Soils Research/1 st /furnace room | Water damage on the ceiling | 0.5 m ² |
| #14 Soils Research/1 st /NW lab | Water damage on west wall at pipe | 2 m ² |
| #14 Soils Research/2 nd / Lab 2 | Water damage on ceiling at furnace chimney and 2 fume hood chimneys | 0.5 m ² each |
| #15 Ecology Building | Water damage in the areas of the chimneys for the two fume hoods and furnace | 0.5 m ² each |
| #17 Carpenter Shop | Water damage in the basement area from previous flooding (concrete staining) | - |
| #25 Honey Extraction/washroom | Water damage on ceiling tile | 0.3 m ² |
| #26 Storage | Suspect mould and water damage on pipe and walls on south wall of threshing room | 2 m ² |
| #26 Storage | Water damage on ceiling in the northwest corner of office 1 | 0.2 m ² |
| #26 Storage | Water damage on the ceiling in the seed storage room | 0.3 m ² |
| #26 Storage | Water damage on the ceiling in the furnace room | 3 m ² |
| #26 Storage | Water damage on the ceiling in the air drying room (2 areas) | 0.2 m ² 1 m ² |
| #26 Storage | Water damage in the area of the fan in the men's washroom | 0.3 m ² |
| #26 Storage | Suspect mould and water damage in the southwest area of the woman's washroom | 2 m ² |
| #26 Storage | Water damage in the main hallway adjacent the cooler | 2 m ² |
| #26 Storage | Water staining on the plywood walkway the full length of the attic | - |

There appears to be suspect mould growth at the following locations:

- #10 Canola Laboratory in the entire basement approximately 0.3 m above the floor level.
- #26 Storage in the women's washroom and threshing room



There appears to be water damaged materials, which may lead to mould growth at the following locations:

- #10 Canola Laboratory in the entire basement and on the main floor in the storage room on the west wall and west portion of the ceiling
- #14 Soil Research had water staining in the area of all the chimneys for the fume hoods and furnace
- #15 Ecology building had water staining in the area of all the chimneys for the fume hoods and furnace
- #26 Storage building at various locations on the ceiling and in the women's washroom wall

4.3.9 OTHER

- #26 Storage building had an extensive rodent problem in the attic. Several deceased squirrels and mice were observed. The squirrels were nesting in the attic space and disturbing and redistributing the ACM vermiculite.



4.3.10 SUMMARY OF RESULTS BY BUILDING

#1 Administration Office

The following table is a summary of the hazardous materials identified in the #1 Administration Office. Refer to Appendix 2b-3 - 5 for diagrams and Appendix 2c-1 – 4 and 25 for photographs.

Table 34: #1 Administration Office Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------------------------|---|--|
| ACM brown linoleum | main floor, east door shoe rack | 1 m ² |
| ACM square patterned linoleum | Basement: kitchen, conference room, basement hall Main floor: storage rooms 2 nd floor: office 18 and 20 | 100 m ² 30 m ² 30 m ² |
| ACM brown/white floor tile (9" x 9") | Basement hallway | 8 m ² |
| ACM sink insulation | Basement dark room and kitchen | 2 sinks |
| ACM ceiling texture | Main floor entrance, east hallway and office 3 | 84 m ² |
| ACM drywall mud | Half of the building (approximately 25 rooms) | 580 m ² |
| ACM stucco | Exterior | 444 m ² |
| Black interior lead paint | Basement dark room | 30 m ² |
| White exterior lead paint | Exterior window and door frames | 42 windows 3 doors |
| ODS - R12 | Mini fridge; Main floor storage room | 1 oz |
| Radioactive smoke detectors | Hallways in the basement, main floor and 2 nd floor | 3 |



#10 Canola Laboratory

The following table is a summary of the hazardous materials identified in the #10 Canola Laboratory. Refer to Appendix 2b-6 - 8 for diagrams and Appendix 2c-4 – 7 and 25 and 27 for photographs.

Table 35: #10 Canola Laboratory Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---|--|-------------------------------|
| ACM Brown floor tile | 2 nd floor office 5 | 20 m ² |
| ACM light brown and dark brown floor tile | Basement storage rooms 6 and 7 and hallway into these rooms | 45 m ² |
| ACM drywall mud | Entire main floor (8 rooms) and 2 nd floor (13 rooms) and two rooms in the basement | 1600 m ² |
| ACM light fixture insulation | Basement: west hallway Main floor: W-N Lab, northeast entrance, main entrance and storage room 2 nd floor: hallway (2), storage, office 4, 8, 10 and stairway | 1 4 7 |
| ACM Caulking | Basement coolers (storage 4 and 5) | 1 m |
| ACM Pipe insulation | Basement coolers (storage 4 and 5) | 8 m |
| ACM boiler insulation | Basement furnace room Boiler is 1.5 m x 1.5 m x 1.2 m Insulation is approx. 0.13 m thick | 1 boiler |
| White/yellow interior lead paint | Basement storage rooms 2, 3, 1 and 9 | 120 m ² |
| White exterior lead paint | Exterior window and door frames | 38 windows 4 doors |
| PCB fluorescent light ballasts | 2 nd floor: SW office and lunch room | 3 |
| Mercury thermostat | Main floor hallway | 1 |
| ODS – R12 | 2 nd floor, office 2 (2 units) Main floor, east hallway (2 units) Main floor, storage (1 unit) | 10.25 oz 18.0 oz 9.0 oz |
| Laboratory chemicals | Main floor | - |
| Fume hood filter system | NW Lab | 1 |
| Mould | Basement | 190 m ² |



#14 Soils Research Building

The following table is a summary of the hazardous materials identified in the #14 Soils Research Building. Refer to Appendix 2b-9 - 10 for diagrams and Appendix 2c-7 - 11 and 23 for photographs.

Table 36: #14 Soils Research Building Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--|--|--|
| ACM square pattern linoleum | 1 st floor rooms: NE lab, hallway, growth chamber room and washroom | 84 m ² |
| ACM Gray 12 x 12 floor tile | 1 st floor entry way (under ACM linoleum) | 20 m ² |
| ACM white/gray 9 x 9 floor tile and mastic | 1 st floor: SW lab 2 nd floor: all (except power panel room) | 170 m ² |
| ACM light and dark brown 9 x 9 floor tile and mastic | 1 st floor: NW lab and under the stairs | 55 m ² |
| ACM dark gray 9 x 9 floor tile | 2 nd floor: power panel room | 8 m ² |
| ACM drywall mud | 1 st floor: SW lab, NW lab, and furnace room | 200 m ² |
| Transite board | 2 nd floor walls, ceiling and floor | 600 m ² |
| Bronze sink insulation | 1 st floor SW lab | 2 |
| Gray sink insulation | 1 st floor NE lab | 2 |
| White exterior lead paint | Exterior window and door frames | 14 windows 3 doors |
| PCB fluorescent light ballasts | 1 st floor: SW lab 2 nd floor: Lab 1 and 2 | 5 3 |
| Mercury thermometer | Growth chamber on the 1 st floor | 2 |
| Mercury thermostat | 1 st floor hallway and 2 nd floor Lab 1 | 2 |
| ODS – R12 | 1 st floor growth chamber room (1 unit) 1 st floor NW lab (2 units) 2 nd floor Lab 2 (1 unit) | - 9.2 oz 4.75 oz |
| Radioactive smoke detector | 2 nd floor hallway | 1 |
| Fume hood filter system | 2 nd floor lab 2 | 1 |
| Laboratory chemicals | 1 st and 2 nd floor | - |
| Water damage | 1 st floor furnace room 1 st floor NW lab 2 nd floor Lab 2 | 0.5 m ² 2 m ² 0.5 m ² |



#15 Ecology Building

The following table is a summary of the hazardous materials identified in the #15 Ecology Building. Refer to Appendix 2b-11 – 13 for diagrams and Appendix 2c-12 – 15 and 26 - 27 for photographs.

Table 37: #15 Ecology Building Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-----------------------------------|--|--|
| ACM white/blue 12 x 12 floor tile | 1 st floor: north and south lab, office and entry | 90 m ² |
| ACM white/gray 9 x 9 floor tile | 1 st floor: north and south storage, washroom and hallway | 60 m ² |
| ACM drywall mud | 1 st floor: furnace room | 38 m ² |
| White/silver sink insulation | 1 st floor S lab | 2 |
| Gray countertop | 1 st floor N lab 2 nd floor adjacent stairwell on north side | 0.6 m x 3.5 m 0.7 m x 1.7 m |
| Green countertop | 2 nd floor adjacent stairwell on east side | 0.7 m x 1.2 m |
| White interior lead paint | 2 nd floor walls and ceiling | 150 m ² |
| Mercury thermostat | 1 st floor hallway | 1 |
| Fume hood filter system | fume hoods located in the north and south lab | 2 |
| Laboratory chemicals | 1 st floor in the labs in storage cabinet | - |
| Water damage | 1 st floor furnace room 2 nd floor chimney areas 3 rd floor chimney areas | 0.3 m ² 0.3 m ² each 0.4 m ² each |



#17 Carpenter Shop

The following table is a summary of the hazardous materials identified in the #17 Carpenter Shop. Refer to Appendix 2b-14 - 15 for a diagram and Appendix 2c-15 - 17 and 26 for photographs.

Table 38: #17 Carpenter Shop Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------------------|---|--------------------------------|
| ACM gray 12 x 12 floor tile | office | 16 m ² |
| ACM gray 9 x 9 floor tile | washroom | 6 m ² |
| ACM drywall mud | Entrance hallway, office, utility room, washroom and 1/2 of the walls in the paint storage room | 164 m ² |
| ACM Vermiculite | Attic | 225 m ² |
| ACM cement boards | Basement leaning against the wall (stored) x 2 | 1.2 m x 0.9 m 1.2 m x 0.9 m |
| ACM light fixture insulation | Incandescent light fixture stored in the storage space above the office | 1 |
| Blue exterior lead paint | Exterior of building | 350 m ² |
| PCB fluorescent light ballasts | Office | 1 |
| Mercury thermostat | Northwest corner of the shop | 1 |
| Miscellaneous chemicals | Paint storage room | 150 cans 20 L |

#18 Apiculture Laboratory

The following table is a summary of the hazardous materials identified in the #18 Apiculture Building. Refer to Appendix 2b-16 - 17 for a diagram and Appendix 2c-18 and 27 for photographs.

Table 39: #18 Apiculture Laboratory Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------------|---|---------------------------|
| ACM Caulking | Basement coolers (storage 1 - 4) | 2 m |
| ACM Vermiculite | Attic | 110 m ² |
| White exterior lead paint | Exterior window and door frames and siding | 110 m ² |
| ODS – R12 | Basement chest freezer | 1 |
| Radioactive smoke detector | Basement under the stairs storage area – sitting on a shelf | 1 |
| Fume hood filter system | fume hood located at the northeast corner of the building | 1 |



#25 Honey Extraction Building

The following table is a summary of the hazardous materials identified in the #25 Honey Extraction Building. Refer to Appendix 2b-18 & 19 for a diagram and Appendix 2c-18 for photographs.

Table 40: #25 Honey Extraction Building Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---------------------------|------------------------------|---------------------------|
| Mercury thermostat | Main area on west wall | 1 |
| Miscellaneous chemicals | Work room (rat/mouse poison) | - |
| Water damage | Washroom ceiling | 0.3 m ² |

#26 Crop Processing & Storage

The following table is a summary of the hazardous materials identified in the #26 Crop Processing & Storage. Refer to Appendix 2b-20 for a diagram and Appendix 2c-18 - 24 for photographs.

Table 41: #26 Storage Hazardous Materials at Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---------------------------------|---|-----------------------------|
| ACM green 9 x 9 floor tile | Washrooms, hallway adjacent the washrooms and office 4 | 50 m ² |
| ACM white/gray 9 x 9 floor tile | Lab 1 and office 2 and 3 | 30 m ² |
| ACM drywall mud | Entire building (17 rooms) walls and ceiling | 1210 m ² |
| ACM Transite board | Northwest corner of the threshing room and northeast corner of the furnace room | 11 m |
| ACM countertop | Lab 2 office 3 | 13 m x 0.7 m 7 m x 0.7 m |
| ACM Vermiculite | Attic | 985 m ² |
| PCB fluorescent light ballasts | Entire building | 30 |
| Mercury thermostat | Cooler | 1 |
| Mercury thermometer | Air drying room | 1 |
| Mould/water damage | Ceiling and walls in woman's washroom | 11 m ² |
| Rodents | Attic | - |

#35 Garage

The following table is a summary of the hazardous materials identified in the #35 Garage. Refer to Appendix 2b-21-22 for a diagram and Appendix 2c-24 for photographs.

Table 42: #35 Garage Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-------------------------|--|---|
| ACM vermiculite | Brown/gray in cinder block wall transecting the center portion of the shop | 16 m long x 5 m high 80 m ² |
| Radioactive | Smoke detectors, 2 nd floor storage | 7 |
| Miscellaneous chemicals | Throughout the building | - |

#36 Forage Building

The following table is a summary of the hazardous materials identified in the #36 Forage Building. Refer to Appendix 2b-23-24 for a diagram.

Table 43: #36 Forage Building Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------|---|--------------------|
| Mercury thermometers | Lab, Lunch Room and Cool Room | 3 |
| ODS – R12 | Main room (2 units) Cool room (1 unit) | 14.5 oz 8.0 oz |

#39 Apiculture Storage

There were no hazardous materials observed.

#40 Seed Storage

There were no hazardous materials observed.

#43 Soils Field Building

There were no hazardous materials observed.



#45 Chemical Storage

The following table is a summary of the hazardous materials identified in the #45 Chemical Storage.

Table 44: #45 Chemical Storage Hazardous Materials Summary for Beaverlodge

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|-------------|--------------------|
| Mercury thermostat | center room | 1 |
| Chemical | Building | - |

Cinder block Storage

There were no hazardous materials observed.

Tin Shed

There were some jerry cans with fuel, oil and fertilizer observed in this building.



4.4 ASSESSING RISK EXPOSURE FOR ASBESTOS

There are eight major factors which assist in evaluating the condition of a particular asbestos installation.

The eight factors include:

1. Condition of Material
2. Water Damage
3. Exposed Surface Area
4. Accessibility
5. Activity and Movement
6. Air Plenum or Direct Air Stream
7. Friability
8. Asbestos Content

These factors have been put together into the following tables to allow for assessment to determine the degree of risk associated with existing asbestos. The parameters in Table 17 are applied to the ACM to derive a risk rating. These risk ratings are then compared to Table 18 to determine what type of action is required.

Table 45: Assessing Risk Exposure

| FACTOR | DESCRIPTION | RATING OF RISK EXPOSURE |
|---------------------------|---|-------------------------|
| Accessibility of Material | Accessible in high activity areas | High (h) |
| | Accessible in low activity areas beyond the reach of the area occupants | Medium (m) |
| | Enclosed | Low (l) |
| Condition of Materials | Severely damaged | High (h) |
| | Mild to moderate damage | Medium (m) |
| | Good condition | Low (l) |
| Friability of Materials | Easily breaks apart | High (h) |
| | Mild to moderate friability | Medium (m) |
| | Non-friable | Low (l) |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.



Table 46: Determining Level of Control Required

| | ASBESTOS NOT PRESENT IN RETURN AIR PLENUM | | ASBESTOS PRESENT IN RETURN AIR PLENUM |
|----------------------------|--|---|---|
| | LESS THAN 20% ASBESTOS CONTENT IN MATERIAL | GREATER THAN 20% ASBESTOS CONTENT IN MATERIAL | |
| Immediate Control Required | 2 Hs or 3 Ms | 1 H or 2 Ms | Control required unless 3 Ls and less than 20% asbestos content in material |
| Control Required | 1 H or 2 Ms | 1 M | |
| No Control Required | 1 M or 3 Ls | 3 Ls | |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.

The table below outlines the results of the above methodology to determine priorities for dealing with ACM and which ACM may be causing a high risk to occupants of the building.

Table 47: ACM Risk of Exposure for Beaverlodge

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE (ACCESSIBLE) (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|---------------------------------|---|-----------|-------------------|---|------------------|
| A1 | White/ silver Sink insulation | #15 South lab sinks | Good | 1.4% (chrysotile) | (M)(L)(L) | No Control |
| A3a | White w/graygray 9x9 floor tile | #15 south lab floor tile E wall | Good | 1.3% (chrysotile) | (H)(L)(L) | Control |
| A5 | White w/graygray 9x9 floor tile | #15 south storage | Fair | 1.3% (chrysotile) | (M)(M)(L) | Control |
| A7a | White/ blue 12x12 floor tile | #15 west door way | Poor | 1.8% (chrysotile) | (M)(H)(L) | Control |
| A8a | White/ blue 12x12 floor tile | #15 main floor office | Poor | 1.6% (chrysotile) | (M)(H)(L) | Control |
| A9 | White/ blue 12x12 floor tile | #15 middle of north lab | Poor | 1.8% (chrysotile) | (M)(H)(L) | Control |
| A11 | GrayGray Counter top | #15 north lab counter on north wall | Fair | 20% (chrysotile) | (H)(M)(L) | Immediate |
| A15 | Drywall mud | #15 utility room NW corner | Good | 1.4% (chrysotile) | (L)(L)(H) | Control |
| A16 | Drywall mud | #15 utility room SW corner | Good | 1.6% (chrysotile) | (L)(L)(H) | Control |
| A18 | White w/blue 12x12 floor tile | #15 hallway utility room | Fair | 2.1% (chrysotile) | (M)(M)(L) | Control |
| A20 | GrayGray Counter top | #15 2 nd floor table adjacent stairs north | Poor | 15% (chrysotile) | (H)(H)(L) | Immediate |

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE (ACCESSIBLE) (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|------------------------------|--|-----------|--------------------|--|---------------------|
| A21 | Green Counter top | #15 2 nd floor table adjacent stairs east | Fair | 20% (chrysotile) | (H)(M)(L) | Immediate |
| A33 | Brown Linoleum | #1 main east door shoe rack | Fair | 25% (chrysotile) | (H)(M)(L) | Immediate |
| A37 | Drywall mud | #1 basement hall | Poor | 2.4% (chrysotile) | (L)(M)(H) | Control |
| A41 | Brown w/white 9x9 floor tile | #1 basement hallway floor | Fair | 1.6% (chrysotile) | (H)(M)(L) | Control |
| A42 | Drywall mud | #1 basement furnace room | Good | 1.8% (chrysotile) | (L)(L)(H) | Control |
| A46 | Silver Sink insulation | #1 basement dark room | Good | 1.4% (chrysotile) | (M)(L)(L) | No Control |
| A49 | Brown Squares lino | #1 basement conference room | Good | 25% (chrysotile) | (H)(L)(L) | Control |
| A51 | Drywall mud | #1 basement conference room SW corner | Good | 1.3% (chrysotile) | (L)(L)(H) | Control |
| A52 | Drywall mud | #1 basement kitchen SE corner | Good | 1.2% (chrysotile) | (L)(L)(H) | Control |
| A53 | Bronze Sink insulation | #1 basement kitchen sink | Good | 1.3% (chrysotile) | (M)(L)(L) | No Control |
| A56 | Brown Squares lino | #1 main floor storage east | Poor | 25% (chrysotile) | (H)(H)(L) | Immediate |
| A60 | Ceiling texture | #1 main floor hall in front of reception | Good | 3.5% (chrysotile) | (M)(L)(H) | Control |
| A61 | Ceiling texture | #1 main floor hall at east stairs | Good | 3.3% (chrysotile) | (M)(L)(H) | Control |
| A62 | Ceiling texture | #1 main floor office SW area | Good | 3.8% (chrysotile) | (M)(L)(H) | Control |
| A68 | Drywall mud | #1 2 nd floor office 20 NW corner | Good | 1.3% (chrysotile) | (L)(L)(H) | Control |
| A70 | Multi coloured Stucco | #1 exterior main entrance | Good | 1.3% (chrysotile) | (M)(L)(H) | Control |
| A71 | Multi coloured Stucco | #1 exterior main entrance | Good | 1.4% (chrysotile) | (M)(L)(H) | Control |
| A72 | Multi coloured Stucco | #1 exterior main entrance | Good | 1.3% (chrysotile) | (M)(L)(H) | Control |
| A75 | Brown/ white 9x9 floor tile | #1 basement hallway | Fair | 1.6% (chrysotile) | (H)(M)(L) | Control |
| A79 | Gray Caulking | #18 basement cooler #2 inside | Good | 10% (chrysotile) | (M)(L)(L) | No Control |
| A89 | Brown Vermiculite | #18 attic north | Good | 0.14% (actinolite) | (L)(L)(H) | Control |



| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE (ACCESSIBLE) (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|-----------------------------------|--|-----------|-----------------------|--|---------------------|
| A90 | Brown Vermiculite | #18 attic south | Good | 0.87% (actinolite) | (L)(L)(H) | Control |
| A91 | Brown Vermiculite | #18 attic south | Good | 0.93% (actinolite) | (L)(L)(H) | Control |
| A96 | Black/ silver Light insulation | #10 2 nd floor office 4 light fixture backing | Good | 95% (chrysotile) | (L)(L)(H) | Control |
| A98a | Brown 12x12 floor tile | #10 2 nd floor office 5 | Good | 1.4% (chrysotile) | (H)(L)(L) | Control |
| A102 | Silver/ black Light insulation | #10 main floor storage light | Good | 50% (chrysotile) | (L)(L)(H) | Control |
| A114a | Light brown 9x9 floor tile | #10 basement storage 7 | Poor | 2.0% (chrysotile) | (H)(H)(L) | Immediate |
| A115a | Dark brown 9x9 floor tile | #10 basement storage 7 | Poor | 3.25% (chrysotile) | (H)(H)(L) | Immediate |
| A116a | Light brown 9x9 floor tile | #10 basement storage 8 | Poor | 2.25% (chrysotile) | (H)(H)(L) | Immediate |
| A117a | Dark brown 9x9 floor tile | #10 basement storage 8 | Poor | 2.5% (chrysotile) | (H)(H)(L) | Immediate |
| A118 | Black Caulking | #10 basement cooler storage 5 | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A119 | Gray Caulking | #10 basement cooler storage 5 | Good | 10% (chrysotile) | (M)(L)(L) | No Control |
| A120 | White Pipe insulation | #10 basement storage 6 | Good | 50% (chrysotile) | (M)(M)(H) | Immediate |
| A121 | White Insulation | #10 basement furnace | Poor | 65% (chrysotile) | (M)(H)(H) | Immediate |
| A126 | Drywall mud | #10 2 nd floor office 6 closet | Good | 1.5% (chrysotile) | (L)(L)(H) | Control |
| A128 | Drywall mud | #10 2 nd floor storage closet | Good | 1.25% (chrysotile) | (L)(L)(H) | Control |
| A129 | Drywall mud | #10 main floor under electrical box | Good | 1.5% (chrysotile) | (L)(L)(H) | Control |
| A135a | Gray 12x12 floor tile | #14 entry tile under linoleum | Fair | 1.5% (chrysotile) | (H)(M)(L) | Control |
| A139 | Gray Cement board | #14 SW lab leaning on wall x 2 boards | Good | 25% (chrysotile) | (H)(L)(L) | Immediate |
| A141 | Bronze Sink insulation | #14 SW lab sinks | Good | 2.3% (chrysotile) | (M)(L)(L) | No Control |
| A143b | Black Mastic | #14 SW lab floor | Fair | 1.3% (chrysotile) | (L)(M)(M) | Control |
| A146 | Drywall mud | #14 furnace room walls | Fair | 2.1% (chrysotile) | (L)(M)(H) | Control |
| A150 | Drywall mud | #14 growth chamber room ceiling | Fair | 2.1% (chrysotile) | (L)(M)(H) | Control |
| A153a | Light brown 9x9 floor tile | #14 under stairs floor | Fair | 3.5% (chrysotile) | (H)(M)(L) | Control |

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE (ACCESSIBLE) (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|----------------------------|--|-----------|-----------------------|--|---------------------|
| A153b | Black Mastic | #14 under stairs floor | Poor | 1.2% (chrysotile) | (L)(H)(M) | Control |
| A154 | Dark brown 9x9 floor tile | #14 under stairs floor | Fair | 4.7% (chrysotile) | (H)(M)(L) | Control |
| A155a | Light brown 9x9 floor tile | #14 NW lab floor | Fair | 1.5% (chrysotile) | (H)(M)(M) | Control |
| A156a | Dark brown 9x9 floor tile | #14 NW lab floor | Fair | 4.8% (chrysotile) | (H)(M)(M) | Control |
| A156b | Black Mastic | #14 NW lab floor | Fair | 1.2% (chrysotile) | (M)(L)(M) | Control |
| A158 | Drywall mud | #14 NW lab ceiling | Fair | 1.8% (chrysotile) | (L)(M)(H) | Control |
| A160 | Gray Sink insulation | #14 NE lab sinks | Good | 1.7% (chrysotile) | (M)(L)(L) | No Control |
| A162 | Brown Squares sheet lino | #14 NE lab west corner | Poor | 20% (chrysotile) | (H)(H)(H) | Immediate |
| A166 | Gray Cement board | #14 power panel room | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A167a | Dark Gray 9x9 floor tile | #14 power panel room | Fair | 4.8% (chrysotile) | (H)(M)(L) | Control |
| A171a | White/ Gray 9x9 floor tile | #14 lab 1 north wall | Fair | 1.3% (chrysotile) | (H)(M)(L) | Control |
| A176 | White/ Gray Cement board | #14 upstairs hall SW corner | Poor | 25% (chrysotile) | (L)(M)(L) | Control |
| A177 | White/ Gray Cement board | #14 office 1 ceiling above stairs | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A178 | White/ Gray 9x9 floor tile | #14 office 2 nd floor NE corner | Good | 1.3% (chrysotile) | (M)(L)(L) | Control |
| A181 | Brown/ silver Vermiculite | #17 attic SE access | Good | 0.25% (actinolite) | (H)(L)(L) | Control |
| A182 | Brown/ silver Vermiculite | #17 attic SE access | Good | 0.25% (actinolite) | (L)(L)(H) | Control |
| A183 | Brown/ silver Vermiculite | #17 attic access | Good | Trace (actinolite) | (L)(L)(H) | Control |
| A184 | Drywall mud | #17 garage Ceiling SE | Good | 2.4% (chrysotile) | (M)(L)(L) | Control |
| A185 | Brown/ silver Vermiculite | #17 attic SE access | Good | 0.25% (actinolite) | (M)(L)(L) | Control |
| A186 | Drywall mud | #17 office SW corner | Good | 1.5% (chrysotile) | (L)(L)(H) | Control |
| A187a | Gray 12x12 floor tile | #17 office door | Good | 1.7% (chrysotile) | (H)(L)(L) | Control |
| A189a | Gray 9x9 floor tile | #17 washroom | Good | 1.6% (chrysotile) | (H)(L)(L) | Control |
| A190 | Drywall mud | #17 washroom NE corner | Good | 2.7% (chrysotile) | (L)(L)(H) | Control |
| A198 | Brown/ Gray Vermiculite | #35 cinder block wall | Good | 0.46% (actinolite) | (L)(L)(H) | Control |

| SAMPLE | DESCRIPTION | LOCATION | CONDITION | RESULT | RISK EXPOSURE (ACCESSIBLE) (CONDITION) (FRIABILITY) | CONTROL REQUIRED |
|--------|---------------------------|-----------------------------------|-----------|-----------------------|--|---------------------|
| A199 | Drywall mud | #26 threshing room south wall | Fair | 3.3% (chrysotile) | (L)(L)(H) | Control |
| A200 | Gray Cement Board | #26 threshing room NW enclosure | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A204 | Drywall mud | #26 seed storage | Poor | 3.2% (chrysotile) | (L)(H)(H) | Immediate |
| A206 | Gray/ white Cement board | #26 furnace room south wall | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A207 | Drywall mud | #26 furnace room east wall | Poor | 3.7% (chrysotile) | (L)(H)(H) | Immediate |
| A208 | Drywall mud | #26 air drying room | Good | 2.5% (chrysotile) | (L)(L)(H) | Control |
| A212 | Gray Cement counter top | #26 office 3 south and east walls | Good | 25% (chrysotile) | (H)(L)(L) | Immediate |
| A214a | Green 9x9 floor tile | #26 washroom hall south | Poor | 1.3% (chrysotile) | (H)(H)(L) | Immediate |
| A216 | Drywall mud | #26 woman's washroom west | Poor | 3.1% (chrysotile) | (L)(H)(H) | Immediate |
| A217 | Drywall mud | #26 office 4 east wall | Fair | 2.9% (chrysotile) | (L)(M)(H) | Control |
| A218 | Drywall mud | #26 main hall south wall | Fair | 2.7% (chrysotile) | (L)(M)(H) | Control |
| A224 | Drywall mud | #26 main hall at attic stairs | Fair | 2.0% (chrysotile) | (L)(M)(H) | Control |
| A225 | Brown/ silver Vermiculite | #26 Attic north west | Good | 0.75% (actinolite) | (L)(L)(H) | Control |
| A226 | Brown/ silver Vermiculite | #26 Attic middle east | Good | 1.25% (actinolite) | (L)(L)(H) | Control |
| A227 | Brown/ silver Vermiculite | #26 Attic south east | Good | 1.5% (actinolite) | (L)(L)(H) | Control |

According to the above risk assessment the following ACM items should be dealt with immediately:

#1 Administration Office

- Shoe rack covered in brown linoleum near the east main door
- Brown squares sheet linoleum in the east storage room on the main floor

#10 Canola Laboratory

- Light brown and dark brown 9x9 floor tile in storage rooms 7 and 8 in the basement
- White insulation around the furnace in the basement
- Pipe insulation in the coolers



#14 Soils Research Building

- Gray cement board in the SW lab (leaning on walls)
- Brown squares sheet linoleum in the west corner of the NE lab

#15 Ecology Building

- Gray countertops in north lab along north wall and on the 2nd floor table adjacent to the stairs (north)
- Green countertop on the 2nd floor table adjacent to the stairs (east)

#17 Carpenter Shop

- Vermiculite insulation leaking out of the ceiling located in the storage area above the office

#26 Storage

- Water damaged drywall mud in the seed storage room, east wall of the furnace room, and west women's washroom
- Gray cement countertop along the south and east walls of office #3 and Lab 2
- Damaged green 9x9 floor tiles in the south hall washroom

4.5 CONCLUSIONS

➤ ASBESTOS

- The **plumbing insulation** in storage rooms 4 and 5 and around the boiler in #10 Canola laboratory contains from 50% to 85% chrysotile asbestos.

Any ACM plumbing insulation which is exposed or damaged (the protective wrap has been damaged or removed and there is water damage) may cause a high risk of exposure to occupants.

The ACM pipe insulation in storage rooms 4 and 5 is in fair condition and does not contain a wrap to enclose the ACM insulation. The white boiler insulation is in poor condition, is highly friable and is moderately accessible. It also has an extremely high asbestos content. The risk of exposure is high and the insulation should be removed immediately.

- The **vermiculite insulation** in several of the buildings contains up to 1.5% actinolite asbestos.

The ACM vermiculite insulation is located in the attics of #17 Carpenter shop, #18 Apiculture laboratory, #26 Storage as well as the ceiling of #17 Carpenter shop and #35 Garage (cinder block wall).

Although all of the insulation in the attics and in the wall was in good condition and does not require immediate abatement, the insulation leaking out of the ceiling in #17 Carpenter shop does pose a high risk of exposure and should be abated immediately.

Also, there was a small storage area in the attic in #26. There were cloth bags and some other items stored in this area and due to the squirrel activity (and other activity) there was ACM vermiculite insulation scattered throughout this area. This area is high risk and should be abated.

The vermiculite insulation poses a relatively high risk of exposure when it is disturbed because it is highly friable.

- The **drywall mud** in several of the buildings contains up to 3.7% chrysotile asbestos.

The ACM drywall mud is located in #1 Administration office 2nd floor and basement, #10 Canola laboratory main and 2nd floors, #14 Soils research building, #15 Ecology building SW and NW corner of the utility room, #17 Carpenter shop and #26 Storage building.



All areas of the above buildings contain various amounts of drywall on either the walls or ceiling. Most of the drywall mud tested was in fair to good condition and does not present a high risk of exposure. The following locations contain drywall mud that is in poor condition and presents a high risk of exposure requiring immediate abatement;

- Water damaged drywall mud in the seed storage room, the furnace room, west women's washroom in the #26 Storage building.
- There are several different patterns of **floor tiles** that contain up to 4.8% chrysotile asbestos. The tile patterns are: white with gray, white with blue, brown with white, brown, light brown, dark brown, gray, dark gray and green and are located as follows:

The brown with white 9x9 tiles are located in #1 Administration office basement hallway. The brown 12x12 tiles are located in #10 Canola laboratory on the 2nd floor in office #5. The light brown and dark brown 9x9 tiles are located in #10 Canola laboratory in storage rooms #7 and #8 in the basement. Also light brown and dark brown 9x9 tiles are located in #14 Soils research building under the stairs and in the NW lab. The gray 12x12 floor tiles are located in #14 Soils research building in the entrance. The dark gray 9x9 floor tiles are located in #14 Soils research building in the power panel room. The white with gray 9x9 floor tiles are located in #14 Soils research building on the 2nd floor. The white with gray 9x9 tiles are located in #15 Ecology building north and south storage, washroom and hallway. The white with blue 12x12 tiles are located in #15 Ecology building north and south lab, office and entry. The gray 9x9 and 12x12 tiles are located in the #17 Carpenter shop office door and washroom. The green and white/gray 9x9 tiles are located in #26 Storage building in the washrooms and washroom hallway, lab 1 and office 2, 3 and 4.

In most cases, no asbestos found in the associated mastic or leveling compound. ACM floor tiles without asbestos in the mastic pose a low risk of exposure as long as they are in good condition. The exception was #14 Soils research building in the SW and NW lab and under the stairs. ACM floor tiles with asbestos in the mastic pose a moderate risk of exposure if the tiles deteriorate.

Most of the floor tiles tested were in fair to good condition and do not present a high risk of exposure. The following locations had floor tiles that were in poor condition and present a high risk of exposure and require immediate abatement;

- The light brown and dark brown 9x9 tiles are located in #10 Canola laboratory in storage rooms #7 and #8 in the basement.
- The green 9x9 tiles are located in #26 Storage building on the south washroom hall.

- The brown and brown squares **linoleum sheet flooring** contain between 20% and 25% chrysotile asbestos.

The brown squares flooring in #1 Administration office was located in the basement conference room, kitchen as well as in the 2nd floor offices #18 and #20. These were in good condition and therefore only require control. The brown linoleum shoe rack (east door) and the brown squares flooring (storage rooms on the main floor and) in #1 Administration building are in poor condition and present a high risk of exposure requiring immediate abatement. The brown squares flooring in #14 Soils research building in the the NE lab are in poor condition and present a high risk of exposure requiring immediate abatement.

- The gray and white/gray **transite boards** located in #14 Soil research building, #17 Carpenter shop and #26 Storage building contain 25% chrysotile asbestos.

In building #14, the white/gray cement boards in the 2nd floor walls, ceiling and floor and the gray boards in the power panel room were in good condition. The cement boards pose a moderate risk of exposure because they are moderately accessible and access should be controlled. In building #26, the gray cement boards in the NW enclosure of the threshing room and the gray/white boards on the south wall of the furnace room were in good condition. The cement boards pose a moderate risk of exposure because they are moderately accessible and access should be controlled.

The panel boards are a low hazard as long as they are not disturbed. If the boards need to be disturbed by cutting, drilling, etc. they will release asbestos fibres and become a high risk hazard.

In building #14, the two gray ACM cement boards observed in the SW lab were in good condition. There are also two transite boards leaning against the wall in building #17. The cement boards pose a high risk of exposure because they are highly accessible although non-friable. The white/gray cement boards observed in the SW corner of the upstairs hall were in poor condition and moderately accessible, therefore a presenting a high risk of exposure.

- There is an **insulating coating under the sinks** located in the basement dark room and basement kitchen of #1 Administration building, the SW and NE labs of #14 Soil research building, south lab of #15 Ecology building that contain asbestos.

There is a low asbestos content, low friability and moderate accessibility. The above sinks insulations do not pose a risk to occupants.



- There is **interior caulking** located on the basement cooler (gray and black) storage 5 in #10 Canola laboratory and the basement cooler (gray) inside #18 Apiculture laboratory which contains 10% to 25% chrysotile asbestos.

The caulking has a moderate to high asbestos content, low friability and is in good condition. As long as the condition of the caulking does not deteriorate there is a low risk of exposure.

- The **countertops** in #15 Ecology building and #26 Storage building contain between 15% and 25% chrysotile asbestos.

The gray and green countertops were located along the north wall of the north lab, table adjacent to the east and north stairs on the 2nd floor in the #15 Ecology building. Also, a gray countertop was present along the south and east walls of office #3 and Lab 2 of #26 Storage building.

The countertops ranged in condition from poor to good and all are highly accessible. They also have a high asbestos content and can be damaged making them highly friable. The risk of exposure is high for all ACM containing countertops and they should be immediately abated.

- The white **ceiling texture** in the hall from the reception area to the east stairwell and office 3, all of which are on the main floor, in #1 Administration office contains up to 3.8% chrysotile asbestos.

The ceiling texture is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate as long as the texture ceiling stays in good condition and should be controlled.

- The **exterior stucco** on the main entrance of the #1 Administration office contains up to 1.4% chrysotile asbestos.

The stucco is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate and should be controlled.

- The black/silver **light insulation** in the west hallway in the basement, storage room, NE entrance, main entrance, W-N lab on the main floor and in the hallway, storage, office (4, 8 & 10) and stairway on the 2nd floor and office #4 light fixture backing in #10 Canola laboratory contains between 50 to 95% chrysotile asbestos. There was a light fixture being stored in the storage area above the office of #17 Carpenter Shop.

The light insulation is in good condition, is highly friable and is not accessible. It also has an extremely high asbestos content. The risk of exposure is moderate and should be controlled.



The light fixture in the storage area above the office in #17 Carpenter shop is not in use and is a higher risk because it is not enclosed and is accessible.

➤ **LEAD**

There is lead based paint located:

- Black interior lead paint in the dark room in the basement of #1 Administration Office
- White/yellow interior paint in the #10 Canola Laboratory basement in storage rooms 1, 2, 3 and 9
- White exterior paint located in:
 - #1 Administration Office doors and windows trim
 - #10 Canola Lab doors and windows trim
 - #14 Soils Research Building exterior door and window trim
 - #18 Apiculture Building exterior
- White interior paint in the #15 Ecology building on the walls and ceiling of the 2nd floor
- Blue exterior paint on the #17 Carpenter shop

Every building contained batteries such as button cell, emergency lights, alarm systems, equipment battery packs, etc. which contain lead.

➤ **PCBs**

- There were **fluorescent light fixtures** found throughout the entire site, forty of which were identified to contain PCBs. It is understood some buildings on site have been retrofitted and there are fluorescent light ballasts of concern on site.
- PCB containing fluorescent light ballasts were noted in the site buildings were as follows: three in #10 Canola Laboratory, eight in #14 Soils Research, one in #17 Carpenter Shop and twenty-eight in #26 Storage.

➤ **MERCURY**

- Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings.
- There was one **mercury thermostat** in #10 Canola Laboratory, two in #14 Soils Research Building, one in #15 Ecology Building, one in #17 Carpenter Shop, one in #25 Honey Extraction Building, one in the #26 Storage and one in #45 Chemical Storage.



- There was two **mercury thermometers** in #14 Soils Research Building, one in #26 Storage and three in #36 Forage Building.

➤ **OZONE DEPLETING SUBSTANCES**

- Many of the ODS in the building had already been removed. Nine fridges, three freezers, three incubators and one growth chamber all **containing R-12** still remained on site.
- One **ODS containing fridge** was observed in #1 Administration, two in #10 Canola Laboratory, three in #14 Soils Research Building, one in #15 Ecology Building and two in #36 Forage Building.
- One **ODS containing freezer** was observed in #15 Ecology Building, one in #18 Apiculture Laboratory and one in #36 Forage Building.
- Three **ODS containing incubators** were observed in #10 Canola Laboratory.
- One **ODS containing growth chamber** was observed in #14 Soils Research Building.

➤ **RADIOACTIVE MATERIALS**

- Twelve **radioactive smoke detectors** were found on the subject site, three in #1 Administration, one in #14 Soils Research Building, one in #18 Apiculture Laboratory and seven (stored in box) in the #35 Garage.
- Five were in use and seven were being stored.

➤ **MISCELLANEOUS CHEMICALS**

- Miscellaneous chemicals such as various laboratory chemicals, paint, solvents, rat/mouse poisons, oils, anti-freeze, fuel, fertilizer, ATF, WD-40, etc. were observed on site.

Miscellaneous chemicals were observed at #10 Canola Laboratory, #14 Soil Research Building, #15 Ecology Building, #17 Carpenter Shop, , #25 Honey Extraction Building, #35 Garage, #44 Chemical Storage and the tin shed.

- **Fume hood filter systems** were observed at #10 Canola Lab, #14 Soils Research Lab, #15 Ecology Building and #18 Apiculture Laboratory. Depending on the use of the fume hood, there may be specific requirements for removal and disposal.



➤ **MOULD**

- **Water damage** which can lead to mould growth was observed at the following locations: #10 Canola Laboratory, #14 Soil Research Building, #15 Ecology Building, #17 Carpenter Shop, #26 Storage Building and #25 Honey Extraction building.
- **Mould growth** was observed approximately 0.3m above the floor in the entire basement of #10 Canola Laboratory and approximately 2m² in the women's washroom in #26 Storage.

➤ **OTHER**

Building #26 Storage has an extensive rodent problem in the attic. Several deceased squirrels and mice were observed. The squirrels are nesting in the attic space and disturbing/redistributing the ACM vermiculite.



4.6 RECOMMENDATIONS

➤ ASBESTOS

The table below summarizes the extent and potential impact of the asbestos in the building.

Table 48: Extent and Recommendations of ACM for Beaverlodge

| ACM | EXTENT | IMPACT* |
|---------------------------------|--|--|
| No Issues (currently) | Caution | Immediate abatement |
| #1 Administration Office | | |
| Drywall Mud | Half of building Estimated: 580 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Floor Tiles | Basement hallway (brown/white tiles) Estimated: 8 m ² | As long as the tiles are in good to fair condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and they should be abated. |
| Sheet Linoleum | Basement (brown squares) Estimated: 100 m ² 2 nd Floor (brown squares) Estimated: 30 m ² | The brown squares flooring in the basement conference room, hall and kitchen along with the 2 nd floor offices #18 and #20 were in good condition and therefore only requires being controlled. |
| Sheet Linoleum | Shoe rack (brown) Estimated: 1 m ² Main Floor (brown squares) Estimated: 30 m ² | The brown linoleum shoe rack and the brown squares flooring (storage rooms on the main floor) are in poor condition and present a high risk of exposure requiring immediate abatement. |
| Sink insulation | Basement dark room and kitchen Estimated: 2 sinks | The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks or educating occupants using this space. |
| Ceiling Texture | Main floor entrance, east hallway and office 3 Estimated: 85 m ² | The ceiling texture is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate and should be controlled. |
| Stucco | Exterior Estimated: 440 m ² | The stucco is in good condition, is highly friable and is moderately accessible. It also has a low asbestos content. The risk of exposure is moderate and should be controlled. |
| #10 Canola Laboratory | | |
| Floor Tiles | 2 nd floor office 5 (brown tiles) Estimated: 20 m ² | As long as the tiles are in good condition, there is low risk. The brown tiles on the 2 nd floor were in good condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and should be abated. |

| ACM | EXTENT | IMPACT* |
|---|--|---|
| Floor Tiles | Basement storage 6 & 7 and hallways (light and dark brown) Estimated: 45 m ² | The light and dark brown tiles in the basement were in poor condition. This presents a high risk of exposure, requiring immediate abatement. |
| Drywall Mud | Entire main floor, 2 nd floor and 2 rooms in basement Estimated: 1600 m ² | The majority of the drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. The drywall in the basement was water damaged and should be abated immediately |
| Pipe Insulation | Basement coolers (storage 4 & 5) Estimated: 8 m | The pipe insulation around the coolers is currently in fair condition. However, it was not enclosed with a pipe wrap and therefore accessible. There is a high risk to occupants if the ACM wrap is damaged or the ACM is exposed. This exposed insulation should be abated immediately |
| Light Insulation | Basement-west hallway Estimated: 1 Main floor-W-N lab, NE & main entrance, storage room Estimated: 4 2 nd floor-hallway, storage, office 4, 8, 10 and stairway Estimated: 7 | The light insulation is in good condition, is highly friable and is not accessible. It also has an extremely high asbestos content. The risk of exposure is moderate and should be controlled. |
| Interior Caulking | Basement coolers (storage 4 & 5) Estimated: 1 m | The caulking is located in a relatively unused area and is in good condition. There is little risk to the occupants. |
| Boiler Insulation | Basement furnace room boiler Estimated: 1 unit (1.5 m ³) | The insulation is in poor condition, is highly friable and is moderately accessible. It also has high asbestos content. The risk of exposure is high and the insulation should be removed immediately. |
| #14 Soils Research Building (demolition) | | |
| Floor Tiles without asbestos mastic | 1 st floor entry (gray 12x12) Estimated: 20 m ² 2 nd floor-power panel room (dark gray 9x9) Estimated: 8 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. These floor tiles do not need to be abated prior to demolition. |
| Floor tiles with asbestos mastic | 1 st floor-SW lab, 2 nd floor-all (white/gray 9x9) Estimated: 170 m ² 1 st floor-1 st floor-NW lab, under stairs (light & dark brown 9x9) Estimated: 55 m ² | As long as the tiles are in good condition, there is low risk. The majority of the tiles were in fair condition and pose a low risk of exposure. These floor tiles must be abated before demolition. |
| Sheet Linoleum | 1 st floor-NE lab, hallway, growth chamber room, washroom (brown squares) Estimated: 84 m ² | The brown squares flooring is in poor condition and presents a high risk of exposure requiring immediate abatement. This linoleum needs to be abated prior to demolition |

| ACM | EXTENT | IMPACT* |
|-----------------------------|--|---|
| Transite Boards | 2 nd floor-walls, ceiling, floor Estimated: 600 m ² | <p>The panel majority boards are only moderately accessible and are in good condition. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All maintenance staff should be educated and trained regarding this ACM.</p> <p>The 2 transite boards leaning on the wall of SW lab and on the 2nd floor in the SW corner of the hall are both highly accessible and pose a risk.</p> <p>All the transite board needs to be abated before demolition.</p> |
| Sink insulation | 1 st floor-SW lab (bronze) 1 st floor-NE lab (gray) Estimated: 4 sinks | <p>The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not touched or disturbed.</p> <p>The sink insulation (or entire sink unit) needs to be abated before demolition.</p> |
| Drywall Mud | 1 st floor-SW lab, NW lab, furnace room Estimated: 200 m ² | <p>The majority of the drywall mud was in fair condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure.</p> <p>All drywall needs to be abated before demolition.</p> |
| #15 Ecology Building | | |
| Sink insulation | 1 st floor-S lab (white/silver) Estimated: 2 sinks | <p>The sink insulation is in good condition and was observed in a cabinet. There is low risk as long as the insulation is not disturbed. Controls should be implemented to ensure the non-disturbance of this ACM, including the restriction of storage of items under the sinks or educating occupants using this space.</p> |
| Floor Tiles | 1 st floor-north & south lab, office, entry (blue/white 12x12) Estimated: 90 m ² 1 st floor-north & south storage, washroom, hallway (white/gray 9x9) Estimated: 60 m ² | <p>As long as the tiles are in good condition, there is low risk. The tiles were in fair to good condition and pose a low risk of exposure. If the condition of the tiles deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated.</p> |
| Countertops | 1 st floor-N lab, 2 nd floor-north side adj. to stairwell (gray) Estimated: 3.3 m ² 2 nd floor-east side adj. to stairwell (green) Estimated: 0.84 m ² | <p>The countertops ranged in condition from poor to good and all are highly accessible. They also have a high asbestos content and can be damaged. The risk of exposure is high for all ACM containing countertops and they should be immediately abated.</p> |
| Drywall Mud | 1 st floor-furnace room (yellow) Estimated: 38 m ² | <p>The drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and should be abated.</p> |

| ACM | EXTENT | IMPACT* |
|----------------------------------|--|--|
| #17 Carpenter Shop | | |
| Vermiculite Insulation | Attic Estimated: 225m ² | The insulation leaking out of the ceiling in the storage area above the office does pose a high risk of exposure and should be abated immediately. The vermiculite insulation is undisturbed in the main portion of the ceiling. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| Drywall Mud | Entrance hallway, office, utility room, washroom, ½ walls in paint storage room Estimated: 164 m ² | The drywall mud was in good condition. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Floor Tiles | Office (gray 12x12) Estimated: 16 m ² Washroom (gray 9x9) Estimated: 6 m ² | The floor tiles were in good condition. As long as the tiles are in good condition, there is low risk. Any damaged tiles should be removed and replaced. |
| Transite Boards | Leaning against wall (2) Estimated: 2.16 m ² | The 2 transite boards leaning on the wall are highly accessible, non-functional and are in poor condition posing an immediate risk. These boards should be removed. |
| Light Insulation | Incandescent light fixture stored in crawl space above office Estimated: 1 | The light insulation is in good condition, is highly friable and is not accessible. It also has a high asbestos content. The risk of exposure is moderate and should be controlled. |
| #18 Apiculture Laboratory | | |
| Interior Caulking | Basement coolers (storage 1-4) Estimated: 2 m | The caulking has a moderate to high asbestos content, low friability and is in good condition. As long as the condition of the caulking does not deteriorate there is a low risk of exposure. |
| Vermiculite Insulation | Attic Estimated: 110 m ² | The vermiculite insulation is undisturbed. If the asbestos containing vermiculite remains undisturbed there is little risk to occupants. If personnel are required to access this area, they must wear proper personal protective equipment (PPE) to avoid potential exposure to airborne fibres. Abatement should be considered where maintenance work is required that may disturb the vermiculite. |
| #26 Storage | | |
| Transite Boards | NW corner of the threshing room & NE corner of the furnace room Estimated: 11 m | They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All relevant staff should be educated and trained regarding this ACM. |
| Floor Tiles | Washrooms, hallway, office 4 (green 9x9) Estimated: 50 m ² Lab 1 and office 2 & 3 Estimated : 30m ² | The tiles are in poor condition and pose a medium risk. The damaged tiles should be immediately abated and replaced. |

| ACM | EXTENT | IMPACT* |
|------------------------|--|---|
| Vermiculite Insulation | Attic Estimated: 540 m ² | High risk to occupants if the ACM is exposed and disturbed. This insulation is disturbed by the rodent activity and storage of miscellaneous items in the attic. There is insulation leaking from the ceiling into certain rooms, where there is a high risk of exposure. There is also water damage on the ceiling which is holding the ACM in place. This ACM should be abated immediately. |
| Drywall Mud | Entire building (walls & ceiling) Estimated: 1210 m ² | The drywall mud was in good condition with the exception of certain areas with water damage. If the drywall mud is in good condition and not disturbed there is low risk of exposure. If the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and should be abated. The drywall mud which is in poor condition (water damaged) can lead to a high risk of exposure and should be abated. |
| Counter Top | Lab 2, office 3 (gray) Estimated: 14 m ² | The countertops were in good condition and are highly accessible. They also have a high asbestos content and can be damaged. The risk of exposure is high for all ACM containing countertops and they should be immediately abated. |
| #35 Garage | | |
| Vermiculite | Transecting center portion of shop (brown/gray cinder block) Estimated: 80 m ² | This insulation is contained within the cinderblock wall and is in good condition. There is only a high risk to occupants if the ACM is exposed and disturbed. If the vermiculite remains undisturbed there is little risk to occupants. However, if there is to be any demolition to the wall, the vermiculite should be abated first. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.

Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.



➤ LEAD

There are several areas which contain lead based paint in the buildings. Lead based paint does not pose a risk unless it is disturbed and dust is created allowing for the lead to become airborne. Also, all batteries (emergency lights, alarm systems, miscellaneous) should be recycled and properly disposed of. The table below summarizes the locations and extent of the lead based paint.

Table 49: Extent and Recommendations of Lead Based Paint for Beaverlodge

| LEAD PAINT | EXTENT | IMPACT* |
|--|--|---|
| #1 Administration Office | | There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. Disturbance of lead based paint causes the release of lead in the dust. If the lead based paint is to be disturbed, then the workers must wear appropriate PPE. When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition. |
| Exterior White | Doors frames and window trim Total Estimate: 3 doors and 42 windows | |
| Interior Black | Basement dark room Total Estimate: 30 m ² | |
| #10 Canola Laboratory | | |
| Interior White/yellow | Basement storage rooms 1, 2, 3 and 9 Total Estimate: 120 m ² | |
| Exterior White | Door frames and window trim Total Estimate: 4 doors and 38 windows | |
| #14 Soils Research Building (demolition) | | |
| Exterior White | Door frames and window trim Total Estimate: 3 doors and 14 windows | |
| #15 Ecology Building | | |
| Interior White | 2 nd floor walls and ceilings Total Estimate: 150 m ² | |
| #17 Carpenter Shop | | |
| Exterior Blue | Exterior Total Estimate: 350 m ² | |
| #18 Apiculture Building | | |
| Exterior White | Door frames, window trim and siding Total Estimate: 110 m ² | |

*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.

➤ PCBs

All fluorescent light ballasts should be checked for PCBs at the time of removal using the most current version of Environment Canada publication: Identification of Lamp Ballasts Containing PCBs. Those that do contain PCBs must be handled, packaged and disposed of by the current regulations and personnel must be equipped with proper personal protection equipment.

The following outlines known PCBs of concern:

Table 50: Extent and Recommendations of PCB Containing Light Ballasts for Beaverlodge

| PCB | EXTENT | IMPACT* |
|----------------------------|--|---|
| #10 Canola Laboratory | | As long as the PCB containing fluorescent light ballasts are in good condition and not damaged and PCBs remain enclosed (not leaking) there is low risk to occupants. |
| Fluorescent Light Ballasts | Second floor S.W. office and lunch room (*leaking) Total Estimate: 3 | |
| #14 Soil Research Building | | |
| Fluorescent Light Ballasts | Main floor S.W. lab (*2 leaking) and second floor labs one and two (*1 leaking) Total Estimate: 8 | |
| #17 Carpenter Shop | | |
| Fluorescent Light Ballasts | Total Estimate: 1 | It is recommended all leaking fluorescent light ballasts are removed and disposed immediately. |
| #26 Storage | | |
| Fluorescent Light Ballasts | Total Estimate: 28 | |

➤ MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. All mercury containing items should be stored to protect from breakage and recycled according to the applicable regulations.

The following outlines mercury containing materials of concern:



Table 51: Extent and Recommendations of Mercury Containing Materials for Beaverlodge

| MERCURY | EXTENT | IMPACT* |
|-------------------------------|--|--|
| #10 Canola Laboratory | | <p>As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants.</p> <p>Any mercury items should be recycled and disposed according to current regulations.</p> |
| Thermostats | 1 st floor hallway Total Estimate: 1 | |
| #14 Soils Research Building | | |
| Thermostats | 1 st floor hallway and 2 nd floor lab 1 | |
| Thermometers | 1 st floor growth chamber Total Estimate: 2 thermostats and 2 thermometers | |
| #15 Ecology Building | | |
| Thermostats | 1 st floor hallway Total Estimate: 1 | |
| #17 Carpenter Shop | | |
| Thermostats | N.W. corner of shop Total Estimate: 1 | |
| #25 Honey Extraction Building | | |
| Thermostats | Main area on west wall Total Estimate: 1 | |
| #26 Storage | | |
| Thermostats | Air drying room | |
| Thermometers | Cooler Total Estimate: 1 thermostat and thermometers | |
| #36 Forage Building | | |
| Thermometers | Lab, lunch room and cool room Total Estimate: 3 | |
| #45 Chemical | | |
| Thermostats | Center room Total Estimate: 1 | |

➤ OZONE DEPLETING SUBSTANCES

The following outlines the ODS containing materials of concern:

Table 52: Extent and Recommendations of Ozone Depleting Substances for Beaverlodge

| ODS | | EXTENT | IMPACT* |
|-----------------------------|---|--------|--|
| #1 Administration | | | The ODS units should be recycled/recovered by a qualified and experienced worker according to ozone depleting substance and halocarbons regulations. |
| Mini-fridge | Main floor storage Total Estimate: 1 (1 oz R12) | | |
| #10 Canola Laboratory | | | |
| Fridges | 2 nd floor office 2 | | |
| Incubators | Total Estimate: 1 fridge (5 oz R12),1 fridge (5.25 oz R12), and 3 incubators (27 oz R12 total) | | |
| #14 Soils Research Building | | | |
| Fridges | 1 st floor growth chamber room, 1 st floor N.W. lab and 2 nd floor lab 2 | | |
| Growth Chamber | Total Estimate: 1 growth chamber (unknown amount R12), 1 fridge (5 oz R12), 1 fridge (4.2 oz R12) and 1 fridge (4.75 oz R12) | | |
| #15 Ecology Building | | | |
| Fridge Freezer | Total Estimate: 1 suspect fridge and 1 suspect freezer | | |
| #18 Apiculture Laboratory | | | |
| Freezer | Total Estimate: 1 freezer (unknown R12 amount) | | |
| #36 Forage Building | | | |
| Fridges Freezers | Total Estimate: 1 fridge (7.1 oz R12), 1 fridge (7.4 oz R12) and freezer (8.0 oz R12) | | |

➤ RADIOACTIVE MATERIALS

The following outlines radioactive materials of concern:

Table 53: Extent and Recommendations of Radioactive Materials for Beaverlodge

| RADIOACTIVE MATERIAL | EXTENT | IMPACT* |
|-----------------------------------|--|---|
| #1 Administration | | When radioactive materials are not in use and are to be disposed of they should be disposed of according to the current regulations of the Nuclear Safety Control Act and Nuclear Substances and Radiation Devices Regulations. Radioactive smoke detectors, in quantities of 10 or less, may be disposed in normal household garbage. |
| Smoke detectors | Basement hallway, main floor hallway and 2 nd floor east hallway Total Estimate: 3 | |
| #14 Soils Research Building | | |
| Smoke detector | 2 nd floor hallway Total Estimate: 1 | |
| #18 Apiculture Laboratory | | |
| Smoke detector | Basement under stairs on shelf Total Estimate: 1 | |
| #35 Garage | | |
| Smoke detectors (stored in a box) | 2 nd floor north side shelving Total Estimate: 7 | |

➤ MISCELLANEOUS CHEMICALS

All miscellaneous chemicals need to be disposed and stored according to current regulations and manufactures recommendations.

➤ MOULD

The following outlines mould and water damaged areas of concern:

Table 54: Extent and Recommendations of Mould Growth and Water Damage for Beaverlodge

| MOULD/WATER DAMAGE | EXTENT | IMPACT* |
|-----------------------------|--|---|
| #10 Canola Laboratory | | It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated. The areas with visible 'suspect' mould growth should be abated immediately. |
| Water damage | Basement and main floor storage room | |
| Mould | Total Estimate: 190m ² | |
| #14 Soils Research Building | | |
| Water damage | 1 st floor furnace room, 1 st floor N.W. lab and 2 nd Lab 2 | |
| | Total Estimate: 3.5m ² | |
| #15 Ecology Building | | |
| Water damage | Chimney areas | |
| | Total Estimate:1 m ² | |
| #17 Carpenter Shop | | |
| Water damage | Basement area | |
| | Total Estimate: unknown | |
| #25 Honey Extraction | | |
| Water damage | Ceiling tile | |
| | Total Estimate: 0.3 m ² | |
| #26 Storage | | |
| Water damage | Threshing room, office 1, seed storage room, furnace room, air drying room, men's washroom, women's washroom, main hallway and attic | |
| Mould | Total Estimate: 4 m ² mould and 7 m ² water damage | |

➤ PESTS

#1 Administration Office had a significant amount of squirrels and mice disturbing the ACM vermiculite. A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where they may be present, and how to proceed if they observe some suspect materials.

A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.



5.0 FORT VERMILLION

The following are the results of the investigation at the Fort Vermillion Research Centre. Please refer to Appendix 3 for a detailed room description, sampling diagrams, a photographic log and a copy of the laboratory reports.

5.1 SCOPE OF WORK

The hazardous materials assessment includes:

- assessment and sampling of suspect materials which may contain asbestos and lead based paint;
- assessment of polychlorinated biphenyls (PCB), mercury, ozone-depleting substances (ODS), radioactive materials and mould;
- analysis and reporting of findings with recommendations.

5.2 SITE DESCRIPTION

The subject site is located at the Fort Vermillion Research Center situated just west of the Town of Fort Vermillion, AB. The site consists of thirteen different buildings, twelve of which are included in this audit.

#2 ADMINISTRATION OFFICE

The building is mixed construction with the exterior walls consisting of wood and concrete stucco and the roof is tar/gravel. The administration block is a two-story with a basement. The interior walls were either drywall or plaster on wood studs. The floors consisted of concrete, tile, laminate or linoleum. Excessive water damage was noted on the ceilings on the main and upper levels. The north portion of the building has appeared to shift as there was a large crack in the walls through both levels. The building has an estimated area of 720 m². The building is scheduled for demolition and subsequently, there are no services to the building.

#6 GARAGE AND STORAGE

The building is mixed construction with the exterior walls consisting of wood siding and a metal roof. The interior walls and ceiling was wood plank with a dirt floor. There were wood chips for insulation. There are six metal garage doors. The garage has an estimated area of 120 m².

#14 DRYING AND THRESHING SHED

The building is mixed construction with the exterior walls consisting of wood siding over a wood frame and a metal roof. Wood chips are used for insulation and the floor is painted concrete. This building has an estimated area of 80 m².



#23 WORKSHOP AND OFFICE

The building consists of exterior wood siding which was painted white and a metal roof. The floor is painted concrete and there are two drain/pipe sumps. The workshop has an estimated footprint of 160 m².

#33 PROCESSING AND CARPENTER SHOP

The building consists of exterior wood siding which was painted white on red and a metal roof. The floor was painted concrete and there were two sump pits. Mouse feces were noted around the building. The workshop has an approximate footprint of 140 m².

#37 DRYING SHED

The building is mixed construction with the exterior walls consisting of metal siding over wood boards and a metal roof. The floor is concrete and asbestos boards covered the walls and ceiling. The shed has an approximate area of 18 m².

#57 SEWAGE LIFT PUMP HOUSE

The building is mixed construction with the exterior walls consisting of wood siding which was painted white and a metal roof. The painted concrete floor inside was in poor condition. The pump house has an approximate area of 20 m².

#59 TIN BARN STORAGE

The building is mixed construction with the exterior walls consisting of metal siding over treated wood and a metal roof. There was no insulation present and farm equipment was stored inside. The barn has an approximate area of 200 m².

#60 DUPLEX HOUSE

The building consists of exterior stucco on cement on wood framing. There are asphalt shingles on the roof and red paint on the window trim and eaves trough. It is a two-story building with two separate living units. There was a basement on each side. The duplex has an approximate footprint of 150 m².

#60a GARAGE

The building consists of exterior wood siding on wood framing. There are asphalt shingles on the roof and red paint on the window trim and eaves trough. The floor is a concrete slab. The garage has an area of approximately 45 m².



#62 WEIGH SCALE

The building consists of painted wood siding with a treated wood interior and a metal roof. There is a dirt floor and no insulation. The scale has a total approximate area of 6 m².

PUMP HOUSE

The building is mixed construction with the exterior walls consisting of wood siding painted white and a metal roof. The floor was painted concrete and water/structural damage was noted. The pump house and lean-to has an area of approximately 60 m².

For a detailed list of the rooms and construction materials, refer to Appendix 1.



5.3 RESULTS

5.3.1 ASBESTOS CONTAINING MATERIALS (ACM)

Seventy nine (including three duplicates) of suspected ACM were collected and sent for analysis. Twenty three of the samples were found to contain to be asbestos containing. The results are summarized in the table below and are contained in Appendix 1.

Table 55: Asbestos Analysis Results Summary for Fort Vermillion

| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|--------------------|-----------------------------|------------------------|---|-------------|----------------------------|
| A1 | Silver | Duct Insulation | #33 east room | Poor | 65% (chrysotile) |
| A2 | White | Putty | #33 exterior window | Poor | None detected |
| A3 | Brown | Vermiculite | #33 walls | Good | None detected |
| A4 | Brown | Vermiculite | #33 walls | Good | None detected |
| A5 | Brown | Vermiculite | #33 walls | Good | None detected |
| A6 | Gray | Chimney mortar | #33 furnace room attic | Good | None detected |
| A7 | Green | Welding blanket | #23 storage area | Fair | None detected |
| A8 | White | Putty | #23 exterior window south | Poor | None detected |
| A9 | Black | Insulation | #23 attic loose wire | Poor | None detected |
| A10 | Black | Tar paper | #23 shop north wall | Good | None detected |
| A11 | Green | Board | #23 shop | Poor | 25% (chrysotile) |
| A12 | Silver | Mortar | #23 chimney | Fair | None detected |
| A13 | Black | Wire insulation | #14 wire attic | Fair | None detected |
| A14 | White | Caulking | #14 east window | Poor | 0.25% (chrysotile) |
| A15 | White | Drywall mud | #60 basement | Good | 2.5% (chrysotile) |
| A16 | Yellow w/ blue and brown | Floor tile | #60 basement stair landing | Poor | None detected |
| A17 | Off white w/ brown | Floor tile | #60 entry way | Poor | 1.7% (chrysotile) |
| A18 | White | Drywall mud | #60 entry way | Fair | 3.1% (chrysotile) |
| A19 | Brown | Linoleum | #60 stair runner | Poor | None detected |
| A20 | Green | Drywall mud | #60 Conference room south closet | Poor | 2.0% (chrysotile) |
| Dup 1 (A20) | Green | Drywall mud | #60 Conference room south closet | Poor | 1.2% (chrysotile) |
| A21 | Orange w/blue & purple | Floor tile | #60 washroom closet | Good | None detected |
| A22 | White | Drywall mud | #60 washroom | Fair | None detected |
| A23 | White | Drywall mud | #60 stairwell | Fair | 1.5% (chrysotile) |
| A24 | White | Stucco | #60 exterior northwest | Good | None detected |
| A25 | White | Stucco | #60 exterior southwest | Good | None detected |
| A26 | White | Stucco | #60 exterior east | Good | None detected |
| A27 | White | Pipe wrap | #60 basement | Good | None detected |
| A28 | Black/red | Shingle | #60 under deck dog house | Good | None detected |
| A29 | Black | Tar paper | #60 exterior | Good | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (# - BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|------------------------|-----------------------------------|------------------------|---|-------------|----------------------------|
| A30a | White w/blue | Floor tile | #60 south washroom | Fair | None detected |
| A30b | White w/blue | Mastic | #60 south washroom | Fair | None detected |
| A31 | Black | Tar paper | #57 exterior wall | Good | None detected |
| A32 | White | Caulking | #57 door | Poor | None detected |
| A33 | Brown | Floor tile | #2 basement vault | Poor | None detected |
| A34 | Brown w/flecks | Floor tile | #2 basement vault | Poor | None detected |
| A35a | Brown w/dark brown | Floor tile | #2 basement under stairs | Poor | 4.7% (chrysotile) |
| A35b | Brown w/dark brown | Mastic | #2 basement under stairs | Poor | None detected |
| A36a | Brown w/dark brown | Floor tile | #2 basement SE storage room | Poor | 5.3% (chrysotile) |
| A36b | Brown w/dark brown | Mastic | #2 basement SE storage room | Poor | None detected |
| A37 | Brown w/dark brown | Floor tile | #2 basement SE storage room | Poor | 5.1% (chrysotile) |
| A38 | White | Pipe insulation | #2 basement NE office | Fair | 60% (chrysotile) |
| A39 | White | Pipe insulation | #2 basement NE office | Fair | 65% (chrysotile) |
| A40 | White | Pipe insulation | #2 basement NE office | Fair | 65% (chrysotile) |
| A41 | Green | Transite board | #2 basement utility room | Fair | 30% (chrysotile) |
| A42 | White | Pipe insulation | #2 basement utility room | Fair | 55% (chrysotile) |
| Dup 2 (A42) | White | Pipe insulation | #2 basement utility room | Fair | 70% (chrysotile) |
| A43 | White | Pipe insulation | #2 basement utility room | Fair | 80% (chrysotile) |
| A44 | Green | Flooring | #2 north stairwell | Poor | None detected |
| A45 | Green | Flooring | #2 main entrance | Poor | None detected |
| A46 | Green | Flooring | #2 main men's washroom | Poor | None detected |
| A47 | Brown | Insulation paper | #2 main NW office | Good | None detected |
| A48 | Brown | Insulation paper | #2 main east office | Good | None detected |
| A49 | White | Plaster | #2 main reception | Poor | None detected |
| A50 | White | Plaster | #2 main – girls washroom | Poor | None detected |
| A51 | White | Plaster | #2 main SE office | Poor | None detected |
| A52a | White | Plaster | #2 main NW office | Poor | None detected |
| A52b | White | Plaster | #2 main NW office | Poor | None detected |
| A53a | White | Plaster | #2 2 nd floor NW office ceiling | Poor | None detected |



| SAMPLE | COLOUR | DESCRIPTION | LOCATION (#- BUILDING NO.) | CONDITION | RESULT* (ASBESTOS TYPE) |
|-------------|---------------|-------------------------|---|-------------|---|
| A53b | White | Plaster | #2 2 nd floor NW office ceiling | Poor | None detected |
| A54a | White | Plaster w/stipple | #2 2 nd floor south room ceiling | Poor | None detected |
| A54b | White | Plaster w/stipple | #2 2 nd floor south room ceiling | Poor | None detected |
| A55a | White | Plaster w/stipple | #2 2 nd floor file room | Poor | None detected |
| A55b | White | Plaster w/stipple | #2 2 nd floor file room | Poor | None detected |
| A56 | White | Plaster w/stipple | #2 2 nd floor file room | Poor | None detected |
| A57 | Gray | Floor | #2 2 nd floor hall | Poor | None detected |
| Dup 3 (A57) | Gray | Floor | #2 2 nd floor hall | Poor | None detected |
| A58 | Gray | Floor | #2 2 nd floor south room | Poor | None detected |
| A59 | Gray | Floor | #2 2 nd floor NE office | Poor | None detected |
| A60 | Yellow | Stucco | #2 main exterior entrance | Good | None detected |
| A61 | White/brown | Caulk | #2 main floor east window | Poor | None detected |
| A62 | White/brown | Caulk | #2 window inside foyer | Poor | None detected |
| A63a | Yellow | Stucco | #2 exterior north wall | Good | None detected |
| A63b | Yellow | Stucco | #2 exterior north wall | Good | None detected |
| A64 | Gray | Mortar | #2 exterior chimney | Poor | None detected |
| A65a | Off white | Stucco | #2 exterior chimney | Poor | None detected |
| A65b | Off white | Stucco | #2 exterior chimney | Poor | None detected |
| A66a | Gray | Parchment | #2 exterior west bottom | Poor | None detected |
| A66b | Gray | Parchment | #2 exterior west bottom | Poor | None detected |
| A67 | Gray | Parchment | #2 exterior north bottom | Poor | None detected |
| A68 | Black | Shingle | Pump house lean 2 roof | Poor | None detected |
| A69 | Gray | Caulking | Pump house south window | Poor | 0.25% (chrysotile) |
| A70 | Brown | Vermiculite | Pump house lean 2 roof | Poor | 0.32% (actinolite) |
| A71 | Brown | Vermiculite | Pump house roof | Poor | 0.32% (actinolite) |
| A72 | White | Wall board | #37 walls | Good | 25% (chrysotile) |
| A73 | Yellow | Insulation board | #37 insulation on dryer north doors | Fair | 70% (chrysotile) |
| A74 | Black | Door gasket | #37 gasket in doors north | Poor | None detected |
| A75 | Black | Door gasket | #37 gasket in south dryer doors | Poor | None detected |
| A76 | White | Insulation board | #37 dryer south doors | fair | 10% (amosite) & 10% (chrysotile) |

BOLD – over criteria*

* Criteria: ≥1% asbestos: asbestos containing material as defined by the Alberta Asbestos Abatement Manual, July 2009. Vermiculite is positive for asbestos with asbestos present in any amount.



- all building materials containing more than 1% (by weight) asbestos must be removed prior to demolition (Work Safe Alberta ASB003 – Asbestos Revised July 2009 and OHS Code Part 4) *with some exceptions*

Due to the size and amount of ACM possibly present on this site, representative sampling was conducted. It was not practical or necessary to sample every item which may be an ACM. If the representative samples test positive for asbestos, it is assumed the identical materials, which were not tested, are also positive. For example, the drywall mud and pipe elbow insulation tested positive and therefore all drywall mud and pipe insulation is assumed to be positive for asbestos.

Below is a list of the types of materials sampled and the results for asbestos (# samples positive and/or # samples negative) in brackets.

#2 Administration Office (44 asbestos samples)

- Brown floor tile (1 negative)
- Brown with flecks floor tile (1 negative)
- Brown with dark brown floor tile (3 positive)
 - Mastic (2 negative)
- White pipe insulation (5 positive)
- Green transite board (1 positive)
- Green flooring (3 negative)
- Brown insulation paper (2 negative)
- White plaster (7 negative)
- White plaster with stipple (5 negative)
- Gray flooring (3 negative)
- Yellow stucco (3 negative)
- White/brown caulk (2 negative)
- Gray mortar (1 negative)
- Off white stucco (2 negative)
- Gray parchment (3 negative)



#6 Garage and Storage (0 asbestos samples)

#14 Drying and Threshing Shed (2 asbestos samples)

- Black wire insulation (1 negative)
- White caulking (1 negative)

#23 Workshop and Office (6 asbestos samples)

- Green welding blanket (1 negative)
- White putty (1 negative)
- Black wire insulation (1 negative)
- Black tar paper (1 negative)
- Green board (1 positive)
- Silver mortar (1 negative)

#33 Processing & Carpenter Shop (6 asbestos samples)

- Silver duct insulation (1 positive)
- White putty (1 negative)
- Brown vermiculite (3 negative)
- Gray chimney mortar (1 negative)

#37 Drying Shed (5 asbestos samples)

- White wall board (1 positive)
- Yellow insulation board (1 positive)
- Black door gasket (2 negative)
- White insulation board (1 positive)

#57 Sewage Lift Pump House (2 asbestos samples)

- Black tar paper (1 negative)
- White caulking (1 negative)

#59 Tin Barn Storage (0 asbestos samples)

#60 Duplex House (16 asbestos samples)

- Drywall mud (4 positive)
- Yellow with blue and brown floor tile (1 negative)
- Off-white with brown floor tile (1 positive)
- Brown linoleum (1 negative)
- Orange with blue and purple flooring (1 negative)
- Stucco (3 negative)
- White pipe wrap (1 negative)
- Black/red shingle (1 negative)
- Black tar paper (1 negative)
- White with blue floor tile (1 negative)
 - Mastic (1 negative)



#60A Garage (0 asbestos samples)

#62 Weigh Scale (0 asbestos samples)

Pump House (4 asbestos samples)

- Black shingle (1 negative)
- Gray caulking (1 negative)
- Brown vermiculite (2 positive)

There is vermiculite spilling from the ceiling space due to ceiling failure.

The following is considered to be ACM (refer to Appendix 3 for room details, diagrams outlining the locations and a photographic log):

- The **silver duct insulation** in #33 Processing & Carpenter Shop east room contains 65% chrysotile asbestos.
- The **drywall mud** in the #60 Duplex House contains up to 3.1% chrysotile asbestos.
- The **green board** in #23 Shop contains 25% chrysotile asbestos.
- The **white pipe insulation** in the #2 Administration Office basement contains 55 to 80% chrysotile asbestos.
- The **transite board** in the #2 Administration Office basement utility room contains 30% chrysotile asbestos.
- The brown with **dark brown floor tile** in #2 Administration Office building contains 4.7% chrysotile asbestos. There was no asbestos found in the associated mastic or leveling compound.
- The **off-white with brown floor tile** in #60 Duplex House contains 1.7% chrysotile asbestos. There was no asbestos found in the associated mastic or leveling compound.
- The **vermiculite** insulation found in the roof of the pump house contains 0.32% actinolite asbestos.
- The **wall board** in the #37 Drying Shed contains 25% chrysotile asbestos.
- The **insulation board** on the north dryer doors in the #37 Drying Shed contains 70% chrysotile asbestos.
- The **insulation board** on the south dryer doors in the #37 Drying Shed contains 10% amosite and 10% chrysotile.



5.3.2 LEAD PRODUCTS

Twenty eight (including duplicates) representative samples were sampled and placed in sealable containers for lead content analysis. Please refer to Appendix 3 for a detailed description, a sampling diagram, a photographic log and a copy of the laboratory reports. Six of the samples are considered lead based paint containing 0.5%, or above, lead by weight.

Table 56: Lead in Paint Analysis Results Summary for Fort Vermillion

| SAMPLE | COLOUR | LOCATION (# - BUILDING NO.) | RESULTS (% LEAD BY WEIGHT)* |
|-------------------------|---------------|--------------------------------|--------------------------------|
| P1 | White/red | #33 exterior paint | 0.28 |
| P2 | Silver | #33 interior | 0.0088** |
| P3 | White | #33 interior west | 0.027** |
| P4 | White/red | #23 exterior paint | 0.1 |
| P5 | Silver/white | #23 interior | 0.0085** |
| P6 | White | #14 interior east | 0.011 |
| PDup 1 (P6) | White | #14 interior east | 0.012 |
| P7 | White/red | #14 exterior | 0.2 |
| P8 | Light green | #60 basement door & frame | 0.4** |
| P9 | Light gray | #60 basement stairs | 0.26 |
| P10 | Yellow | #60 basement stairwell | 0.87 |
| P11 | Pink | #60 upstairs hall closet | 0.13** |
| P12 | Red | #60 exterior trim | 0.36*** |
| P13 | White | #60 exterior trim | 1.6 |
| P14 | White | #60A exterior | 3.6 |
| P15 | White | #57 exterior | 1.6 |
| P16 | White | #57 interior | 0.011 |
| P17 | Light green | #2 interior basement; NW lab | 0.0053 |
| P18 | Peach/pink | #2 main woman's washroom | 0.058 |
| P19 | Yellow/green | #2 main NW office | 0.42 |
| P20 | White/green | #2 main floor SE office | 0.0099 |
| P21 | Brown | #2 exterior trim east | 0.4 |
| P22 | Yellow | #2 exterior trim east | 0.42 |
| P23 | White | Pump house exterior | 1.6 |
| PDup 2 (P23) | White | Pump house exterior | 1.5 |
| P24 | White | Pump house west room | 0.015 |
| P25 | White | #59 tin barn exterior paint | 0.043 |
| P26 | White | #62 exterior paint | 1.3 |

BOLD – over criteria

* lead >0.5% by weight is considered to be lead containing paint (Work Safe Alberta CH061 and the Federal Hazardous Products Act)

**Matrix/substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks

***Insufficient sample provided to perform QC re-analysis

Below is a list of the colours of paints sampled and the results (# samples positive and/or # samples negative for lead based paint) in brackets.



#2 Administration Office (6 paint samples)

- Light green interior (1 negative)
- Peach/pink interior (1 negative)
- Yellow/green interior (1 negative)
- White/green interior (1 negative)
- Brown exterior (1 negative)
- Yellow exterior (1 negative)

#6 Garage and Storage (0 paint samples)

#14 Drying and Threshing Shed (2 paint samples)

- White interior (1 negative)
- White/red exterior (1 negative)

#23 Workshop and Office (2 paint samples)

- Silver/white interior (1 negative)
- White/red exterior (1 negative)

#33 Processing and Carpenter Shop (3 paint samples)

- Silver interior (1 negative)
- White interior (1 negative)
- White/red exterior (1 negative)

#37 Drying Shed (0 paint samples)

#57 Sewage Lift Pump House (2 paint samples)

- White interior (1 negative)
- White exterior (1 positive)

#59 Tin Barn Storage (1 paint sample)

- White exterior (1 negative)

#60 Duplex House (6 paint samples)

- Light green interior (1 negative)
- Light gray interior (1 negative)
- Yellow interior (1 positive)
- Pink interior (1 negative)
- Red exterior (1 negative)
- White exterior (1 positive)

#60A Duplex Garage (1 paint sample)

- White exterior (1 positive)

#62 Weigh Scale (1 paint sample)

- White exterior (1 positive)



Pump House (2 paint samples)

- White interior (1 negative)
- White exterior (1 positive)

The following is considered lead containing paint:

- **White** paint on the exterior of the following:
 - #57 Sewage Lift Pump House
 - #60 Duplex House trim
 - #60A Duplex Garage
 - #62 Weigh Scale
 - Pump house
- **Yellow** paint in the stairwell of the basement in the #60 Duplex House.

5.3.3 POLYCHLORINATED BIPHENYLS (PCBs)

There were fluorescent light fixtures found throughout the entire site. It is understood this site has been retrofitted and there are no fluorescent light ballasts of concern remaining on site. Random fluorescent light ballasts were checked for PCBs and all were negative.

5.3.4 MERCURY

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. The table below outlines the areas of concern.

Table 57: Mercury Results Summary for Fort Vermillion

| BUILDING | LOCATION | TYPE / ESTIMATED QUANTITY |
|--|-----------------------|-----------------------------------|
| Throughout entire area and located in every room | Light bulbs and tubes | Fluorescent light tubes and bulbs |
| #2 Administration Office | Main level hallway | 1 mercury thermostat |
| #14 Drying & Threshing Shed | West Room | 1 mercury thermostat |
| #23 Workshop and Office | Shop | 2 mercury thermostats |
| #33 Processing & Carpenter Room | West Room | 1 mercury thermostat |
| #33 Processing & Carpenter Room | Seed Storage | 1 mercury thermostat |
| #60 Duplex House | Living Room #2 | 1 mercury thermostat |
| Pump House | West Room | 1 mercury thermostat |



5.3.5 OZONE DEPLETING SUBSTANCES (ODS)

Many of the ODS in the building have already been removed. The table below outlines the remaining four ODS of concern.

Table 58: ODS Results Summary for Fort Vermillion

| LOCATION (BUILDING/FLOOR/ROOM) | DESCRIPTION OF THE SYSTEM | TYPE OF ODS | ESTIMATED QUANTITY |
|---------------------------------------|---------------------------|-------------|--------------------|
| #2 Administration Office /bsmt/NW lab | A/C Unit | * | * |
| #2 Administration Office /office 11 | A/C Unit | * | * |
| #33 Processing & Carpenter/ east room | Older freezer | * | * |
| #33 Processing & Carpenter | Copeland Evaporator | * | * |
| #60 Duplex House | Two fridges | * | * |

* unable to verify type and quantity

A/C = air conditioning

The following is a summary of the ozone depleting substances still present on site:

- There were 3 **fridges** which are suspected to contain R-12.
- There was 1 **evaporator** which is suspected to contain R-502.
- There were 2 a/c units which are suspected to contain R-11

5.3.6 RADIOACTIVE MATERIALS

No radioactive materials were observed on site.

5.3.7 MISCELLANEOUS CHEMICALS

Miscellaneous chemicals were observed at the following locations:



Table 59: Miscellaneous Chemicals Summary for Fort Vermillion

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|-------------------------------------|-------------------------|--------------------|
| #23 Workshop and Office/shop | Diesel fuel conditioner | 2 L |
| | Oil | 60 L |
| | Paint | 4 L |
| | General cleaners | - |
| | Liquid buffer | 1 L |
| | WD40 | 3 cans |
| | Jet Clean Plus | 20 L |
| | Brake fluid | 2 L |
| | Acetone | 0.5 L |
| | Antifreeze | 28 L |
| | Power Steering Fluid | 1 L |
| | Varsol | 20 L |
| #33 Processing & Carpenter Shop | Paint | 32 L |
| | Sealer/primer | 2 L |
| | Plastic cement | 8 L |
| | Roof repair | 8 L |
| | Solvents | 20 L |
| #57 Sewage Lift Pump House/interior | Coolant | 4 L |
| #60 Duplex House/Boot room | Engine oil | 5 L |
| #60 Duplex House/Boot room | Paint | 2 L |
| #60 Duplex House/basement | Paint | 30 L |
| #60 Duplex House/basement | Solvent | 4 L |
| #60A Duplex Garage/interior | Paint | 4 L |
| Pump House/East room | Chlorine | 40 kg |

5.3.8 MOULD

Some suspect mould and water damage and conditions which may lead to mould were observed at the subject site. The table below summarizes the locations of the damage.

Table 60: Mould/Water Damage Results Summary for Fort Vermillion

| LOCATION (BUILDING, FLOOR, ROOM) | DESCRIPTION | ESTIMATED QUANTITY |
|---|---|--|
| #2 Administration Office, 2 nd floor ceiling | Water damage; ceiling failure and suspect mould observed throughout the entire building | Building size = 240 m ² x 3 levels |
| #2 Administration Office, main floor | | |
| #2 Administration Office, basement | | |
| #14 Drying and Threshing Shed | Water damage on ceiling in east room; 3 areas of water damage | 0.2 m ² 0.6 m ² 0.3 m ² |
| #33 Processing & Carpenter Shop | Suspect mould in attic on ceiling along west wall | 0.4 m ² |
| #60 Duplex House - north | Washroom #2; north wall and east closet | 1 m ² |
| #60 Duplex House - north | Entrance closet on ceiling and exterior wall | 2 m ² |
| #60 Duplex House - north | Conference room; south closet on ceiling and down the exterior wall | 3 m ² |
| #60 Duplex House – south | NW bedroom closet ceiling | 1 m ² |
| #60 Duplex House - south | Upstairs washroom on ceiling | 0.5 m ² |
| Pump House | Exterior; lean-to roof on north side | 3 m |
| Pump House | Interior; lean-to ceiling area; partial ceiling failure | 2 m ² |

There appears to be suspect mould growth and/or water damage at the following locations:

- #2 Administration Office
 - At the time of this assessment there were no utilities servicing the building and it had been abandoned
 - There had been a flood in the basement before the water service was shut-off
 - There was extensive water damage through the entire building. The basement damage from the flood and the main and 2nd floor from snow/rain entering the building through holes in the roof and windows
 - There were cracks in the walls on the north portion of the building
- #14 Drying and Threshing Shed
 - The ceiling located in the east room showed signs of water damage and suspect mould
- #33 Processing and Carpenter Shop
 - The attic ceiling had some water staining however the area was dry at the time of the assessment
- #60 Duplex House
 - It appeared there may have been water intrusion into the building envelope on the west face at the middle of the structure (where the two duplexes meet)

- There was water damage on the west wall in both closets from the ceiling towards the ground
 - On the exterior of the building at the subject location, there appeared to be an ice jam in the gutter
 - There was also water damage and suspect mould observed in both the washrooms
- Pump House
- The lean-to (or porch) portion of the pump house has significant water damage to the ceiling on the interior and roof on the exterior
 - The ceiling is sagging and close to collapsing

3.3.9 OTHER

PESTS

Building #6 Garage and Storage had a significant amount of bird and rodent feces.

Building #33 Processing and Carpenter Shop had a significant amount of rodent feces in the attic area and some in the main floor area.

SPILLS/STAINS

Building #23 Workshop and Office had two sumps and one pit and **Building #33 Processing and Carpenter Shop** had three pits in the floor which may have contamination.



5.3.10 SUMMARY OF RESULTS BY BUILDING

#2 Administration Office

The following table is a summary of the hazardous materials identified in the #2 Administration Office. Refer to Appendix 3b-3 - 5 for diagrams and Appendix 3c-2 - 4 and 8 - 9 for photographs.

Table 61: #2 Administration Office Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-----------------------------------|--|--------------------|
| ACM floor tile (brown/dark brown) | Basement storage room and under the stairs | 44 m ² |
| ACM pipe insulation | Entire basement; there may be insulated pipes in service areas not visible during the assessment (ex: walls) | ≅ 120 m |
| ACM Transite Board | Walls and ceiling of the utility room in the basement | 170 m ² |
| Mercury thermostat | Main level hallway | 1 |
| ODS – R11 | 2 air conditioning units; one in the basement NW Lab and one in the 2 nd floor NW office | 8 oz |
| Mould/water damage | Water damage, ceiling failure and suspect mould observed throughout the entire building | 922 m ² |

6 Garage and Storage

The #6 Garage and Storage building contained a significant amount of bird and rodent feces, including remnants of carcasses used for feeding. Refer to Appendix 3b-6 for a diagram.

#14 Drying and Threshing Shed

The following table is a summary of the hazardous materials identified in the #14 Drying and Threshing Shed. Refer to Appendix 3b-7 for a diagram and Appendix 3c-9 for photographs.

Table 62: #14 Drying and Threshing Shed Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|-------------------------------|---|
| Mercury thermostat | West room | 1 |
| Water damage | Ceiling in east room, 3 areas | 0.023 m ² 0.061 m ² 0.18 m ² |



#23 Workshop and Office

The following table is a summary of the hazardous materials identified in the #23 Workshop and Office. Refer to Appendix 3b-8 for a diagram and Appendix 3c-1 for a photograph.

Table 63: #23 Workshop and Office Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-------------------------|--|--------------------|
| ACM Green Board | Main Shop on a mobile work bench adjacent the office doorway | 0.9 m x 0.6 m |
| Mercury thermostat | North and south wall of main shop area | 2 |
| Miscellaneous chemicals | Main shop area | - |

#33 Processing & Carpenter Shop

The following table is a summary of the hazardous materials identified in the #33 Processing & Carpenter Shop. Refer to Appendix 3b-9 for a diagram and Appendix 3c-1 for photographs.

Table 64: #33 Processing & Carpenter Shop Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-------------------------|---|--------------------|
| ACM Duct insulation | East wall adjacent door on ductwork 0.3 m x 0.1 m x 2.4 m high | 2.4 m |
| Mercury thermostat | West room and in the seed storage room | 2 |
| ODS – R12 | East room (2 units) | 8 oz |
| Miscellaneous chemicals | Main shop area | - |
| Suspect mould | On the attic ceiling, by the west wall | <1 m ² |
| Rodent feces | Attic space and some on the main level | 44 m ² |

#37 Drying Shed

The following table is a summary of the hazardous materials identified in the #37 Drying Shed. Refer to Appendix 3b-10 for a diagram and Appendix 3c-4 to 5 for photographs.

Table 65: #37 Drying Shed Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|----------------------|---------------------------------------|--------------------|
| ACM Insulation board | North dryer doors and internal lining | 1.5 m ² |
| ACM Insulation board | South dryer doors and internal lining | 1.5 m ² |
| ACM Transite Board | Walls and ceiling | 60 m ² |



#57 Sewage Lift Pump House

The following table is a summary of the hazardous materials identified in the #57 Sewage Lift House. Refer to Appendix 3b-11 for a diagram and Appendix 3c-6 for photographs.

Table 66: #57 Sewage Lift Pump House Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|--|--------------------|
| Lead in paint | White exterior paint on the trim and wood siding | 20 m ² |

#59 Tin Barn

There were no hazardous materials identified in #59 Tin Barn.

#60 Duplex House

The following table is a summary of the hazardous materials identified in the #60 Duplex House. The #2 identifier is referencing the south side residence. Refer to Appendix 3b-13 to 15 for diagrams and Appendix 3c-6 and 9-10 for photographs.

Table 67: #60 Duplex House Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|-------------------------|--|--|
| ACM drywall mud | All walls and ceilings which are drywall (all rooms on main and 2 nd floor of both units) | 792 m ² |
| ACM floor tile | Main entry way on north unit | 3 m ² |
| Lead in paint | Yellow in basement stairwell of the north unit | 6 m ² |
| Lead in paint | White exterior trim on basement windows , door casings and exterior decks | 4 windows 4 doors 8 m ² |
| Mercury Thermostat | Both living rooms | 2 |
| ODS fridge-R12 | Both kitchens | 10 oz |
| Miscellaneous chemicals | Main entrance closet and basement | - |
| Water damage | Middle portion of the west wall there is water damage on first and 2 nd floors Some water damage and suspect mould in both the washrooms | 6 m ² 1.5 m ² |



#60A Duplex Garage

The following table is a summary of the hazardous materials identified in the #60A Duplex Garage. Refer to Appendix 3b-16 for a diagram and Appendix 3c-6 for photographs.

Table 68: #60A Duplex Garage Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|--|--------------------|
| Lead in paint | White exterior on wood siding and trim | 40 m ² |

#62 Weigh Scale

The following table is a summary of the hazardous materials identified in the #62 Weigh Scale. Refer to Appendix 3b-17 for a diagram and Appendix 3c-7 for photographs.

Table 69: #62 Weigh Scale Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|--------------------|-------------------------------------|--------------------|
| Lead in paint | White exterior on siding and frames | 10 m ² |

Pump House

The following table is a summary of the hazardous materials identified in the Pump House. Refer to Appendix 3b-18 for a diagram and Appendix 3c-7 for photographs.

Table 70: Pump House Hazardous Materials Summary for Fort Vermillion

| HAZARDOUS MATERIAL | ROOMS | ESTIMATED QUANTITY |
|---------------------|---|--------------------|
| ACM vermiculite | Attic insulation | 60 m ² |
| Lead in Paint | White exterior on the wood siding and trim | 60 m ² |
| Mercury thermometer | West room | 1 |
| Water damage | The lean-two or porch portion of the pump house has significant water damage to the ceiling on the interior and roof on the exterior edge | 5 m ² |



5.4 ASSESSING RISK EXPOSURE FOR ASBESTOS

There are eight major factors which assist in evaluating the condition of a particular asbestos installation.

The eight factors include:

1. Condition of Material
2. Water Damage
3. Exposed Surface Area
4. Accessibility
5. Activity and Movement
6. Air Plenum or Direct Air Stream
7. Friability
8. Asbestos Content

These factors have been put together into the following tables to allow for assessment to determine the degree of risk associated with existing asbestos. The parameters in Table 17 are applied to the ACM to derive a risk rating. These risk ratings are then compared to Table 18 to determine what type of action is required.

Table 71: Assessing Risk Exposure

| Factor | Description | Rating of Risk Exposure |
|---------------------------|---|-------------------------|
| Accessibility of Material | Accessible in high activity areas | High (h) |
| | Accessible in low activity areas beyond the reach of the area occupants | Medium (m) |
| | Enclosed | Low (l) |
| Condition of Materials | Severely damaged | High (h) |
| | Mild to moderate damage | Medium (m) |
| | Good condition | Low (l) |
| Friability of Materials | Easily breaks apart | High (h) |
| | Mild to moderate friability | Medium (m) |
| | Non-friable | Low (l) |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.



Table 72: Determining Level of Control Required

| | Asbestos Not Present in Return Air Plenum | | Asbestos Present in Return Air Plenum |
|----------------------------|--|---|---|
| | Less than 20% Asbestos Content in Material | Greater than 20% Asbestos Content in Material | |
| Immediate Control Required | 2 Hs or 3 Ms | 1 H or 2 Ms | Control required unless 3 Ls and less than 20% asbestos content in material |
| Control Required | 1 H or 2 Ms | 1 M | |
| No Control Required | 1 M or 3 Ls | 3 Ls | |

* Information from *Alberta Asbestos Abatement Manual*. Government of Alberta, Employment, Immigration and Industry. July 2009.

The table below outlines the results of the above methodology to determine priorities for dealing with ACM and which ACM may be causing a high risk to occupants of the building.

Table 73: ACM Risk of Exposure for Fort Vermillion

| Sample | Description | Location | Condition | Result | Risk Exposure (accessible) (condition) (friability) | Control Required |
|--------|-------------------------------|----------------------------------|-----------|-------------------|---|------------------|
| A1 | Silver Duct Insulation | #33 east room | Poor | 65% (chrysotile) | (M)(H)(M) | Immediate |
| A11 | Transite Board | #23 shop | Poor | 25% (chrysotile) | (H)(H)(L) | Immediate |
| A15 | Drywall mud | #60 basement | Good | 2.5% (chrysotile) | (L)(L)(H) | Control |
| A17 | Off white w/ brown Floor tile | #60 entry way | Poor | 1.7% (chrysotile) | (H)(H)(L) | Immediate |
| A18 | Drywall mud | #60 entry way | Fair | 3.1% (chrysotile) | (L)(M)(H) | Control |
| A20 | Drywall mud | #60 Conference room south closet | Poor | 2.0% (chrysotile) | (L)(H)(H) | Immediate |
| A23 | Drywall mud | #60 stairwell | Fair | 1.5% (chrysotile) | (L)(M)(H) | Control |
| A35a | Brown w/dark brown Floor tile | #2 basement under stairs | Poor | 4.7% (chrysotile) | (L)(H)(H) | Immediate |
| A36a | Brown w/dark brown Floor tile | #2 basement SE storage room | Poor | 5.3% (chrysotile) | (H)(H)(L) | Immediate |
| A37 | Brown w/dark brown Floor tile | #2 basement SE storage room | Poor | 5.1% (chrysotile) | (H)(H)(L) | Immediate |

| Sample | Description | Location | Condition | Result | Risk Exposure (accessible) (condition) (friability) | Control Required |
|--------|-------------------------|-------------------------------------|-----------|----------------------------------|---|------------------|
| A38 | White Pipe insulation | #2 basement NE office | Fair | 60% (chrysotile) | (L)(M)(M) | Immediate |
| A39 | White Pipe insulation | #2 basement NE office | Fair | 65% (chrysotile) | (L)(M)(M) | Immediate |
| A40 | White Pipe insulation | #2 basement NE office | Fair | 65% (chrysotile) | (L)(M)(M) | Immediate |
| A41 | Transite board | #2 basement utility room | Fair | 30% (chrysotile) | (L)(M)(L) | Control |
| A42 | Pipe insulation | #2 basement utility room | Fair | 55% (chrysotile) | (L)(M)(M) | Immediate |
| A43 | Pipe insulation | #2 basement utility room | Fair | 80% (chrysotile) | (L)(M)(M) | Immediate |
| A70 | Brown Vermiculite | Pump house lean-to roof | Poor | 0.32% (actinolite) | (L)(H)(H) | Immediate |
| A71 | Brown Vermiculite | Pump house lean-to roof | Poor | 0.32% (actinolite) | (L)(H)(H) | Immediate |
| A72 | White Wall board | #37 walls | Good | 25% (chrysotile) | (M)(L)(L) | Control |
| A73 | Yellow Insulation board | #37 insulation on dryer north doors | Good | 70% (chrysotile) | (M)(H)(L) | Control |
| A76 | White Insulation board | #37 dryer south doors | Good | 10% (amosite) & 10% (chrysotile) | (M)(H)(L) | Control |

According to the above risk assessment the following items should be dealt with immediately:

#2 Old Administration

- Any ACM pipe insulation which is exposed (pipe wrap damaged or missing)
- ACM containing floor tiles (brown with dark brown)

#23 Workshop and office

- Green transite board in the shop on the mobile cart

#33 Processing and carpenter shop

- The silver duct insulation which is exposed

#60 Duplex house

- ACM containing floor tiles (off-white with brown) in the north unit entry way
- White and green drywall mud which is in poor condition; areas with water damaged drywall

Pump house and lean-to

- Vermiculite insulation in the roof



5.5 CONCLUSIONS

➤ ASBESTOS

- The **silver duct insulation**, in the #33 Processing and Carpenter shop (east room), contains 65% chrysotile asbestos.
 - The insulation on the exterior of the duct which sits on the east wall adjacent a door.
 - Any ACM duct insulation which is exposed or damaged poses a relatively high risk of exposure because it is in poor condition and has a high asbestos content.
- The **plumbing insulation**, in the #2 Administration Office building (basement-NE office and utility room) along the pipes contains from 55 to 80% chrysotile asbestos. Any pipes or tanks which are wrapped with pipe wrap and when pressure is applied, they are firm (not soft, indicating fiberglass insulation) have asbestos.
 - The amount of asbestos insulation around the piping is a rough estimate since there may be pipe insulation in the walls and ceiling which are currently not exposed.
 - Any ACM plumbing insulation which is exposed or damaged may cause a high risk of exposure to occupants.
- The **vermiculite insulation** in the Pump House lean-to contains 0.32% actinolite asbestos.
 - Both the roof of the pump house and the lean-to are assumed to be insulated with ACM vermiculite
 - The vermiculite insulation poses a relatively high risk of exposure because it is highly friable and it is spilling out from the ceiling onto the floor
- Some of the **drywall mud** tested in the Duplex house (white mud-basement, entry way, stairwell and green mud-conference room south closet) contains 1.2 to 3.1% chrysotile asbestos. All areas of the building contain various amounts of drywall on either the walls or ceiling.
 - It is assumed all drywall mud on the main floor, 2nd floor and in the basement contains asbestos.
 - The drywall mud is a moderate hazard as long as it is controlled and is not disturbed. The water damaged drywall mud poses high risk due to the poor condition of the mud.
- There are two different patterns of **floor tiles** that contain up to 5.3% chrysotile asbestos. The tile patterns are: brown with dark brown and off white with brown. There was no asbestos found in the associated mastic or leveling compound.



- The brown with dark brown floor tiles are located #2 Administration Office under the stairs and SE storage room. The off white with brown tiles are located in #60 Duplex house entrance way.
- ACM vinyl floor tiles pose a low risk as long as they are in good condition and the mastic does not contain asbestos.
- Several types of **insulation boards (transite)** were observed in the buildings;
 - Green board in the #23 Workshop and office contains 25% chrysotile asbestos was in poor condition.
 - White insulation board in the #37 Drying shed (south doors) contains 10% chrysotile asbestos and 10% amosite asbestos was in fair condition.
 - The panel boards pose a moderate to high risk of exposure because they are moderately accessible and have high asbestos content.
 - If the boards need to be disturbed by cutting, drilling, etc. they will release asbestos fibres and become a high risk hazard.

➤ **LEAD**

- **White** paint on the exterior of several buildings including the #57 Sewage lift pump house, #60 Duplex house (trim), #60A Duplex garage, #62 Weigh scale building and the Pump house.
- **Yellow** paint in the stairwell of the basement stairway in the north unit of the #60 Duplex house.

➤ **PCBs**

There were fluorescent light fixtures found throughout the entire site. It is understood this site has been retrofitted and there are no fluorescent light ballasts of concern remaining on site.

➤ **MERCURY**

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings.

There was one mercury thermostat in the #2 Administration Office, one in the #14 Drying and threshing shed, two in the #23 Workshop and office, two in #33 Processing and carpenter room, two in the #60 Duplex house and one in the Pump house.



➤ **OZONE DEPLETING SUBSTANCES**

Many of the ODS on site have been removed. There are suspect units contained: two A/C units are located in the #2 Administration Office building, An older freezer and a Copeland evaporator are located in #33 Processing and carpenter shop, and two fridges are located in #60 Duplex house.

➤ **RADIOACTIVE MATERIALS**

No radioactive materials were observed on site.

➤ **MISCELLANEOUS CHEMICALS**

Miscellaneous chemicals were observed in #23 Workshop and office, #33 Processing and carpenter shop, #57 Sewage lift pump house and #60 Duplex house. The chemicals were standard chemicals expected to be found in residential houses and working shops.

➤ **MOULD**

Mould and/or water damage which may lead to mould growth was observed in several locations. #2 Administration Office (office one, seven and nine ceilings), #14 Drying and threshing shed (ceiling in east room), #33 Processing and carpenter shop (attic), #60 Duplex house (washroom two north wall, east closet, bedroom two closet ceiling, conference room closet ceiling, upstairs washroom ceiling) and the Pump house (exterior near roof on north side, east room ceiling).

➤ **OTHER**

PESTS

There was several building which has mice. A few of the buildings (#6 Garage and #33 Processing and Carpenter Shop) contained a significant amount of feces from mice, other rodents and birds. The feces can be a source of bacteria and virus harmful to humans. Also, if ACM vermiculite is present in an invested building, the animals can damage the walls and re-distribute the vermiculite into accessible areas.

SPILLS/STAINS

Building #23 Workshop and Office had two sumps and one pit and Building #33 Processing and Carpenter Shop had three pits in the floor which may have contamination.



5.6 RECOMMENDATIONS

➤ ASBESTOS

The table below summarizes the extent and potential impact of the asbestos in the building.

Table 74: Extent and Recommendations of ACM for Fort Vermillion

| ACM | Extent | Impact* |
|--|--|---|
| No Issues (currently) | Caution | Immediate abatement |
| #2 Administration Office – to be demolished | | |
| Floor Tiles | Basement (brown with dark brown) Estimated: 44 m ² | The floor tiles were in poor condition. If this building is to be demolished, the floor tile may remain in place and does not need to be removed prior to demolition. |
| Transite Board | Basement Utility Room Estimated: 170 m ² | The transite board was in good condition. The ACM transite board needs to be abated prior to demolition. |
| Elbow/pipe Insulation | Entire basement Estimated: 120 m | The insulation was in fair condition with some exposed insulation. The ACM insulation needs to be abated prior to demolition. |
| #23 Workshop and Office | | |
| Green Board (transite board) | Shop Mobile work bench Estimated: 0.5 m ² | The transite board was in poor condition and has a high asbestos content. It is at high risk and should be abated. |
| #33 Processing and Carpenter Shop | | |
| Silver Duct Insulation | East room Estimated: 0.3 m x 0.1 m x 2.4 m high | High risk to occupants because the ACM insulation is damaged and exposed, with a high asbestos content. The insulation should be abated. |
| #37 Drying Shed | | |
| Insulation | Within the dryers Estimated: 3 m ² | There is low risk since the insulation boards are intact, in good condition and within a dryer. All persons using these units should be educated and trained regarding this ACM. |
| Transite Board | Walls and ceiling Estimated: 60 m ² | The transite board was in good condition. They are low risk as long as they are not disturbed by cutting, hammering, drilling, etc. All persons using this building should be educated and trained regarding this ACM. |
| #60 Duplex House | | |
| Floor Tiles | Entry way (off-white with brown) Estimated: 3 m ² | The tiles are in poor condition therefore there is a high risk. Any damaged tiles should be replaced. |
| Drywall Mud | All rooms with drywall Estimated: 792 m ² | The majority of the drywall mud was in good condition however there was some water damaged drywall in poor condition. If the drywall is in good condition and not disturbed there is low risk of exposure. If the drywall mud is in poor condition or if the condition of the drywall deteriorates, or there are renovations, there is a higher risk of exposure and it should be abated. |
| Pump House and Lean-to | | |
| Vermiculite Insulation | Ceiling Estimated: 60 m ² | This area has a high risk of exposure and should be abated as soon as possible. If the area cannot be abated, the vermiculite should be cleaned up and the compromised ceiling repaired before entry of unprotected personnel. |

*NOTE: any ACM materials must only be handled/abated by trained and experienced personnel.



Only ACM in poor condition (i.e. damaged or friable) or that could be disturbed during renovation, maintenance, or other activities, requires abatement.

Asbestos abatement must be carried-out by qualified personnel who are experienced and trained in asbestos removal. Air monitoring and inspections must be completed during the abatement to ensure the safety of the abatement personnel and any unprotected persons in the area.

A management plan needs to be developed to address any ACM remaining on site.

An inventory of all asbestos containing materials should be maintained, and updated whenever any ACM is abated. An inspection of all ACM should be conducted on a regular basis, at least annually, to identify any change in the condition of the ACM.

Maintenance staff and contractors should be made aware, either by labeling of ACM, or by training, of the location of existing ACM, so that is not accidentally disturbed during any renovation or maintenance work.

➤ LEAD

There are several areas which contain lead based paint in the buildings. Lead based paint does not pose a risk unless it is disturbed and dust is created allowing for the lead to become airborne. Also, all batteries (emergency lights, alarm systems, miscellaneous) should be recycled and properly disposed of. The table below summarizes the locations and extent of the lead based paint.

Table 75: Extent and Recommendations of Lead Based Paint

| Lead Paint | Extent | Impact* |
|----------------------------|---|--|
| #57 Sewage Lift Pump House | | There is little risk to occupants as long as the paint remains in good to fair condition and is not disturbed. Disturbance of lead based paint causes the release of lead in the dust. |
| Exterior White | Exterior paint on building Total Estimate: 20 m ² | |
| #60 Duplex House | | If the lead based paint is to be disturbed, then the workers must wear appropriate PPE. |
| Exterior White | Trim Total Estimate: 8 m ² plus 4 windows and doors | |
| Interior Yellow | Basement stairwell Total Estimate: 6 m ² | |
| #60A Duplex Garage | | When there is disposal of the lead based paint materials the landfill must be notified of the lead content of the paint. The landfill may require abatement or further testing of the lead paint before disposal, if the paint is in poor condition. |
| Exterior White | Trim Total Estimate: 40 m ² | |
| #62 Weigh Scale | | |
| Exterior White | Exterior paint on building Total Estimate: 10 m ² | |
| Pump house and Lean-to | | |
| Exterior White | Exterior paint on building Total Estimate: 60 m ² | |

*NOTE: any lead based materials must only be handled/abated by trained and experienced personnel.



➤ **PCBs**

There were no PCBs identified in this report. All fluorescent light and HID ballasts should be checked for PCBs at the time of removal using the most current version of Environment Canada publication: Identification of Lamp Ballasts Containing PCBs. Those that do contain PCBs must be handled, packaged and disposed of by the current regulations and personnel must be equipped with proper personal protection equipment.

➤ **MERCURY**

Fluorescent light tubes in the fluorescent light fixtures may contain varying amounts of mercury vapor, even newly purchased tubes/bulbs. There are hundreds of fluorescent tubes and some compact fluorescent bulbs throughout the buildings. All fluorescent lights should be stored to protect from breakage and recycled accordingly.

There were mercury thermostats at:

- #2 Administration Office
- #14 Drying and Threshing Room
- #23 Workshop and Office
- #33 Processing and Carpenter shop
- #60 Duplex House

As long as the mercury containing materials are in good condition and not damaged and mercury remains enclosed (not leaking) there is low risk to occupants. Any mercury items should be recycled and disposed according to current regulations.

A best practice would be to replace the mercury containing thermostats with non-mercury containing units. These newer units are also typically more energy efficient than older mercury-containing units.

➤ **OZONE DEPLETING SUBSTANCES**

Many of the ODS in the building have been removed. The table below outlines the remaining ODS of concern.

- #2 Administration Office – two air conditioners
- #33 Processing and Carpenter shop – freezer and chiller
- #60 Duplex House – two fridges

The ODS units should be recycled/recovered by a qualified and experienced worker according to Ozone Depleting Substances and Halocarbons Regulations.



➤ **RADIOACTIVE MATERIALS**

No radioactive materials were observed on site.

➤ **MOULD**

Mould or water damage which may lead to mould growth was observed at the following locations:

#2 Administration Office
#14 Drying and Threshing Room
#33 Processing and Carpenter shop
#60 Duplex House
Pump House

It is recommended that the source of the water leakage be determined and repaired, and any water damaged materials which are potential sources of mould growth, be abated.

➤ **OTHER**

PESTS

#6 Garage and Storage had a significant amount of bird and rodent feces and #33 Processing and Carpenter Shop had a significant amount of rodent feces in the attic area.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM vermiculite insulation, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

A qualified pest control contractor should be brought in to eliminate the problem. If this involves entering attic spaces, or disturbing ACM, the contractor will need to ensure that the workers are adequately protected from exposure to airborne fibres. The feces should be cleaned up by experienced and trained personnel.

SPILLS/STAINS

Building #23 Workshop and Office had two sumps and one pit and Building #33 Processing and Carpenter Shop had three pits in the floor which may have contamination.

Phase I Environmental Site Assessments should be completed to address this stain and other areas of potential contamination.



If any other suspect materials become exposed during demolition or maintenance activities, the suspect materials should be tested.

Procedures for hazardous materials identified in this report should be developed and communicated to anyone who may come in contact with these materials. Also, anyone who may come in contact with hazardous materials should be informed on how to identify where the hazards may be present and how to proceed if they observe some suspect materials.

A management and monitoring plan should be developed and implemented to address the hazardous materials identified in this report and any possible future hazardous materials which may be encountered.



6.0 LIMITATIONS

Lacombe

The attic space in the garage of building #2a could not be accessed. It is assumed to contain wood chip insulation as seen in the corners of the roof and from the spillage onto the floor. The cage storage in the attic of #21 could not be accessed. The majority of the pipes were not visible through the access panels and the volume of pipe insulation in building #21 could not be estimated. The ACM floor tile in #21 may be underestimated if it is also present under the laminate flooring. The laminate flooring could not be removed to check underneath without substantial damage. The front porch on #41 Beef Unit Residence could not be assessed because it was completely full of items from the floor to ceiling.

Beaverlodge

#14 Soil Research Building contained suspect ACM transite board and for this reason, this board was not drilled/broken to confirm ceiling insulation. The steel housing of the fume hood chimney could not be penetrated in #14; there may be ACM insulation in this area.

Fort Vermillion

The wall insulation in building #14 could not be verified because the walls were suspected to be ACM and therefore were not drilled through. Gaskets are known to contain asbestos and suspect gaskets were observed onsite. The gaskets were not sampled because they were in use and the gasket would have to be destroyed to be sampled. The attic in the west portion of the pump house could not be accessed so it is assumed it contains vermiculite insulation the same as the lean-to.

The subject sites were functioning facilities with areas of the subject buildings which could not be access.

All gaskets were in use and sampling would require dismantling of the subject equipment. Therefore there were no gaskets were sampled.

The diagrams provided and used in this report did not always correlate with the posted room numbers at the time of the sampling. Every effort was made to correlate room numbers, however there may be discrepancies or/and omissions. If there are discrepancies, the location should be verified on site.

This report is for the exclusive use of the client. Any third party use of this report and subsequent reliance or decisions based on this report is made at the sole risk of the third party. Ballast Environmental Consulting Ltd. has no obligation to any third party and will accept no responsibility for any damages suffered by third party use.



This assessment and subsequent conclusions and recommendations have been conducted with a reasonable level of care and skill and in accordance with current environmental assessment standards and practices for this geographic location at the time of the assessment.

This assessment is limited to the scope as previously defined under 1.2 Scope of Work. The data and findings are limited to the date of investigation. This assessment is not and should not be considered an opinion concerning past or present compliance of any past or present owner with any municipal, provincial or federal regulations. No warrantee or guarantee is expressed or implied.

Should you have any questions or comments, feel free to contact the undersigned at info@ballastenvironmental.com or 403.452.3110.

Sincerely,
Ballast Environmental Consulting Ltd.



for
Kassandra Cropley



for
Nicole Brooks, B.Sc.



Elvie Reinson, P.Biol., RPBio, EP



Marshall Denhoff, CIH, ROH

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------|----------|-------------|---------------|--------------------|-------------------------|----------|--------------------------------------|----------------------|--|---------------------|-------------------|------------------------|-----------|---------------------|--------------|-----------|-----------|----------|
| 2: Residence | Bsmt | NW Area | unfinished | open to wood frame | drywall | concrete | - | open | beige | bare | - | - | - | - | - | - | - | - |
| 2: Residence | Bsmt | SW Area | unfinished | open to wood frame | drywall | concrete | - | open | beige | bare | - | mortar | A35 | chimney | - | - | - | negative |
| 2: Residence | Bsmt | SE Area | unfinished | open to wood frame | drywall | concrete | - | open | beige | bare | - | - | - | - | - | - | - | - |
| 2: Residence | Bsmt | NE Area | unfinished | open to wood frame | drywall & wood panel | concrete | misc. chemicals | open | white & green | bare | - | - | - | - | white | P19 | interior | negative |
| | | | | | | | | | | | | - | - | - | green | P18 | stairwell | negative |
| | | | | | | | | | | | | stipple | A33 | shoe box | - | - | - | negative |
| | | | | | | | | | | | | wire | A34 | frame | - | - | - | negative |
| 2: Residence | Main | Foyer | foyer | stipple | wood paneling & drywall | linoleum | - | white | off-white | multi gray | - | plaster | A43 | walls | - | - | - | negative |
| 2: Residence | Main | Porch | porch | wood paneling | wood paneling | linoleum | - | white | white | brown | - | floor covering | A60 | floor | - | - | - | negative |
| 2: Residence | Main | Dining Room | dining room | stipple | drywall | laminat | stipple different from rest of house | white | white | hardwood | - | stipple | A38 | ceiling | - | - | - | negative |
| 2: Residence | Main | Kitchen | kitchen | stipple | drywall | laminat | stipple different from rest of house | white | white | hardwood | - | mortar | A39 | chimney | - | - | - | negative |
| | | | | | | | | | | | | stipple | A61 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | stipple | A37 | ceiling | - | - | - | negative |
| 2: Residence | Main | Living Room | living room | stipple | drywall | laminat | - | white | pink | hardwood | - | - | - | - | - | - | - | - |
| 2: Residence | Main | Hall | hall | stipple | drywall | laminat | - | white | beige | hardwood | - | drywall mud | A40 | in closet | - | - | - | positive |
| 2: Residence | Main | Washroom | washroom | drywall | drywall | plywood | unfinished | white | white | bare | - | drywall mud | A42 | wall | - | - | - | negative |
| 2: Residence | Main | Bedroom #1 | bedroom | stipple | drywall | laminat | - | white | dark gray | hardwood | - | - | - | - | - | - | - | - |
| 2: Residence | Main | Bedroom #2 | bedroom | stipple | drywall | laminat | - | white | green | hardwood | - | drywall mud | A41 | closet | - | - | - | negative |
| 2: Residence | Attic | Attic | attic | | | | | | | | | vermiculite insulation | A63 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A90 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A91 | attic | - | - | - | positive |
| 2: Residence | Exterior | - | exterior | asphalt shingles | wood siding | - | - | gray | white & dark green trim | - | - | - | - | - | white | P20 | exterior | negative |
| | | | | | | | | | | | | - | - | - | dark green | P13 | trim | positive |
| | | | | | | | | | | | | tar paper | A44 | south edge of house | - | - | - | negative |
| | | | | | | | | | | | | caulking | A36 | window | - | - | - | negative |
| 2A: Garage | Main | - | single garage | wood slats | wood slats | concrete | - | light green interior | exterior: white, interior: light green | bare | - | - | - | - | green | P14 | interior | negative |
| | | | | | | | | | | | | caulking | A46 | exterior window | - | - | - | negative |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------|-------|------|-----------------|-----------------------------|--------------------------|------------|--|---------------|-----------------------------|---------------------|-------------------|-----------------|-----------|------------------------|--------------|-----------|----------|----------|
| 10: Machine Pole Barn | Main | - | storage | wood | wood frame, metal siding | dirt floor | misc. chemicals and hydrocarbon staining | open frame | white & red, green exterior | n/a | - | - | - | - | red | P30 | interior | negative |
| | | | | | | | | | | | | - | - | - | white | P31 | exterior | positive |
| 21: Administration | Bsmt | 4 | office | tile | plaster | tile | - | white | white | green/black | 2x4 | 9x9 | A96 | green/black floor tile | - | - | - | positive |
| 21: Administration | Bsmt | 5 | office | tile | plaster | laminated | - | white | white | hardwood | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 6 | office | tile | concrete | tile | - | white | white | green/black | 2x4 | 9x9 | A94 | green/black floor tile | - | - | - | positive |
| | | | | | | | | | | | | 9x9 | A95 | green/black floor tile | - | - | - | positive |
| 21: Administration | Bsmt | 7 | office | tile | plaster | tile | - | white | yellow | hardwood | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 8 | office | tile | plaster | tile | - | white | white | green/black | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 9 | office | tile | plaster | laminated | - | white | beige | hardwood | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 13* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 14 | electrical room | metal foil with fibre glass | plaster | concrete | - | - | brown | bare | - | - | - | - | brown | P5 | wall | negative |
| | | | | | | | | | | | | plaster | A22 | wall | - | - | - | negative |
| 21: Administration | Bsmt | 16 | washroom | tile | ceramic tile | tile | - | white | white | black & white | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 22 | offices | tile | plaster | linoleum | - | white | off-white | peach marble (new) | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 26* | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 27 | office | tile | plaster | laminated | - | white | - | hardwood | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 29 | office | tile | plaster | linoleum | - | white | white | brown streak | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 30 | office | tile | plaster | laminated | - | white | - | hardwood | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 31* | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | 125* | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------|-------|---------------|-------------|-----------------------------|--------------------------|----------------|---|---------------|------------|---------------------|-------------------|-----------------------|-----------|------------|--------------|-----------|----------|----------|
| 21: Administration | Bsmt | Corridor 3 | corridor | stipple | plaster | rock/ concrete | emergency light & hose cabinet | white | beige | rocks | - | stipple | A18 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | pipe elbow insulation | A65 | pipe elbow | - | - | - | positive |
| | | | | | | | | | | | | pipe insulation | A66 | pipe | - | - | - | positive |
| | | | | | | | | | | | | pipe insulation | A67 | pipe | - | - | - | positive |
| 21: Administration | Bsmt | Corridor 4 | corridor | stipple | plaster | rock/ concrete | emergency light, possible mercury switch & hose cabinet | white | beige | rocks | - | pipe insulation | A68 | pipe | - | - | - | positive |
| | | | | | | | | | | | | stipple | A20 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | stipple | A23 | ceiling | - | - | - | negative |
| 21: Administration | Bsmt | Office | office | tile | plaster | linoleum | - | white | - | peach marble (new) | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | Printer Room | - | - | plaster | - | - | - | white | - | - | plaster | A19 | wall | - | - | - | negative |
| 21: Administration | Bsmt | Computer Room | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Bsmt | Boiler Room | boiler room | metal foil with fibre glass | plaster | concrete | mercury switch | - | white | - | - | plaster | A21 | wall | - | - | - | negative |
| 21: Administration | Main | Foyer | foyer | stipple | plaster & wood panelling | rock/ concrete | emergency light | white | white | rocks | - | - | - | - | - | - | - | - |
| 21: Administration | Main | Vault | vault | plaster | plaster | concrete | - | white | white | gray | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 102 | office | tile | plaster | linoleum | - | white | - | tree bark | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 103 | office | tile | plaster | linoleum | - | white | pink | brown | 2x4 | brown sheet linoleum | A97 | floor | - | - | - | negative |
| 21: Administration | Main | 104 | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 105 | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 106 | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 109 | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 110 | office | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | 111 | office | tile | plaster | linoleum | - | white | yellow | gray lines | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 112 | washroom | tile | ceramic tile | tile | - | white | - | black & white | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 113 | washroom | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------|----------|----------------------|-------------|--------------|---------------|----------------|--------------------------------|---------------|----------------|---------------------|-------------------|--------------------------|-----------|----------------|---------------------|-----------|--------------|----------|
| 21: Administration | Main | 113- Janitors Closet | closet | tile | plaster | concrete | misc. cleaners | white | white | black & white | 1x1 | - | - | - | green | P2 | wall | negative |
| | | | | | | | | | | | | ceiling tile | A10 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | plaster | A11 | wall | - | - | - | negative |
| 21: Administration | Main | Reception | reception | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21: Administration | Main | Post Office | post office | tile | plaster | linoleum | - | white | white | brown (new) | 2x4 | brown sheet linoleum | A98 | floor | - | - | - | negative |
| 21: Administration | Main | 116 | office | tile | plaster | linoleum | - | white | - | blue marble (new) | 2x4 | - | - | - | white on dark green | P3 | window sills | negative |
| 21: Administration | Main | 117 | office | tile | plaster | linoleum | - | white | - | blue marble (new) | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 118 | - | tile | plaster | linoleum | water damage & mercury switch | white | - | blue marble (new) | 2x4 | - | - | - | purple on white | P4 | wall | negative |
| | | | | | | | | | | | | plaster | A15 | ceiling | - | - | - | negative |
| 21: Administration | Main | 120 | office | tile | plaster | linoleum | water damage | white | - | tree bark | 2x4 | tree bark linoleum | A12 | floor | - | - | - | negative |
| 21: Administration | Main | 121 | office | tile | plaster | linoleum | - | white | - | blue/gray lines | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 122 | office | tile | plaster | linoleum | - | white | yellow | blue/gray lines | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 123 | office | tile | plaster | linoleum | - | white | white | blue/gray lines | 2x4 | blue/gray lines linoleum | A13 | floor | - | - | - | negative |
| 21: Administration | Main | 124 | office | tile | plaster | linoleum | - | white | white | blue/gray lines | 2x4 | - | - | - | - | - | - | - |
| 21: Administration | Main | 125 | office | textured | plaster | tile | - | white | white | multi | - | - | - | - | - | - | - | - |
| 21: Administration | Main | N Stairwell | stairwell | drywall | plaster | rock/ concrete | 2 emergency lights | white | white | rocks | - | - | - | - | white | A9 | wall | negative |
| 21: Administration | Main | W Stairwell | stairwell | drywall | plaster | rock/ concrete | - | white | white | rocks | - | - | - | - | - | - | - | - |
| 21: Administration | Main | Corridor 1 | corridor | stipple | plaster | rock/ concrete | fire hose cabinet | white | white | rocks | - | stipple | A16 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | plaster | A14 | attic access | - | - | - | negative |
| 21: Administration | Main | Corridor 2 | corridor | stipple | plaster | rock/ concrete | emergency light & hose cabinet | white | white | rocks | - | stipple | A17 | ceiling | - | - | - | negative |
| 21: Administration | Attic | Attic | attic | metal (new) | metal & brick | old roof (tar) | mercury switch; water damage | white | white | black | - | duct putty | A1 | duct | - | - | - | negative |
| | | | | | | | | | | | | mortar | A2 | south | - | - | - | negative |
| | | | | | | | | | | | | mortar | A3 | north | - | - | - | negative |
| | | | | | | | | | | | | roof panel | A4 | south | - | - | - | negative |
| | | | | | | | | | | | | roof panel | A5 | east | - | - | - | negative |
| | | | | | | | | | | | | roof panel | A6 | north | - | - | - | negative |
| | | | | | | | | | | | | roof tar | A7 | north | - | - | - | negative |
| | | | | | | | | | | | | roof tar | A8 | east | - | - | - | negative |
| 21: Administration | Exterior | - | exterior | - | brick | - | - | - | white & brick | - | - | - | - | - | white | P11 | window frame | positive |
| | | | | | | | | | | | | mortar | A30 | exterior walls | - | - | - | negative |
| | | | | | | | | | | | | caulking | A31 | window | - | - | - | negative |
| | | | | | | | | | | | | caulking | A32 | window | - | - | - | negative |
| 38: Pump House | - | - | pump house | asphalt roof | wood | concrete | no insulation | white | interior white | bare | - | - | - | - | white | P24 | exterior | positive |
| | | | | | | | | | | | | tar paper | A71 | walls | - | - | - | negative |

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| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-------------------------|----------|----------------------|--------------|------------------|----------------------------|--------------------|----------------------------------|---------------|---------------------|-------------------------------|-------------------|------------------------|-----------|----------------|--------------|-----------|----------|----------|
| 38A: Beef Unit Garage | Main | 1 | - | wood | wood | concrete | mercury thermostat | white | white | gray | - | - | - | - | white | P23 | wall | negative |
| | | | | | | | | | | | | - | - | - | gray | P22 | floor | negative |
| | | | | | | | | | | | | floor tile | A70 | behind furnace | - | - | - | positive |
| | | | | | | | | | | | | mortar | A62 | chimney | - | - | - | negative |
| 38A: Beef Unit Garage | Main | 2 | - | wood | plywood | concrete | - | white | white | gray | - | - | - | - | - | - | - | - |
| 38A: Beef Unit Garage | Main | 3 | - | wood | wood | plywood | - | white | white | gray | - | - | - | - | - | - | - | - |
| 38A: Beef Unit Garage | Main | 4 | - | wood | wood | concrete | - | white | white | bare | - | - | - | - | - | - | - | - |
| 38A: Beef Unit Garage | Attic | - | attic | wood | wood | - | wool over vermiculite insulation | - | - | - | - | vermiculite insulation | A93 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A69 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A92 | attic | - | - | - | positive |
| 38A: Beef Unit Garage | Exterior | Exterior | exterior | asphalt shingles | wood | - | - | gray | white | - | - | - | - | - | white | P21 | exterior | positive |
| | | | | | | | | | | | | - | - | - | white | P16 | exterior | positive |
| | | | | | | | | | | | | caulking | A73 | window | - | - | - | negative |
| 40: Beef Unit Test Barn | Main | Barn | barn/garage | plywood | plywood | concrete | - | white | brown & white | bare | - | - | - | - | brown | P25 | interior | negative |
| 40: Beef Unit Test Barn | - | Corrals | corrals | wood & metal | wood & metal | - | - | bare | white & bare | - | - | - | - | - | white | P26 | interior | negative |
| 40: Beef Unit Test Barn | Attic | - | attic | wood | tin | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 40: Beef Unit Test Barn | Exterior | - | exterior | eaves | wood soffits, metal siding | - | - | gray | white trim | - | - | caulking | A72 | window | - | - | - | positive |
| 41: Beef Unit Residence | Bsmt | Cold Room | cold room | wood | wood | concrete | - | bare | bare | gray | - | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Bsmt | Utility Room | utility room | unfinished | concrete | concrete | - | n/a | bare | gray | - | - | - | - | gray | P15 | floor | negative |
| | | | | | | | | | | | | mortar | A49 | chimney | - | - | - | negative |
| 41: Beef Unit Residence | Bsmt | Foyer | foyer | tile | wood paneling | concrete | radioactive fire detector | white | brown | gray | 1x1 | - | - | - | white | A50&A51 | ceiling | negative |
| | | | | | | | | | | | | ceiling tile | A50 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | ceiling tile | A51 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | ceiling tile | A52 | ceiling | - | - | - | negative |
| 41: Beef Unit Residence | Bsmt | Basement Bedroom | bedroom | tile | wood paneling | carpet | - | white | dark purple | gray | 1x1 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - | - | - | - |
| | | | | | | | | | | | | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Bsmt | Basement Living Room | living room | tile | wood paneling | carpet | - | light purple | dark & light purple | gray | 1x2 | ceiling tile | A57 | ceiling | - | - | - | negative |
| 41: Beef Unit Residence | Main | Porch | porch | tile | - | - | - | - | - | - | - | ceiling tile | A59 | ceiling | - | - | - | negative |
| 41: Beef Unit Residence | Main | Hallway | hallway | stipple | drywall | laminat | radioactive fire detector | white | dark brown | hardwood | - | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Main | Stairwell | stairwell | stipple | drywall | laminat & linoleum | - | white | brown | hardwood | - | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Main | Kitchen | kitchen | stipple | drywall | laminat over tile | - | white | brown | hardwood & tile: pink & beige | - | pink floor tile | A47 | under laminat | - | - | - | negative |
| | | | | | | | | | | | | beige floor tile | A48 | under laminat | - | - | - | negative |
| 41: Beef Unit Residence | Main | Dining Room | dining room | stipple | drywall | laminat | - | white | brown | hardwood | - | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Main | Living Room | living room | stipple | drywall | laminat | - | white | brown | hardwood | - | - | - | - | - | - | - | - |
| 41: Beef Unit Residence | Main | Main Bedroom | bedroom | stipple | drywall | laminat | - | white | yellow | hardwood | - | drywall mud | A53 | behind door | - | - | - | negative |

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| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|------------------------------|----------|--------------|-------------------|-----------------------------------|------------------------|------------------|--------------------------------|---------------|--------------------------|---------------------|-------------------|------------------------|-----------|------------------|--------------|-----------|------------|----------|
| 41: Beef Unit Residence | Main | Bedroom #2 | bedroom | stipple | drywall | laminat | - | white | yellow | hardwood | - | drywall mud | A55 | behind door | - | - | - | negative |
| 41: Beef Unit Residence | Main | Washroom | washroom | stipple | drywall & ceramic tile | linoleum | - | white | brown | blue & white | - | drywall mud | A54 | closet | - | - | - | negative |
| 41: Beef Unit Residence | Attic | - | attic | - | - | - | - | - | - | - | - | vermiculite insulation | A88 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A89 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A58 | attic | - | - | - | positive |
| 41: Beef Unit Residence | Exterior | - | exterior | asphalt shingles | siding | - | - | gray | white | - | - | - | - | - | - | - | - | - |
| 41A:Shed | main | - | shed | wood slat | plywood & wood slat | wood slat | misc. chemicals | gray | white | bare | - | - | - | - | white | P17 | exterior | positive |
| 42A: Beef Unit Bull Barn | Main | - | barn | wood | corrugated tin | n/a | creosote poles | green | bare | - | - | - | - | - | - | - | - | - |
| 42B: Dry Cow FeedLot | Main | - | feedlot | open frame-wood, asphalt shingles | wood with metal siding | concrete | creosote wood & old wiring | - | bare, green & white trim | bare | - | - | - | - | dark green | P27 | trim/doors | negative |
| 42F,H,I: Beef Unit Hay Sheds | Main | - | sheds | wood | wood poles | n/a | - | - | green | - | - | - | - | - | - | - | - | - |
| 42J: Cow and Calf Shelter | Main | - | livestock shelter | wood & metal | wood & metal | n/a | - | - | - | - | - | - | - | - | - | - | - | - |
| 42L: Storage | Main | - | storage | wood | wood | n/a | creosote poles | - | - | - | - | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Exterior | - | exterior | metal | metal | concrete | - | dark | white | bare | - | glazing | A87 | window | - | - | - | positive |
| 52: Machine & Vehicle Repair | Main | *Office | office | * | * | tile | * | * | * | brown streak | * | floor tile | A83 | floor | - | - | - | positive |
| 52: Machine & Vehicle Repair | Main | Washroom | washroom | tile | panels | ceramic tile | - | white | white | dark gray/brown | - | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Main | Stairwell | stairwell | - | - | rubber over wood | - | - | - | gray | - | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Main | East Bay | bay | open to framing | wood & plywood | concrete | 2 mercury thermostats | open | white & gray | bare | - | - | - | - | gray | P33 | work bench | negative |
| | | | | | | | | | | | | insulation | A85 | north wall | - | - | - | negative |
| | | | | | | | | | | | | welding screen | A84 | west part of bay | - | - | - | negative |
| 52: Machine & Vehicle Repair | Main | Tool Room | tool storage | open to framing | plywood | concrete | - | open | white | bare | - | - | - | - | yellow | P32 | shelves | negative |
| 52: Machine & Vehicle Repair | Main | Furnace Room | furnace room | open to framing | wood | concrete | - | open | white & bare | bare | - | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Main | Under Stairs | storage | stairs | cinderblock/wood | concrete | - | bare | bare | bare | - | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Main | *Store | store | * | * | * | * | * | * | * | * | - | - | - | - | - | - | - |
| 52: Machine & Vehicle Repair | Main | West Bay | bay | wood frame | plywood | concrete | - | - | white | bare | - | insulation | A86 | ceiling | - | - | - | negative |
| 52: Machine & Vehicle Repair | Upper | Kitchen | kitchen | stipple | drywall | linoleum | mercury thermostat, R12 fridge | white | green | brown streak | - | linoleum | A82 | floor | - | - | - | negative |
| | | | | | | | | | | | | stipple | A80 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | stipple | A81 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | drywall mud | A77 | wall | - | - | - | negative |
| 52: Machine & Vehicle Repair | Upper | Office | office | * | * | * | * | * | * | * | * | - | - | - | - | - | - | - |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|------------------------------|----------|-------------------|-------------------|-----------------|--------------------|-----------------|-----------------------------------|---------------|--------------|---------------------|-------------------|-------------------------|-----------|-------------------|-------------------|-----------|------------|----------|
| 52: Machine & Vehicle Repair | Upper | North Office | office | stipple | drywall | linoleum | - | white | green | brown streak | - | drywall mud | A76 | wall | - | - | - | negative |
| | | | | | | | | | | | | stipple | A79 | ceiling | - | - | - | negative |
| 53: Header House | Main | Corridor 5 | corridor | metal | wood & cinderblock | rock/concrete | mercury switch & emergency lights | white | yellow | gray | - | - | - | - | yellow over green | P10 | wall | negative |
| 53: Header House | Main | Boiler Room | boiler room | panel board | panel board | concrete | misc. chemicals | pink & brown | pink & brown | gray | - | - | - | - | pink/brown | A24 | wall | *** |
| | | | | | | | | | | | | - | - | - | brown | A25 | wall | *** |
| | | | | | | | | | | | | pink/brown panel board | A24 | wall | - | - | - | positive |
| | | | | | | | | | | | | brown panel board | A25 | wall | - | - | - | positive |
| 53: Header House | Main | 3E | wood working | metal | wood paneling | tile | possible ACM cabinet | white | white | brown streak | - | brown streak floor tile | A27 | floor | - | - | - | positive |
| 53: Header House | Main | 2E | AV equipment room | metal | wood & cinderblock | tile | - | white | pink | brown streak | - | - | - | - | pink over yellow | P8 | wall | negative |
| | | | | | | | | | | | | sink insulation | A64 | underside of sink | - | - | - | positive |
| | | | | | | | | | | | | brown streak floor tile | A26 | floor | - | - | - | positive |
| 53: Header House | Main | Wood Working Shop | shop | metal | wood | concrete | misc. chemicals | white | white | gray | - | - | - | - | - | - | - | - |
| 53: Header House | Main | Storage Room | storage | metal | wood panels | concrete | - | white | - | gray | - | - | - | - | - | - | - | - |
| 53: Header House | Main | Gym | gym | metal | wood | carpet | - | white | white | gray | - | - | - | - | white | P9 | - | negative |
| 53: Header House | Exterior | - | exterior | metal | metal | - | - | - | white | - | - | - | - | - | - | - | - | - |
| 54: Animal Hospital | Main | Corral | open area | open wood frame | metal & wood | concrete | creosote wood & old wiring | open | bare | bare | - | - | - | - | - | - | - | - |
| 54: Animal Hospital | Main | Corral | closed area | plywood | metal & wood | concrete & wood | - | white | white & bare | bare | - | - | - | - | - | - | - | - |
| 54: Animal Hospital | Main | Hospital | hospital area | wood | wood | concrete | mercury thermostat | white | white | bare | - | vermiculite insulation | A75 | wall | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A45 | walls/ceiling | - | - | - | positive |
| | | | | | | | | | | | | vermiculite insulation | A29 | walls-exposed | - | - | - | positive |
| | | | | | | | | | | | | - | - | - | white | P29 | interior | positive |
| 54: Animal Hospital | Main | Entrance | office | wood | wood | tile | - | white | white | brown streak | - | floor tile | A74 | floor | - | - | - | positive |
| 54: Animal Hospital | Main | Chiller | chiller | plastic | plastic | concrete | - | white | white | bare | - | - | - | - | - | - | - | - |
| 54: Animal Hospital | Attic | Attic | attic | wood | wood | wood | animal feces | - | - | - | - | - | - | - | - | - | - | - |
| 54: Animal Hospital | Exterior | - | exterior | metal | wood & metal | concrete | ODS: R502 | - | white trim | - | - | - | - | - | white | P28 | doors/trim | negative |

* no access ** limited visibility of area ***Sample not analyzed



Scale: NTS

VICINITY MAP



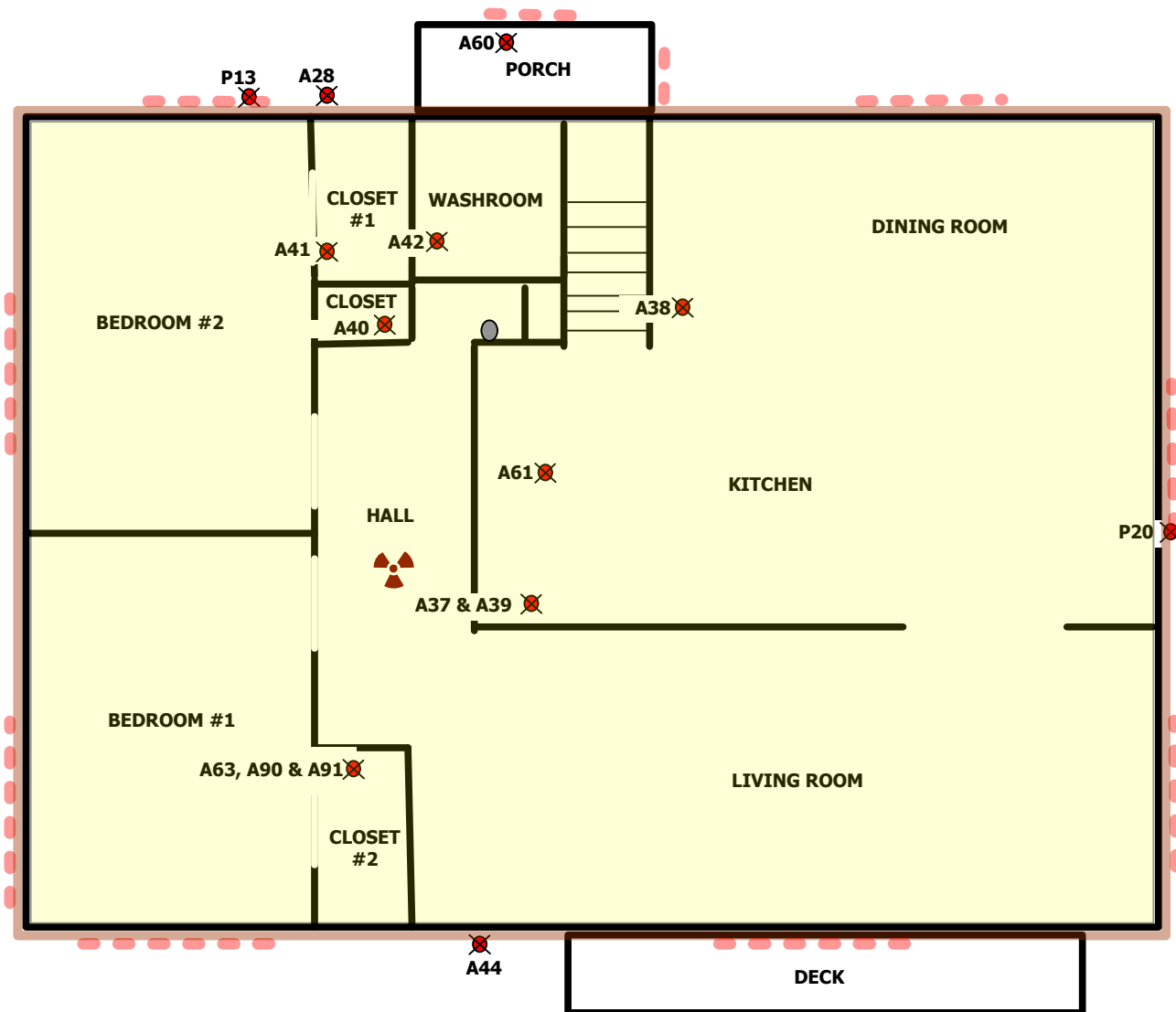
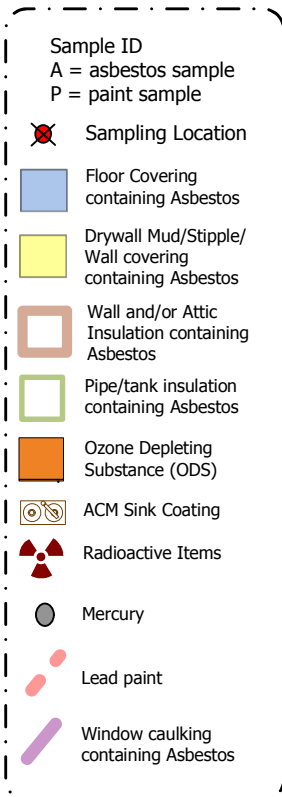
*Hay Sheds 42F, 42H & 42I not seen on diagrams but were assessed

Building
Assessed
Building
Number

#

Scale: NTS

BUILDINGS ASSESSED



Scale: NTS

SITE SAMPLING DIAGRAM: #2 RESIDENCE Main Floor



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

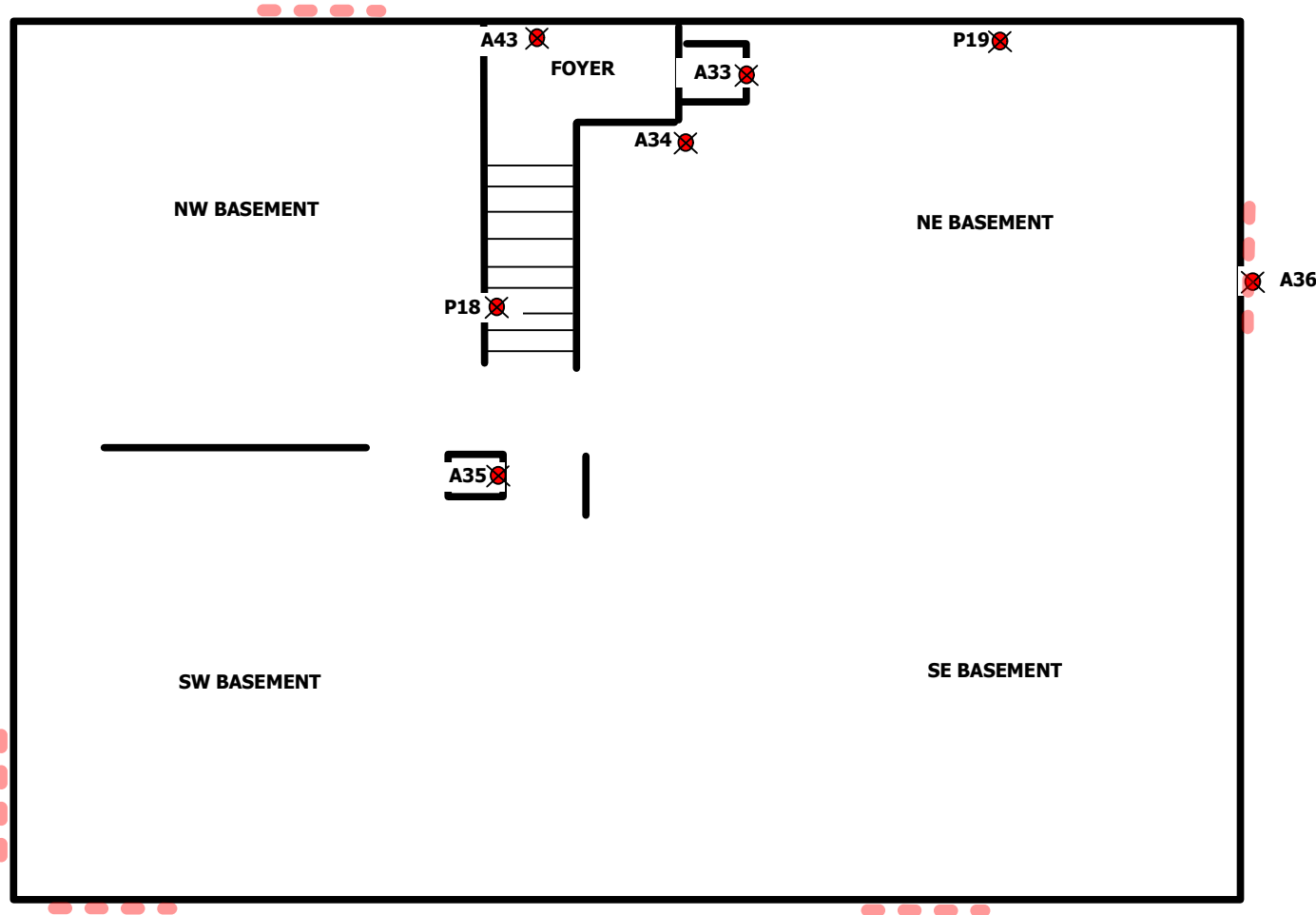
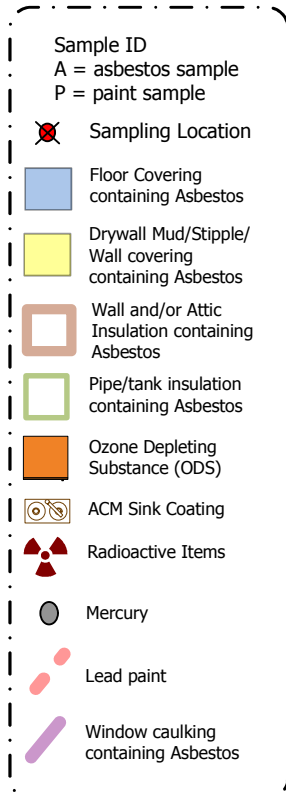
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-3**



Scale: NTS

SITE SAMPLING DIAGRAM: #2 RESIDENCE Basement



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

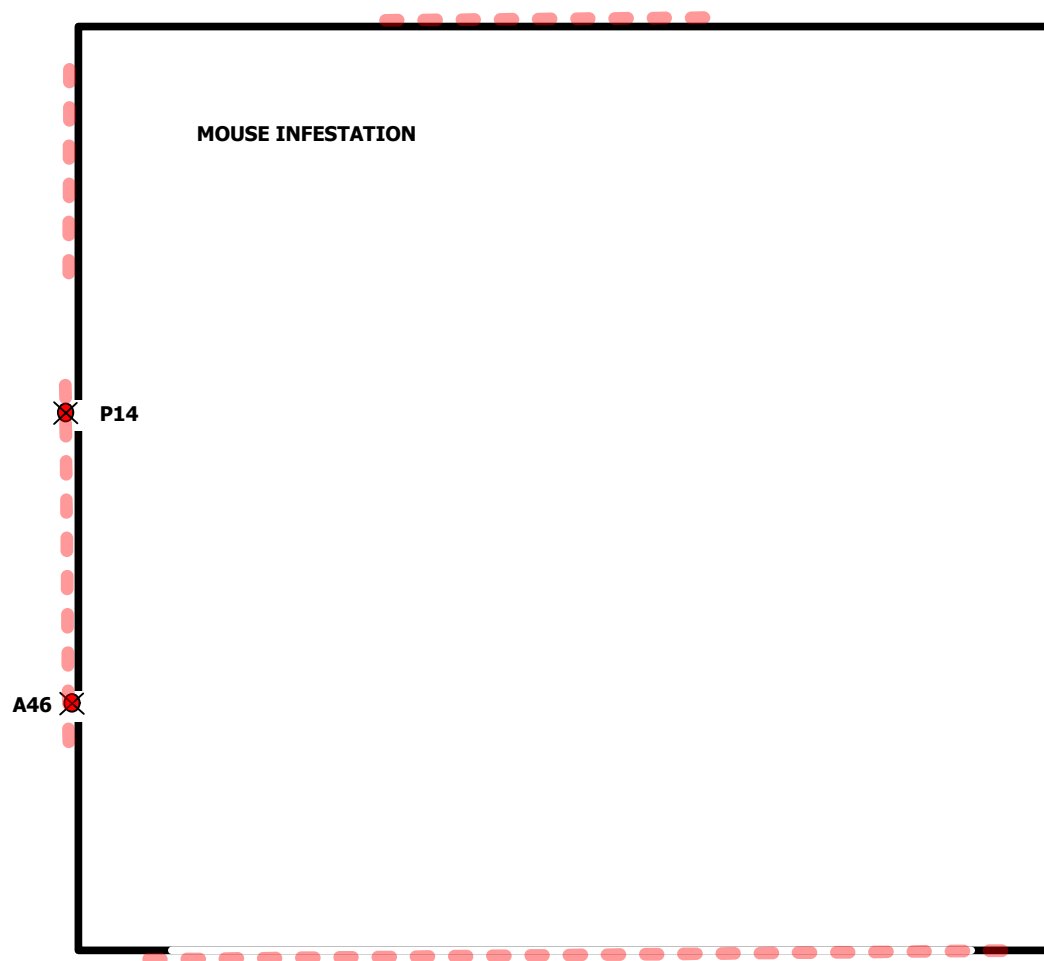
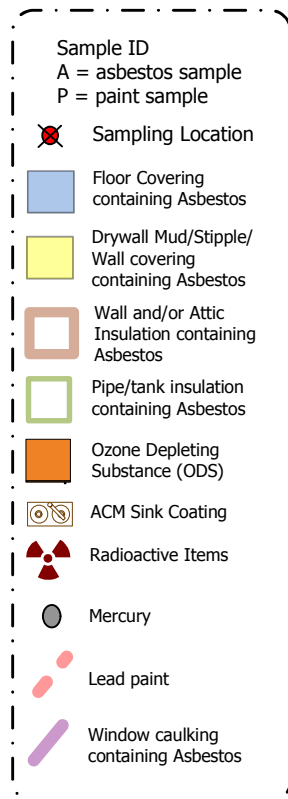
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-4**



Scale: NTS

SITE SAMPLING DIAGRAM: #2A GARAGE



Date: Jan 17, 2011

Edited: Mar 8, 2011

Drawn by: KC

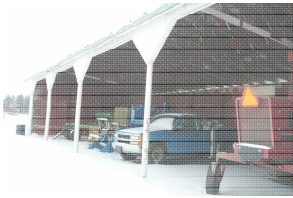
Edited by: KC

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-5**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

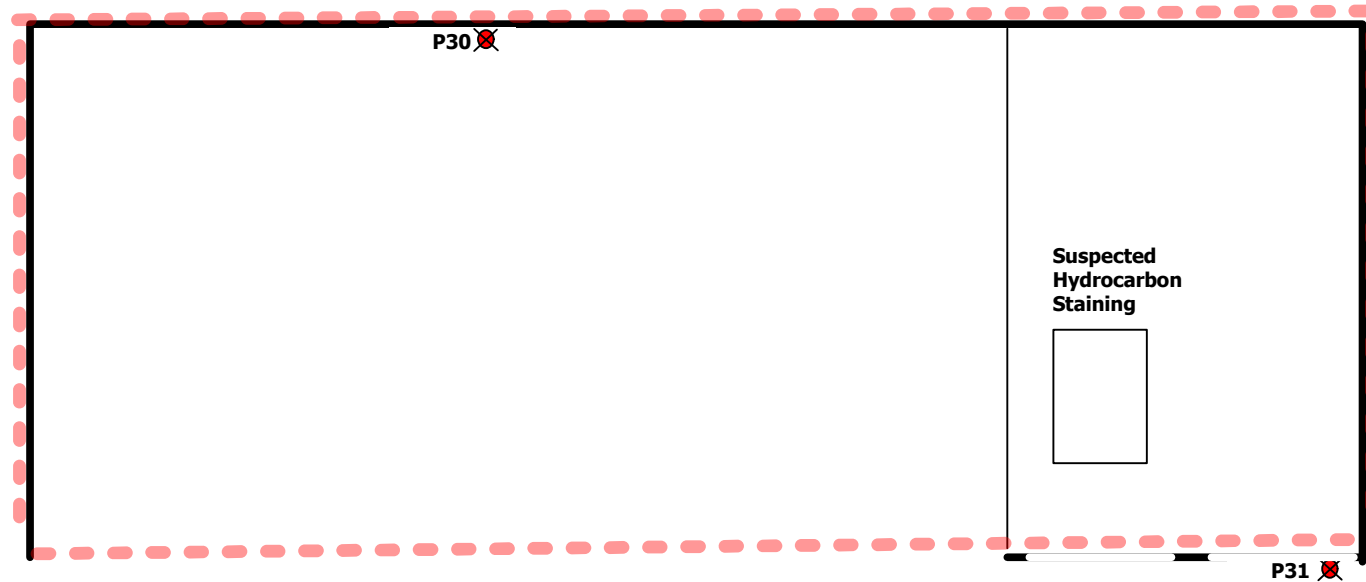
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #10 MACHINE POLE BARN Main



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

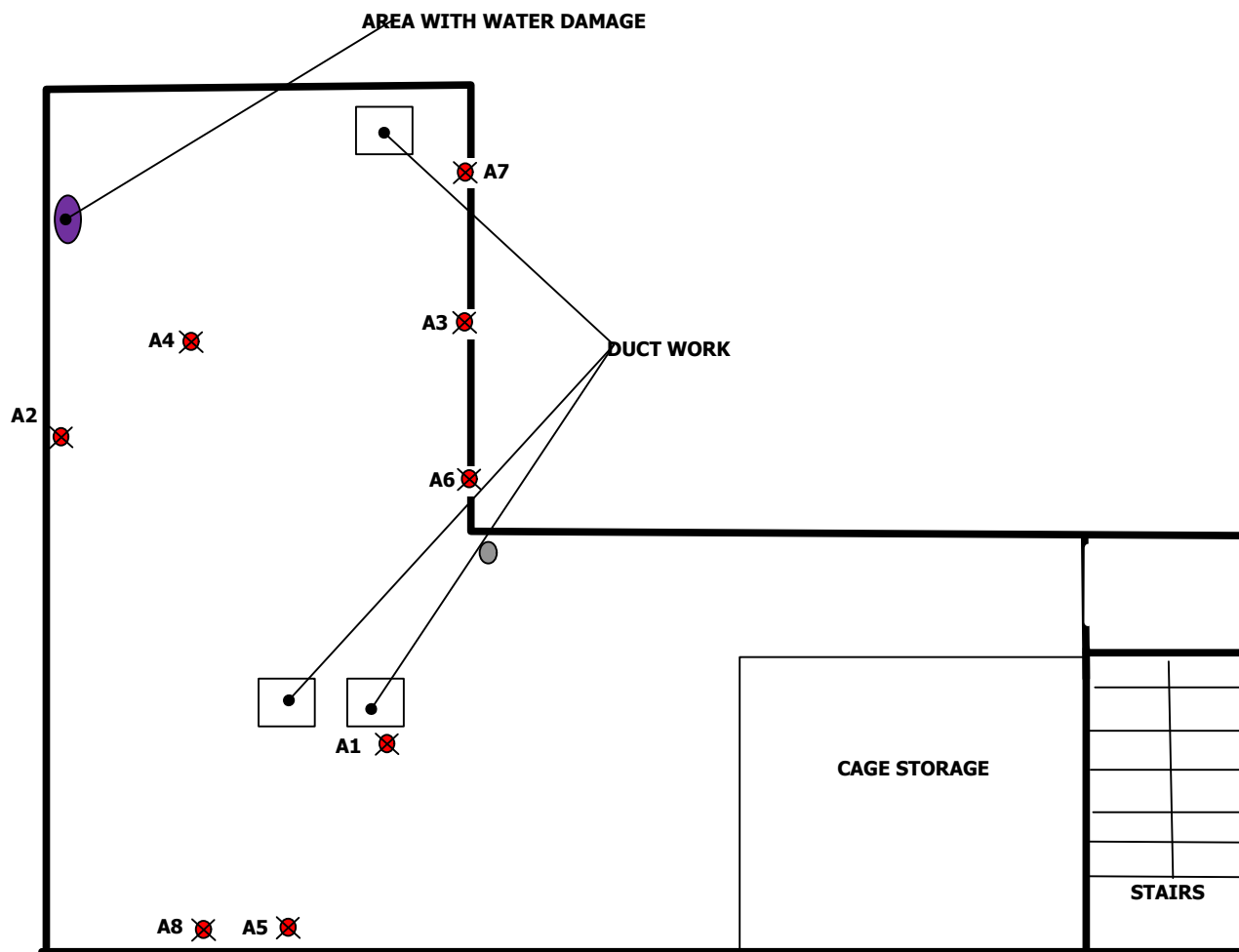
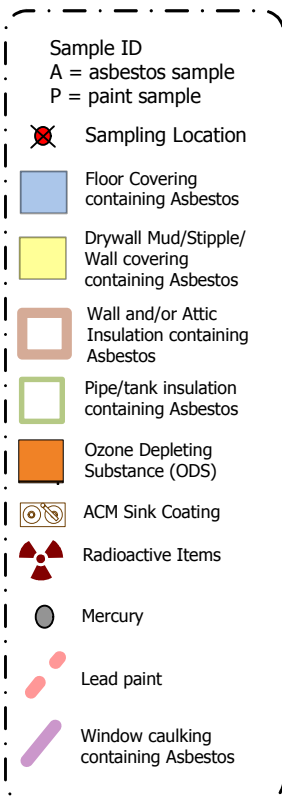
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-6**



Scale: NTS

SITE SAMPLING DIAGRAM: #21 ADMINISTRATION Attic



Date: Jan 17, 2011

Drawn by: KC

Project Name: Hazardous Materials Assessment

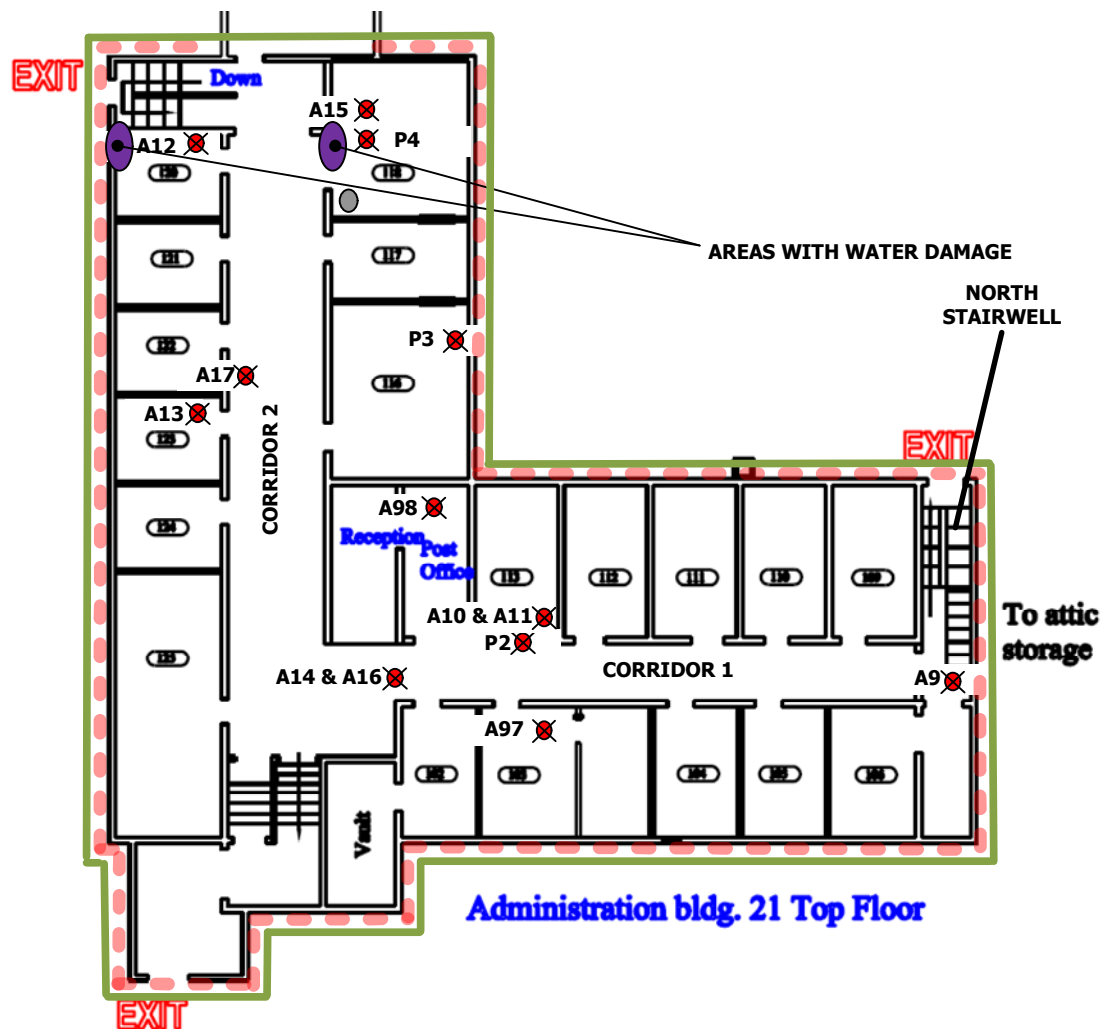
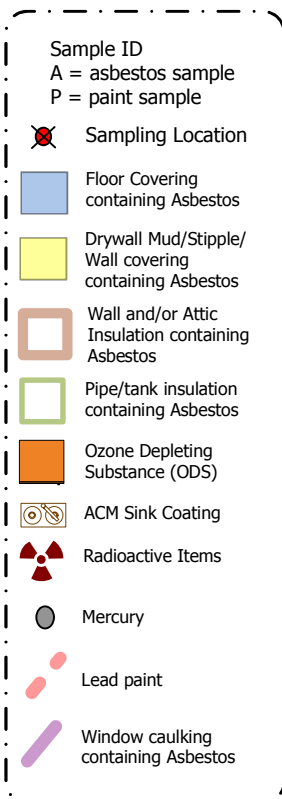
Project No.: 11166

**Appendix
1b-7**

Edited: Mar 8, 2011

Edited by: KC

Project Location: Lacombe Research Centre



Scale: NTS

SITE SAMPLING DIAGRAM: #21 ADMINISTRATION Main



Date: Jan 17, 2011

Drawn by: KC

Project Name: Hazardous Materials Assessment

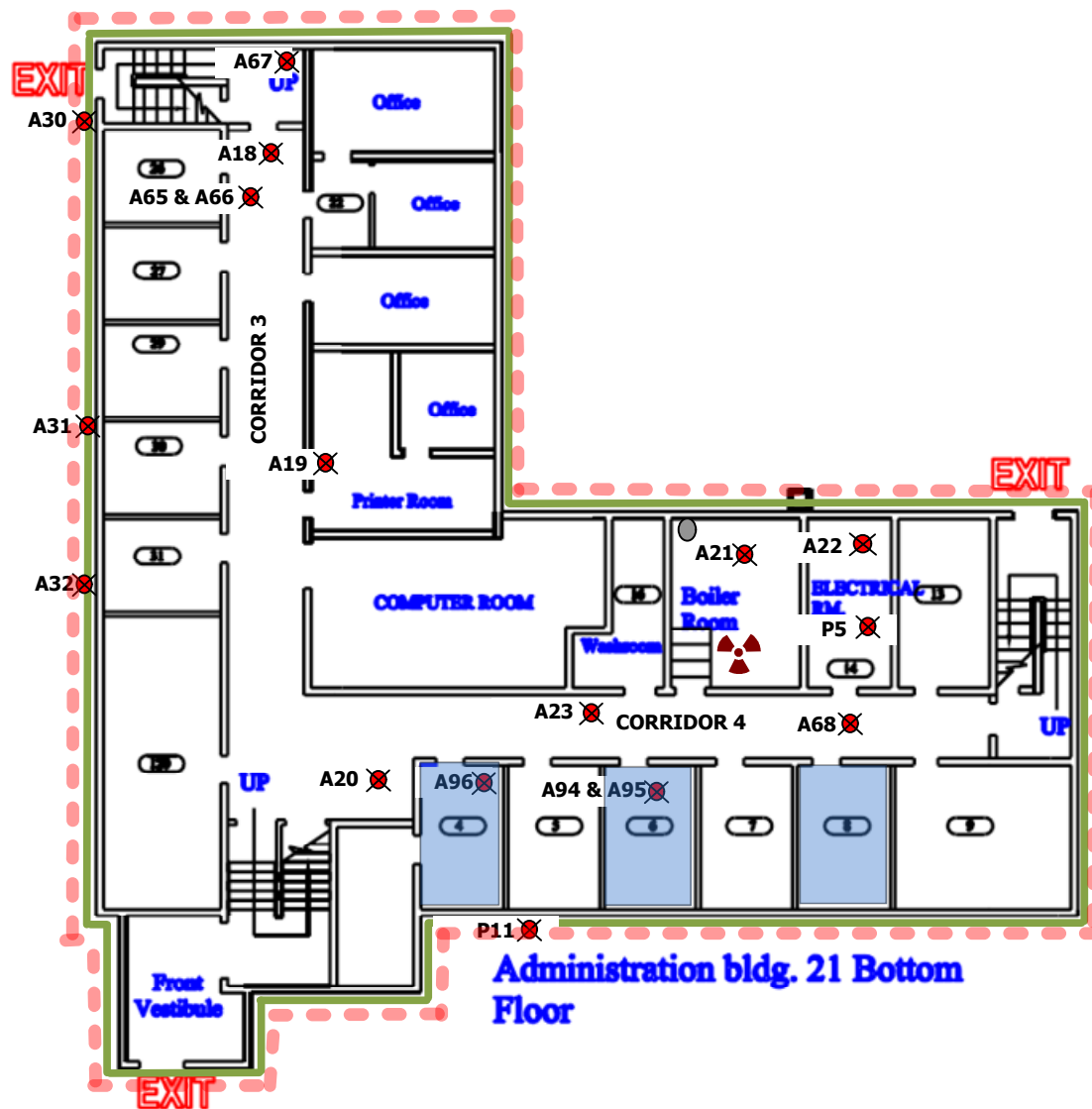
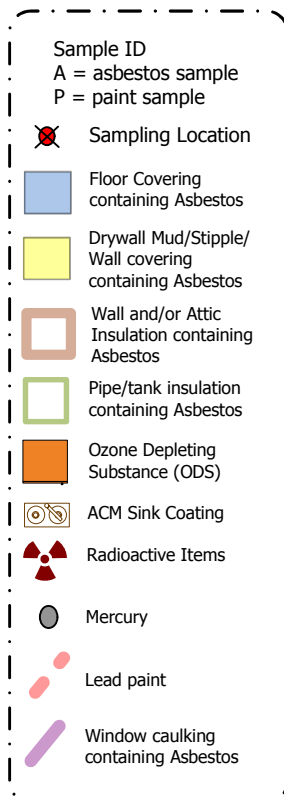
Project No.: 11166

**Appendix
1b-8**

Edited: Mar 8, 2011

Edited by: ER

Project Location: Lacombe Research Centre



Scale: NTS

SITE SAMPLING DIAGRAM: #21 ADMINISTRATION Basement



Date: Jan 17, 2011

Drawn by: KC

Project Name: Hazardous Materials Assessment

Project No.: 11166

**Appendix
1b-9**

Edited: Feb 16, 2011

Edited by: ER

Project Location: Lacombe Research Centre



Sample ID
 A = asbestos sample
 P = paint sample

✗ Sampling Location

■ Floor Covering containing Asbestos

■ Drywall Mud/Stipple/ Wall covering containing Asbestos

■ Wall and/or Attic Insulation containing Asbestos

■ Pipe/tank insulation containing Asbestos

■ Ozone Depleting Substance (ODS)

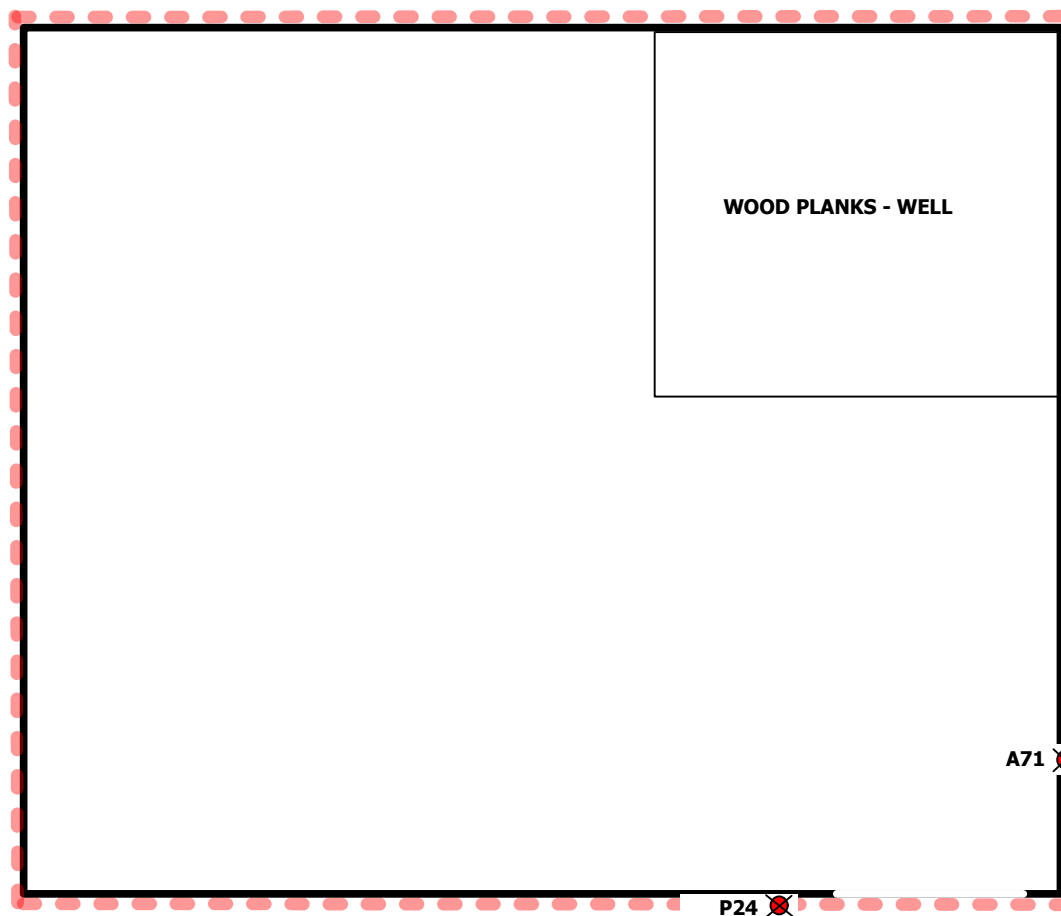
⊙ ACM Sink Coating

☢ Radioactive Items

● Mercury

● Lead paint

● Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #38 BEEF UNIT PUMP HOUSE



Date: Jan 17, 2011

Drawn by: KC

Project Name: Hazardous Materials Assessment

Project No.: 11166

Edited: Mar 8, 2011

Edited by: KC

Project Location: Lacombe Research Centre

**Appendix
1b-10**



Sample ID
 A = asbestos sample
 P = paint sample

✗ Sampling Location

Blue square: Floor Covering containing Asbestos

Yellow square: Drywall Mud/Stipple/Wall covering containing Asbestos

Orange square: Wall and/or Attic Insulation containing Asbestos

Green square: Pipe/tank insulation containing Asbestos

Orange square: Ozone Depleting Substance (ODS)

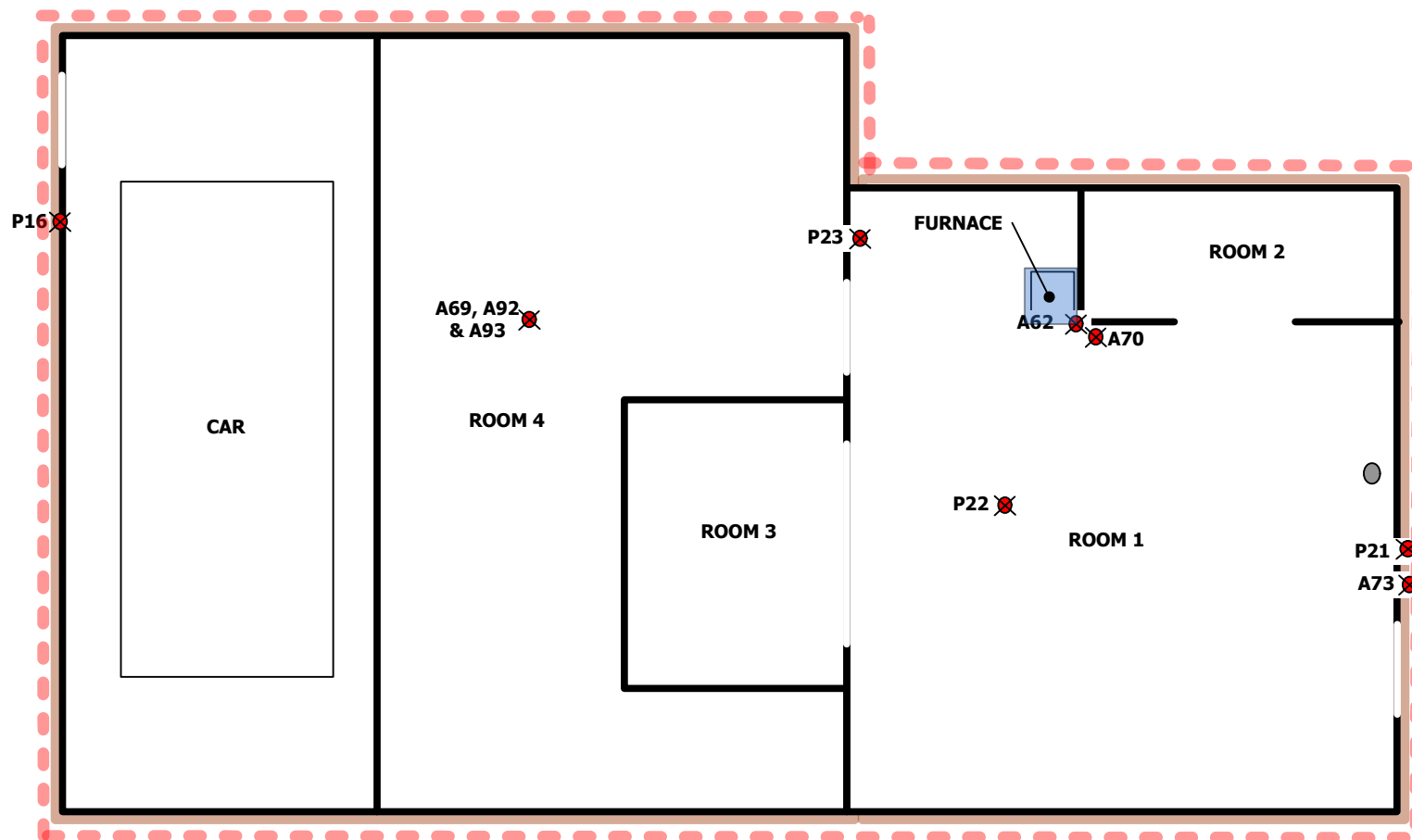
Icon: ACM Sink Coating

Red radiation symbol: Radioactive Items

Grey circle: Mercury

Red line: Lead paint

Purple line: Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #38A BEEF UNIT GARAGE



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

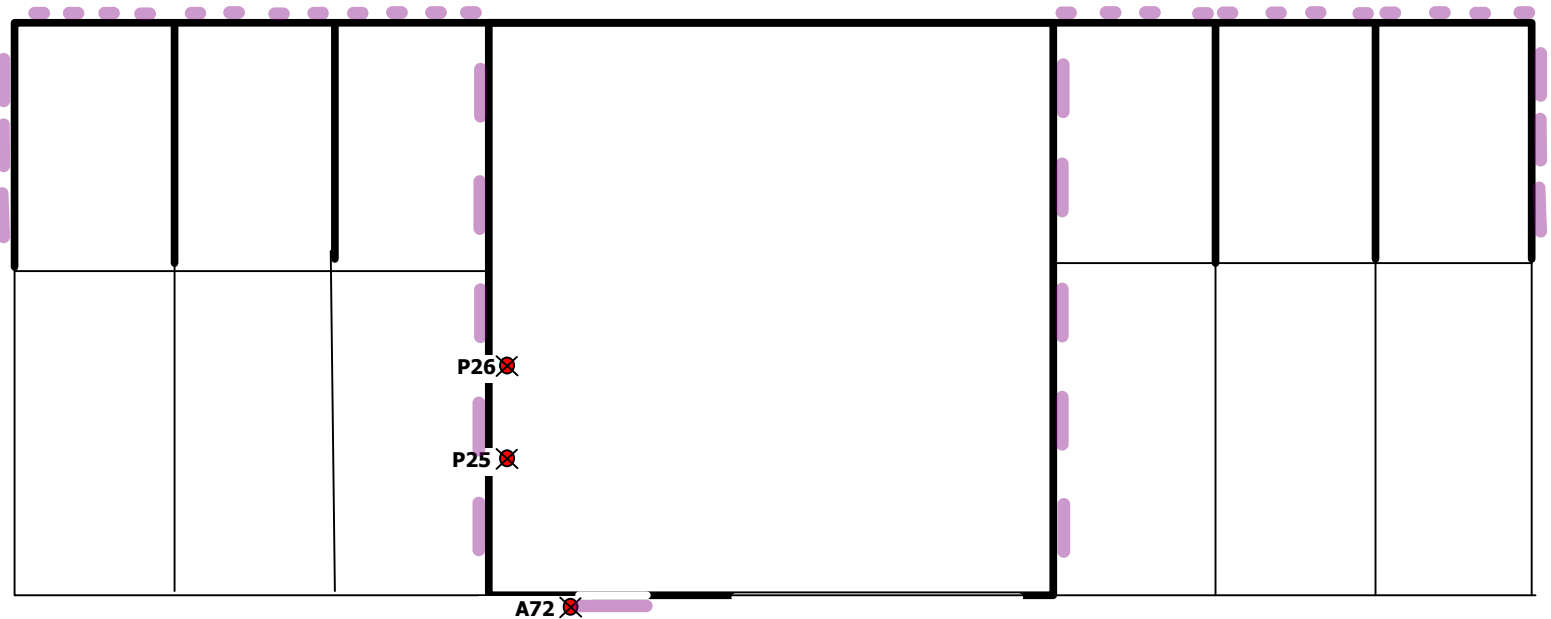
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #40 BEEF UNIT TEST BARN



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-12**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #41 BEEF UNIT RESIDENCE Main



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-13**



Sample ID
A = asbestos sample
P = paint sample

✗ Sampling Location

■ Floor Covering containing Asbestos

■ Drywall Mud/Stipple/Wall covering containing Asbestos

■ Wall and/or Attic Insulation containing Asbestos

■ Pipe/tank insulation containing Asbestos

■ Ozone Depleting Substance (ODS)

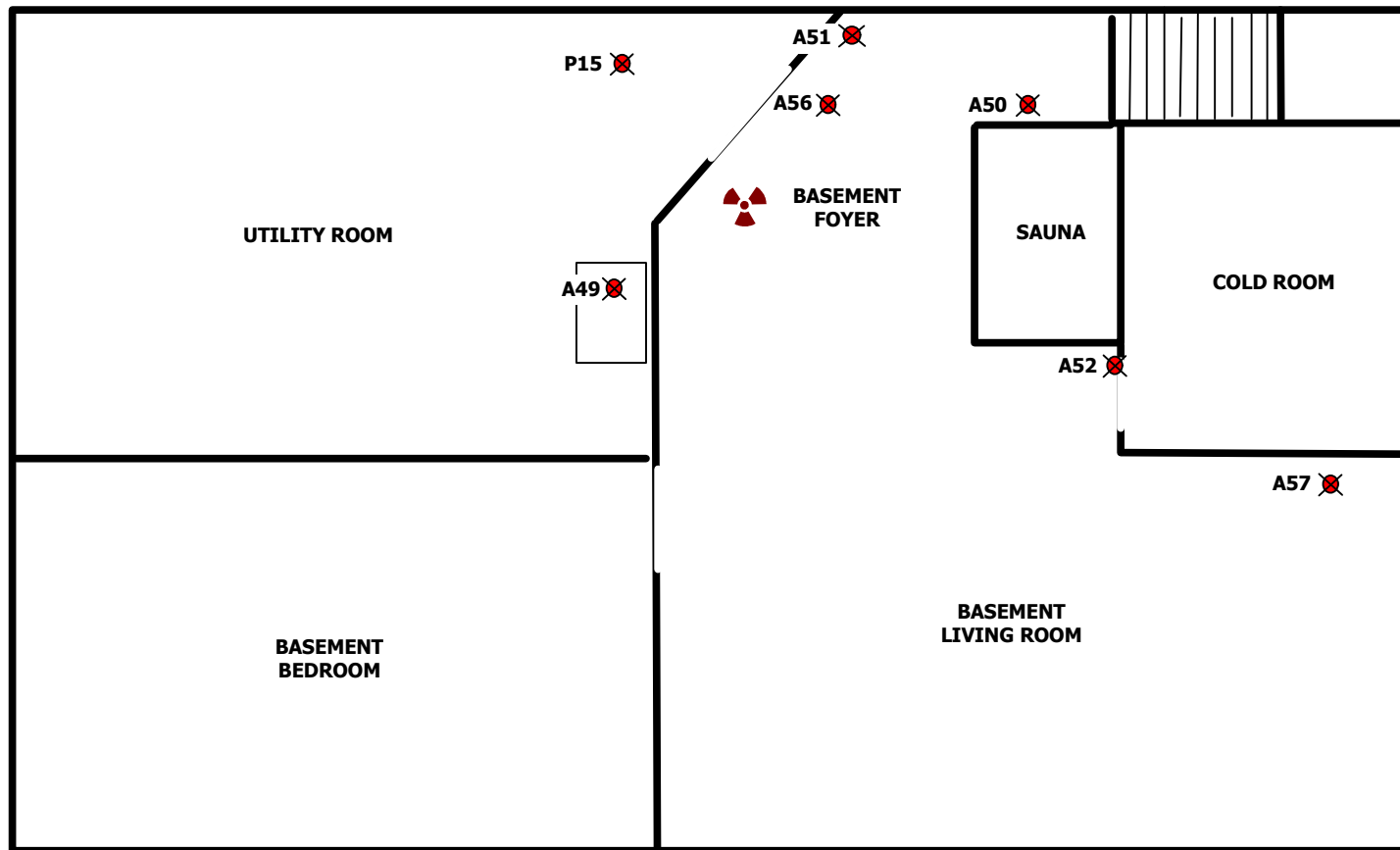
⦿ ACM Sink Coating

☢ Radioactive Items

● Mercury

● Lead paint

● Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #41 BEEF UNIT RESIDENCE Basement



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-14**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

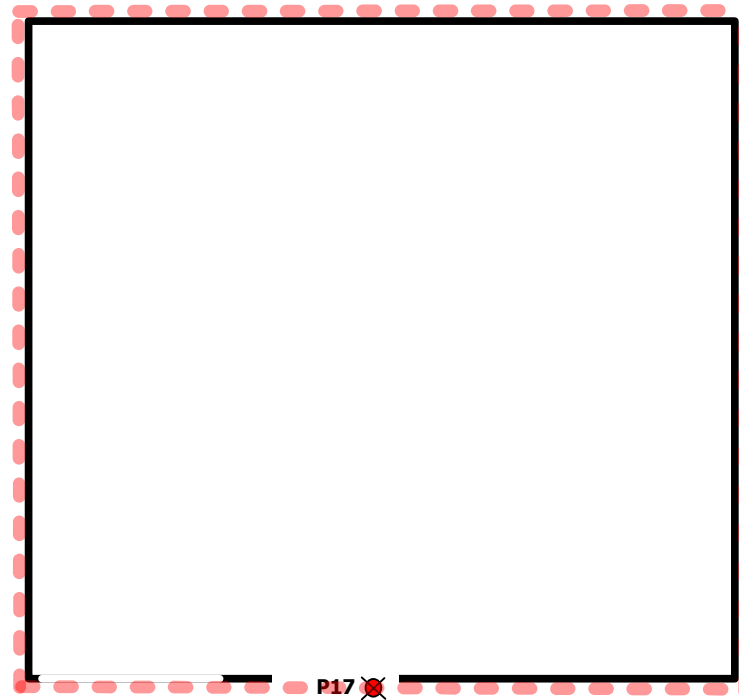
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #41A SHED



Date: Jan 17, 2011

Drawn by: KC

Project Name: Hazardous Materials Assessment

Project No.: 11166

**Appendix
1b-15**


Edited: Feb 16, 2011


Edited by: ER


Project Location: Lacombe Research Centre





Sample ID
 A = asbestos sample
 P = paint sample


 Sampling Location


 Floor Covering containing Asbestos


 Drywall Mud/Stipple/Wall covering containing Asbestos


 Wall and/or Attic Insulation containing Asbestos


 Pipe/tank insulation containing Asbestos


 Ozone Depleting Substance (ODS)

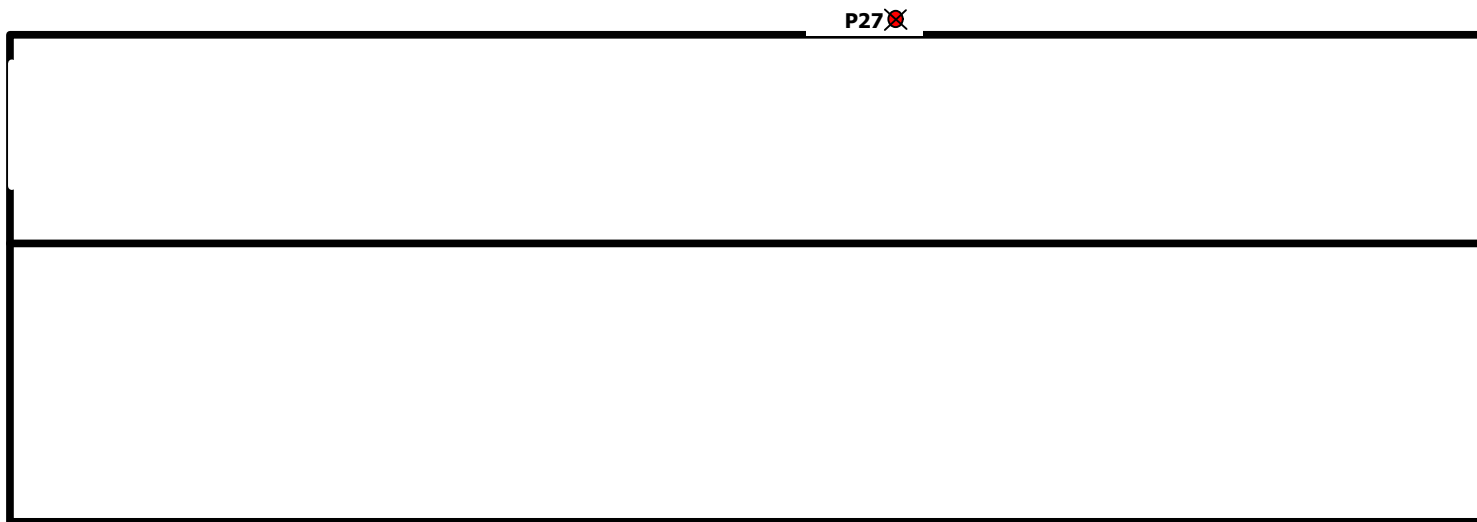
 ACM Sink Coating

 Radioactive Items

 Mercury

 Lead paint

 Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #42B DRY COW FEEDLOT



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

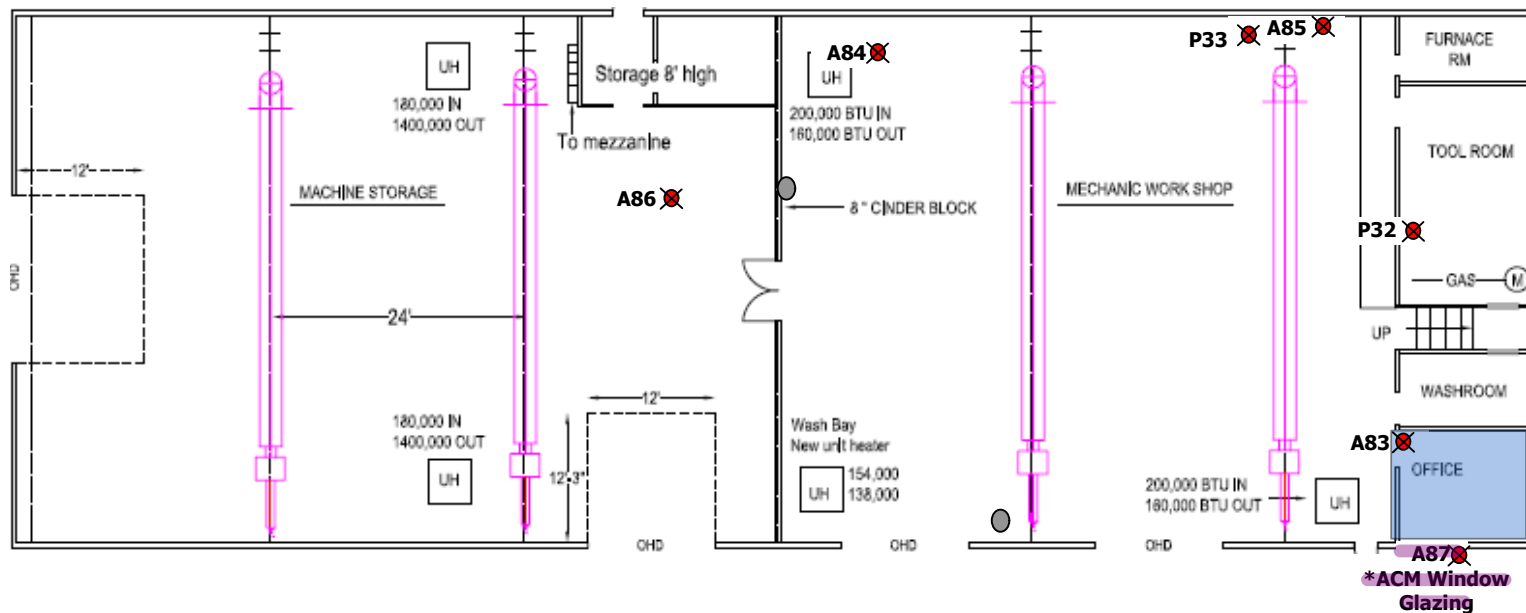
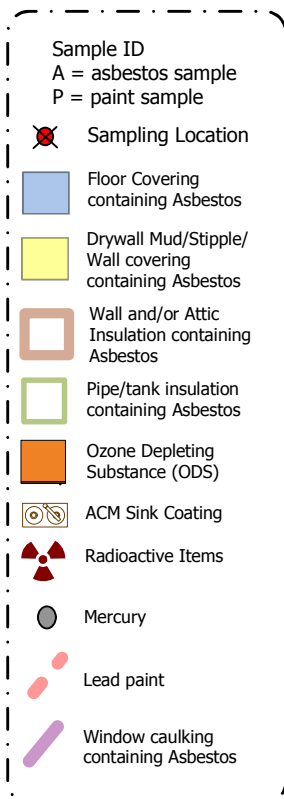
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

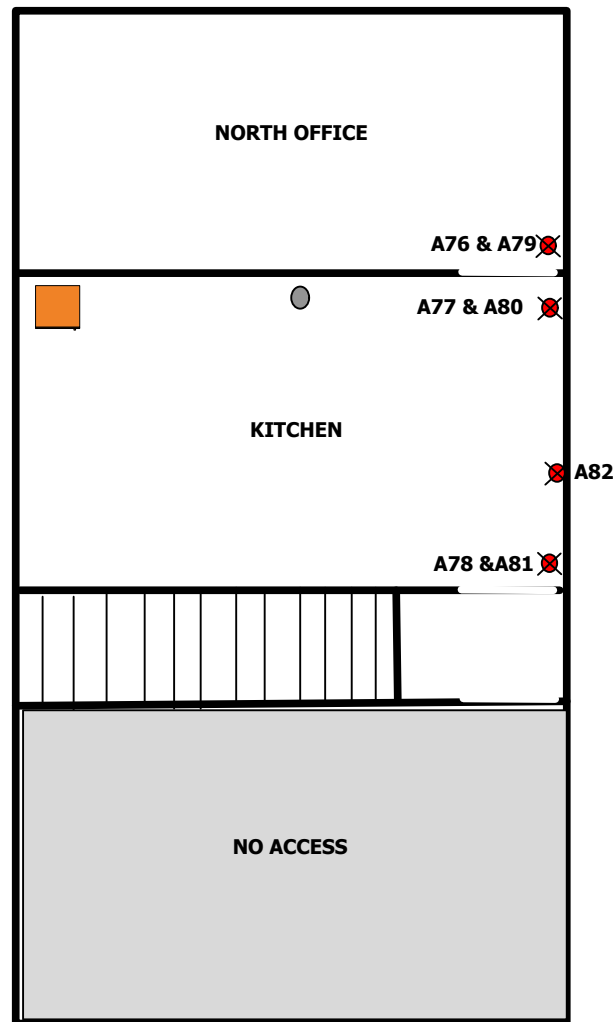
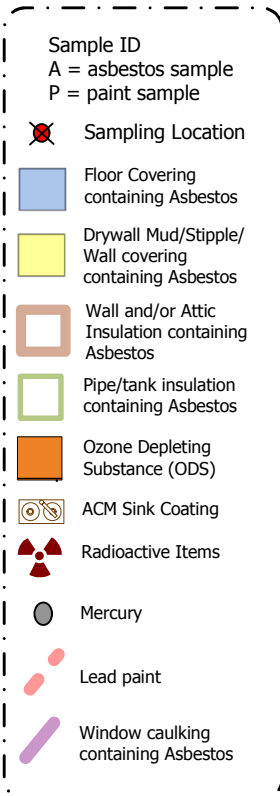
Project No.: 11166

**Appendix
1b-16**



Scale: NTS

SITE SAMPLING DIAGRAM: #52 MAHCINE & VEHICLE REPAIR



Scale: NTS

SITE SAMPLING DIAGRAM: #52 MAHCINE & VEHICLE REPAIR 2ND Floor



Date: Jan 17, 2011

Edited: Feb 16, 2011

Drawn by: KC

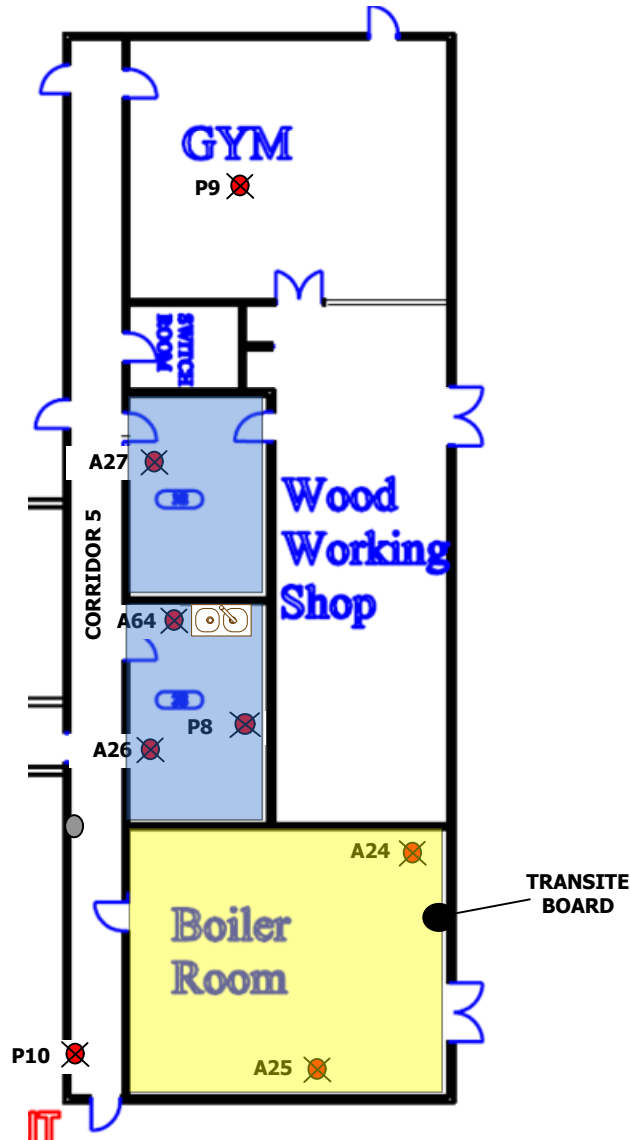
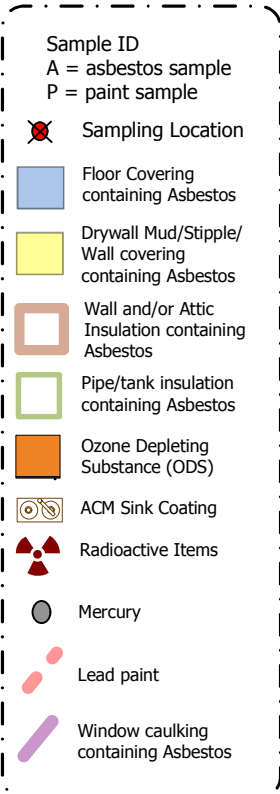
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-18**



Scale: NTS

SITE SAMPLING DIAGRAM: #53 HEADER HOUSE Main



Sample ID
A = asbestos sample
P = paint sample

✗ Sampling Location

■ Floor Covering containing Asbestos

■ Drywall Mud/Stipple/Wall covering containing Asbestos

■ Wall and/or Attic Insulation containing Asbestos

■ Pipe/tank insulation containing Asbestos

■ Ozone Depleting Substance (ODS)

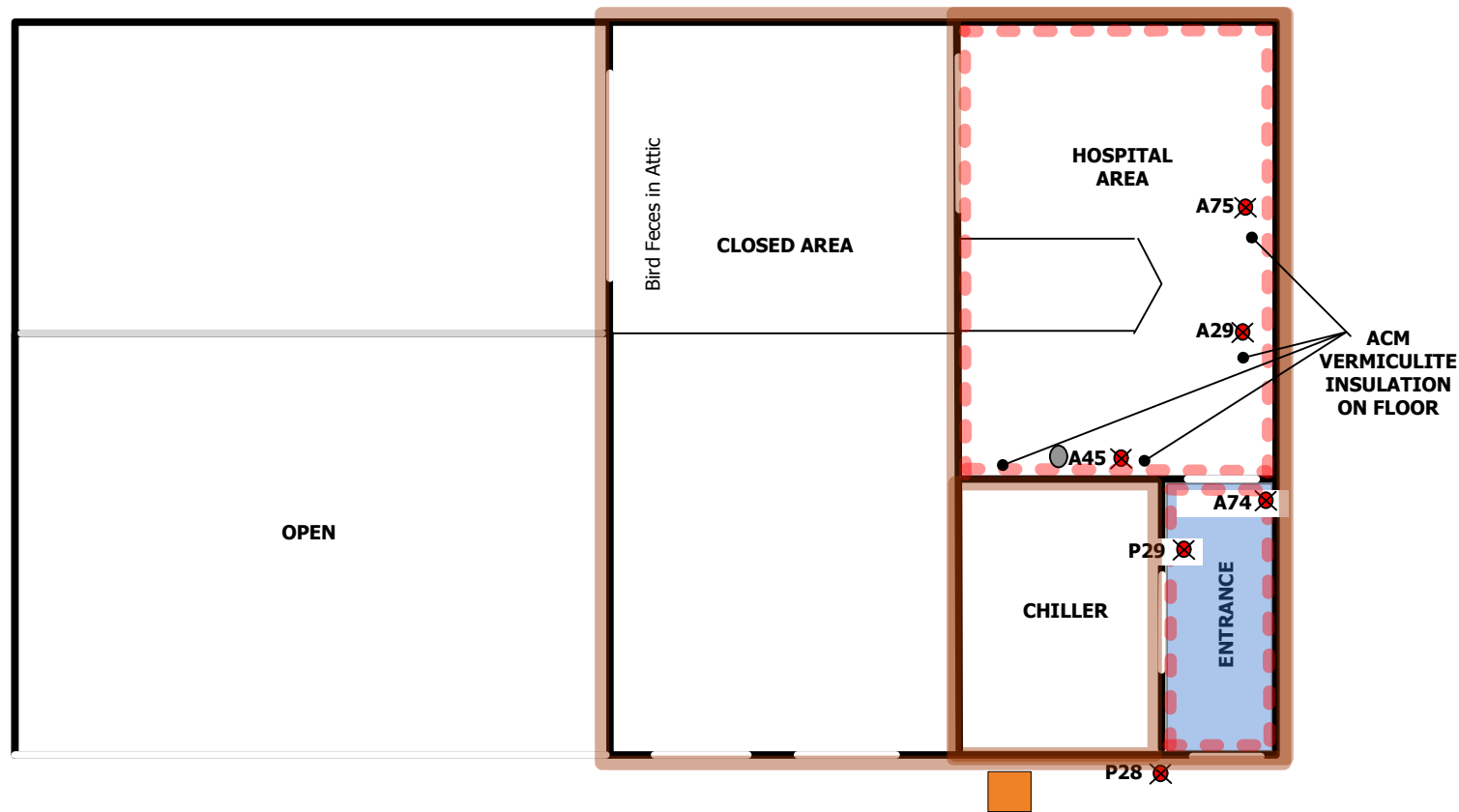
☉ ACM Sink Coating

☢ Radioactive Items

● Mercury

● Lead paint

● Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #54 ANIMAL HOSPITAL



Date: Jan 17, 2011

Edited: Mar 8, 2011

Drawn by: KC

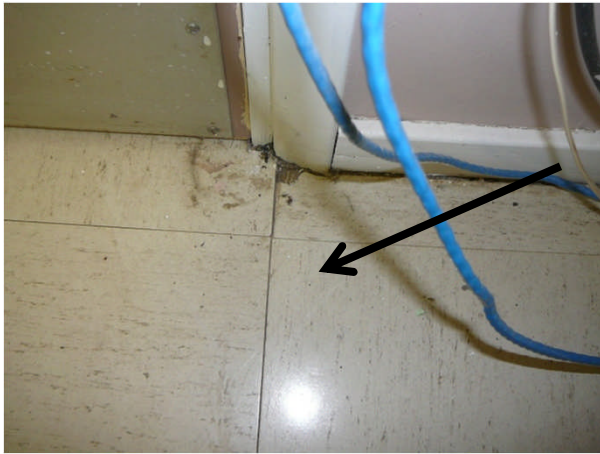
Edited by: KC

Project Name: Hazardous Materials Assessment

Project Location: Lacombe Research Centre

Project No.: 11166

**Appendix
1b-20**



#53 Header House

Sample A26 : Floor tile containing asbestos in room 2E



#53 Header House

Sample A27 : Floor tile containing asbestos in room 3E



#2 Residence

Sample A40 : Drywall mud containing asbestos in the hall



#54 Animal Hospital

Sample A45 : Insulation containing asbestos in the walls & ceiling

PHOTOGRAPHIC LOG



#2 Residence

Sample A63, A90 & A91 : Insulation containing asbestos in the attic



#53 Header House

Sample A64 : Sink insulation containing asbestos in room 2E



#21 Administration Building

Sample A65 & A66 : Pipe insulation containing asbestos in corridor 3



#21 Administration Building

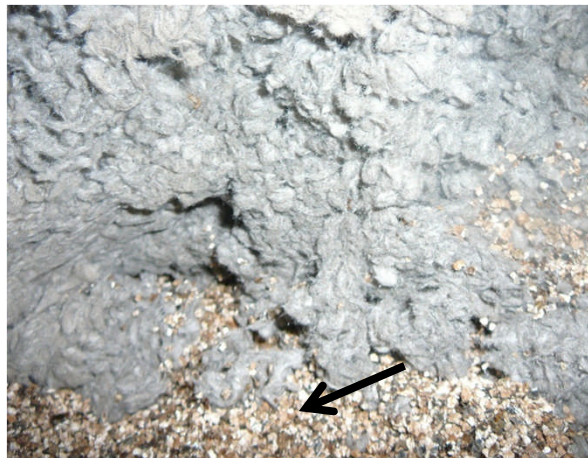
Sample A67 : Pipe insulation containing asbestos in corridor 3

PHOTOGRAPHIC LOG



#21 Administration Building

Sample A68 : Pipe insulation containing asbestos in corridor 4



#38A Beef Unit Garage

Sample A69, A92 & A93 : Insulation containing asbestos in the attic



#38A Beef Unit Garage

Sample A70 : Floor tile containing asbestos in room 1



#40 Beef Unit Test Barn

Sample A72 : Window caulking containing asbestos on the exterior

PHOTOGRAPHIC LOG



#54 Animal Hospital

Sample A74 : Floor tile containing asbestos in the entrance



#54 Animal Hospital

Sample A75 & A29 : Insulation containing asbestos in the walls & attic



#52 Machine & Vehicle Repair

Sample A83 : Floor tile containing asbestos in the main office



#52 Machine & Vehicle Repair

Sample A87 : Window glazing containing asbestos on the exterior window

PHOTOGRAPHIC LOG



#41 Beef Unit Residence

Sample A58, A88 & A89: Insulation containing asbestos in the attic



#21 Administration

Sample A94, A95 & A96: Floor tile containing asbestos in rooms 4 & 6



#21 Administration

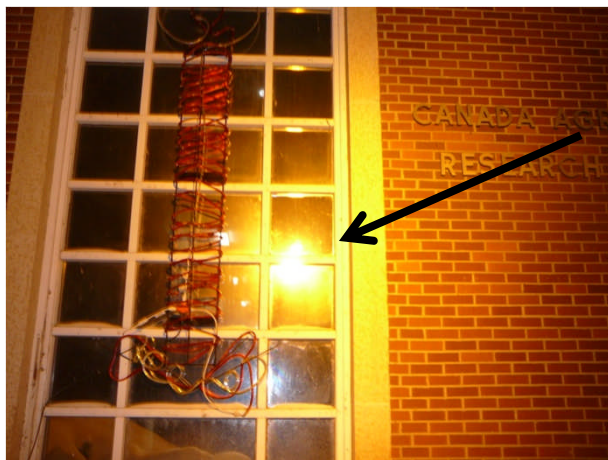
Area of water damage in room 118



#54 Animal Hospital

ACM Vermiculite Insulation on the Floor

PHOTOGRAPHIC LOG



#21 Administration Building

Sample P11 : White paint containing lead on the exterior



#2 Residence

Sample P13 : Dark green paint containing lead on the exterior



#38A Beef Unit Garage

Sample P16: White paint containing lead on the exterior



#41A Shed

Sample P17: White paint containing lead on the exterior

PHOTOGRAPHIC LOG



#38A Beef Unit Garage

Sample P21 : White paint containing lead on the exterior



#54 Animal Hospital

Sample P29 : White paint containing lead inside the main room



#10 Machine Pole Barn

Sample P31: White paint containing lead on one side of the barn



#38 Pump House

Sample P24: White paint containing lead on the exterior

PHOTOGRAPHIC LOG

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197887 | Description / Location: | Brown Duct Putty | |
| Client No.: | A1 | | #21; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197888 | Description / Location: | Grey Mortar | |
| Client No.: | A2 | | #21; Attic South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197889 | Description / Location: | Grey Mortar | |
| Client No.: | A3 | | #21; Attic North | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197890 | Description / Location: | Tan Fibrous | |
| Client No.: | A4 | | #21; Attic South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 90 | Cellulose | 10 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

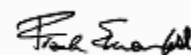
*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Approved By:



Date: 1/31/2011

Frank E. Ehrenfeld, III
Laboratory Director



9000 Commerce Parkway, Ste B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/1/2011
Project: Hazardous Mat'l's Assessment
Project No.: 11166L

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4197891 **Description / Location:** Tan Fibrous
Client No.: A5 #21; Attic East

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 90 | Cellulose | 10 |

Lab No.: 4197892 **Description / Location:** Tan Fibrous
Client No.: A6 #21; Attic North

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 90 | Cellulose | 10 |

Lab No.: 4197893 **Description / Location:** Black Roof Tar
Client No.: A7 #21; Attic North

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 10 | Cellulose | 90 |

Lab No.: 4197894 **Description / Location:** Black Roof Tar
Client No.: A8 #21; Attic East

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 10 | Cellulose | 90 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4197895 | Description / Location: | Tan Ceiling Tile; 2x2 | |
| Client No.: | A10 | | #21; 113 Janitor Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4197896 | Description / Location: | White/Grey Plaster | |
| Client No.: | A11 | | #21; 113 Janitor Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197897 | Description / Location: | Tan Vinyl Sheet Flooring | |
| Client No.: | A12 | | #21; 120 Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 15 | Cellulose | 85 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4197898 | Description / Location: | Blue Vinyl Sheet Flooring | |
| Client No.: | A13 | | #21; 123 Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 20 | Cellulose | 80 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4197899 | Description / Location: | Grey Plaster | |
| Client No.: | A14 | | #21; Attic Access | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197901 | Description / Location: | White Plaster | |
| Client No.: | A15 | | #21; 118 Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197901 | Description / Location: | White Ceiling Texture | |
| Client No.: | A16 | | #21; Corridor 1 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197902 | Description / Location: | White Ceiling Texture | |
| Client No.: | A17 | | #21; Corridor 2 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197903 | Description / Location: | White Ceiling Texture | |
| Client No.: | A18 | | #21; Corridor 3 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4197905 | Description / Location: | White Plaster | |
| Client No.: | A19 | | #21; Corridor 3, Adjacent Rm. 18 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197905 | Description / Location: | White Ceiling Texture | |
| Client No.: | A20 | | #21; Corridor 4 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------|-------------------------------|
| Lab No.: | 4197906 | Description / Location: | Grey Plaster | |
| Client No.: | A21 | | #21; Boiler Rm. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4197907 | Description / Location: | Grey Plaster | |
| Client No.: | A22 | | #21; Electrical Rm. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Fibrous Glass | 97 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197908 | Description / Location: | White Ceiling Texture | |
| Client No.: | A23 | | #21; Corridor 4 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4197909 | Description / Location: | Grey Floor Tile | |
| Client No.: | A26 | | #53; AV Rm. 2E | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.7 | Chrysotile | None Detected | None Detected | PC 96.3 |

| | | | | |
|--------------------|---------------|--|----------------|-------------------------------|
| Lab No.: | 4197909 | Description / Location: | Yellow Mastic | Layer No.: 2 |
| Client No.: | A26 | | #53; AV Rm. 2E | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4197910 | Description / Location: | Grey Floor Tile | |
| Client No.: | A27 | | #53; 3E Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 6.3 | Chrysotile | None Detected | None Detected | PC 93.7 |

| | | | | | |
|--------------------|---------------|--|----------------|-------------------------------|---|
| Lab No.: | 4197910 | Description / Location: | Yellow Mastic | Layer No.: | 2 |
| Client No.: | A27 | | #53; 3E Office | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|----------------|-------------------------------|
| Lab No.: | 4197911 | Description / Location: | Tan Fibrous | |
| Client No.: | A28 | | #53; 3E Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 90 | Cellulose | 10 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: T. Fisher

Date: 1/31/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197912 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A29 | | #54; Walls | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Actinolite | 5 | Cellulose | PC 89.75 |
| | | 5 | Fibrous Glass | |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197913 | Description / Location: | White Mortar | |
| Client No.: | A30 | | #21; Exterior Admin. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4197914 | Description / Location: | White Glazing | |
| Client No.: | A31 | | #21; Exterior Admin., Window Frames | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Fisher

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4197915 | Description / Location: | White Glazing | |
| Client No.: | A32 | | #21; Exterior Admin., Window Frames | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197916 | Description / Location: | White Ceiling Texture | |
| Client No.: | A33 | | #2; Bsmt. Shoe Box | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------|-------------------------------|
| Lab No.: | 4197917 | Description / Location: | Black Wire | |
| Client No.: | A34 | | #2; Bsmt. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 60 | Synthetic | 40 |

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4197918 | Description / Location: | Grey Mortar | |
| Client No.: | A35 | | #2; Bsmt. Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Fisher

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4197919 | Description / Location: | Grey Glazing | |
| Client No.: | A36 | | #2; Bsm't. Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197921 | Description / Location: | White Ceiling Texture | |
| Client No.: | A37 | | #2; Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197921 | Description / Location: | White Ceiling Texture | |
| Client No.: | A38 | | #2; Dining Rm. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Cellulose | 98 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197922 | Description / Location: | Tan Mortar | |
| Client No.: | A39 | | #2; Main Floor Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197923 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A40 | | #2; Closet In Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.9 | Chrysotile | None Detected | None Detected | PC 97.1 |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197924 | Description / Location: | White/Tan Joint Compound | |
| Client No.: | A41 | | #2; Closet #2 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC Trace | Chrysotile | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197925 | Description / Location: | White Joint Compound | |
| Client No.: | A42 | | #2; Bathroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197926 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A43 | | #2; Foyer | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4197927 | Description / Location: | Black Tar Paper | |
| Client No.: | A44 | | #2; Ext. South-Over Wood Over Wood Siding | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 50 | Cellulose | 50 |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197928 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A45 | | #54; Walls/Ceilings | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.75 | Actinolite | Trace | Cellulose | PC 97.25 |
| | | 2 | Fibrous Glass | |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|
| Lab No.: | 4197929 | Description / Location: | Tan Glazing | |
| Client No.: | A46 | | #2A; Garage Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4197930 | Description / Location: | Red/Black Vinyl Sheet Flooring | |
| Client No.: | A47 | | #41; Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 40 | Cellulose | 60 |

| | | | | |
|--------------------|---------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 4197931 | Description / Location: | Off-White/Black Vinyl Sheet Flooring | |
| Client No.: | A48 | | #41; Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197931 | Description / Location: | Brown/Tan Mastic/Mat | Layer No.: 2 |
| Client No.: | A48 | | #41; Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 20 |

| | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|
| Lab No.: | 4197932 | Description / Location: | Grey Mortar | |
| Client No.: | A49 | | #41; Bsmt. Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------------------|-------------------------------|
| Lab No.: | 4197933 | Description / Location: | Tan/Grey Ceiling Tile | |
| Client No.: | A52 | | #41; Bsmt. In Front Of Cold Rm. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4197934 | Description / Location: | White/Grey Plaster | |
| Client No.: | A53 | | #41; Main Bedroom Behind Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Note: Different material than indicated on Sample Log / Description.

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197935 | Description / Location: | White Joint Compound | |
| Client No.: | A54 | | #41; Bathroom Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197936 | Description / Location: | White Plaster | |
| Client No.: | A55 | | #41; 2nd Bedroom Behind Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Note: Different material than indicated on Sample Log / Description.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4197937 | Description / Location: | White/Tan Ceiling Tile; 1x3 | |
| Client No.: | A56 | | #41; Bsmt. By Fire Detector | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

| | | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|---|
| Lab No.: | 4197937 | Description / Location: | White Joint Compound | Layer No.: | 2 |
| Client No.: | A56 | | #41; Bsmt. By Fire Detector | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197938 | Description / Location: | Tan/Purple Ceiling Tile; 1x3 | |
| Client No.: | A57 | | #41; Bsmt. By Light | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197939 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A58 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Fibrous Glass | 98 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197940 | Description / Location: | Tan Ceiling Tile; 1x1 | |
| Client No.: | A59 | | #41; Porch | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197941 | Description / Location: | Brown Vinyl Sheet Flooring | |
| Client No.: | A60 | | #2; Porch | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4197942 | Description / Location: | White Ceiling Texture | |
| Client No.: | A61 | | #2; Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4197943 | Description / Location: | Grey Mortar | |
| Client No.: | A62 | | #38A; Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197944 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A63 | | #2; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC Trace | Actinolite | 4 | Fibrous Glass | 96 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|------------------|-------------------------------|
| Lab No.: | 4197945 | Description / Location: | Black/Silver Tar | |
| Client No.: | A64 | | #53; AV Rm. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 4.8 | Chrysotile | None Detected | None Detected | PC 95.2 |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197946 | Description / Location: | Grey Pipe Elbow Insulation | |
| Client No.: | A65 | | #21; Corridor 3 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | 10 | Fibrous Glass | 25 |

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4197947 | Description / Location: | Off-White Pipe Insulation | |
| Client No.: | A66 | | #21; Corridor 3 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | 25 | Cellulose | 10 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4197948 | Description / Location: | Grey Pipe Insulation | |
| Client No.: | A67 | | #21; Corridor 3 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | 55 | Fibrous Glass | 20 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4197949 | Description / Location: | Grey Pipe Insulation | |
| Client No.: | A68 | | #21; Corridor 4 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 60 | Chrysotile | 25 | Cellulose | 15 |
| | | Trace | Fibrous Glass | |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197950 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A69 | | #38A; Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.5 | Actinolite | 3 | Fibrous Glass | PC 96.5 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4197951 | Description / Location: | Off-White Floor Tile | |
| Client No.: | A70 | | #38A; Rm. 1 Furnace | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|---|
| Lab No.: | 4197951 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A70 | | #38A; Rm. 1 Furnace | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4197952 | Description / Location: | Black/Tan Tar Paper | |
| Client No.: | A71 | | #38; Walls | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 75 | Cellulose | 25 |

| | | | | |
|--------------------|-------------|--|-------------------|-------------------------------|
| Lab No.: | 4197953 | Description / Location: | Off-White Glazing | |
| Client No.: | A72 | | #40; South Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.1 | Chrysotile | None Detected | None Detected | PC 96.9 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4197954 | Description / Location: | Tan Glazing | |
| Client No.: | A73 | | #38A; West Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4197955 | Description / Location: | Off-White Floor Tile | |
| Client No.: | A74 | | #54; Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.9 | Chrysotile | None Detected | None Detected | PC 98.1 |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197956 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A75 | | #54; Walls | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Actinolite | 2 | Fibrous Glass | PC 97.75 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197957 | Description / Location: | White Joint Compound | |
| Client No.: | A76 | | #52; 2nd Floor | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197958 | Description / Location: | White Joint Compound | |
| Client No.: | A77 | | #52; 2nd Floor | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4197959 | Description / Location: | White Joint Compound | |
| Client No.: | A78 | | #52; 2nd Floor | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4197960 | Description / Location: | White Ceiling Texture | |
| Client No.: | A79 | | #52; 2nd Floor Office North | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197961 | Description / Location: | White Ceiling Texture | |
| Client No.: | A80 | | #52; 2nd Floor Kitchen North | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4197962 | Description / Location: | White Ceiling Texture | |
| Client No.: | A81 | | #52; 2nd Floor Kitchen South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Cellulose | 98 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197963 | Description / Location: | Brown Vinyl Sheet Flooring | |
| Client No.: | A82 | | #52; 2nd Floor Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197963 | Description / Location: | Tan Mastic | Layer No.: 2 |
| Client No.: | A82 | | #52; 2nd Floor Kitchen | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|------------------------|-------------------------------|
| Lab No.: | 4197964 | Description / Location: | Off-White Floor Tile | |
| Client No.: | A83 | | #52; Main Floor Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.4 | Chrysotile | None Detected | None Detected | PC 97.6 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4197965 | Description / Location: | Tan Fibrous | |
| Client No.: | A84 | | #52; West Part Of East Bay | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197966 | Description / Location: | Grey/Yellow Insulation | |
| Client No.: | A85 | | #52; East Shop Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197967 | Description / Location: | Grey Insulation | |
| Client No.: | A86 | | #52; West Shop Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Fibrous Glass | 2 |

| | | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|---|
| Lab No.: | 4197967 | Description / Location: | Black/Tan Wrap | Layer No.: | 2 |
| Client No.: | A86 | | #52; West Shop Ceiling | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 60 | Cellulose | 40 | |

| | | | | |
|--------------------|-------------|--|------------------------|-------------------------------|
| Lab No.: | 4197968 | Description / Location: | Off-White Glazing | |
| Client No.: | A87 | | #52; South Shop Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197969 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A88 | | #41; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | 3 | Fibrous Glass | 97 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197970 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A89 | | #41; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | 1 | Fibrous Glass | 99 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197971 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A90 | | #2; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 0.25 | Actinolite | 2 | Fibrous Glass | PC 97.75 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

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| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197972 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A91 | | #2; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC Trace | Actinolite | 2 | Fibrous Glass | 98 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

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NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197973 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A92 | | #38A; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 0.25 | Actinolite | 2 | Fibrous Glass | PC 97.75 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------|--------------------------------|------------------------------|--|
| Lab No.: | 4197974 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A93 | | #32A; Attic | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 0.5 | Actinolite | 3 | Fibrous Glass | PC 96.5 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------|-------------------------------|
| Lab No.: | 4197975 | Description / Location: | Brown Caulk | |
| Client No.: | Dup1 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Wollastonite | 90 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4197976 | Description / Location: | White Plaster | |
| Client No.: | Dup2 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4197976 | Description / Location: | Grey Plaster | Layer No.: 2 |
| Client No.: | Dup2 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|---------------|-------------------------------|
| Lab No.: | 4197977 | Description / Location: | Grey Transite | |
| Client No.: | Dup3 | | Panel Board | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197978 | Description / Location: | Off-White Joint Compound | |
| Client No.: | Dup4 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.6 | Chrysotile | None Detected | None Detected | PC 97.4 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4197979 | Description / Location: | Grey Mortar | |
| Client No.: | Dup5 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-------------------|-------------------------------|
| Lab No.: | 4197980 | Description / Location: | Off-White Glazing | |
| Client No.: | Dup6 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.8 | Chrysotile | None Detected | None Detected | PC 98.2 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4197981 | Description / Location: | Off-White Floor Tile | |
| Client No.: | Dup7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011



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Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box87073 RPO DouglasSq.
Calgary AB T2Z 3V7

Report Date: 2/1/2011
Project: Hazardous Mat'l's Assessment
Project No.: 11166L

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4197982 **Description / Location:** Tan Fibrous
Client No.: Dup8 Curtain

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 98 | Cellulose | 2 |

Lab No.: 4197983 **Description / Location:** Brown Insulation
Client No.: Dup9

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | 98 | Fibrous Glass | 2 |

Lab No.: 4197983 **Description / Location:** Black/Tan Wrap **Layer No.:** 2
Client No.: Dup9

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 60 | Cellulose | 40 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/1/2011

BULK MATERIAL SAMPLING LOG

 Worksite: LRC

 Date: Jan 17th 11

 Client: P.W. GS - C.

 Job No.: 11166

Date Results Required: _____

 No. Samples: 102

 Page 1 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-------------|----------------------------|------------------------|--------------|-------------------|------------|
| A1 | Red/brown | duct puddy | #21 attic | good 4197887 | 3 ducts | 965 |
| A2 | gray | Mortar | #21 attic south | good 4197888 | exterior building | 966 |
| A3 | gray | Mortar | #21 attic north | good 4197889 | exterior building | 80967 |
| A4 | light brown | roof pannel | #21 attic south | poor 4197890 | entire floor | 80970 |
| A5 | " | " | #21 attic east | poor 4197891 | " | 80971 |
| A6 | " | " | #21 attic north | poor 4197892 | " | 80969 |
| A7 | Black | Roof tar | #21 attic north | fair 4197893 | " | 80968 |
| A8 | " | " | #21 attic east | " 4197894 | " | 80971 |
| A9 | white | plaster | #21 north stairwell | good — | interior building | 80972 |
| A10 | Brown | 2x2 perf. ceiling tile | #21 113 Janitor closet | Poor 4197895 | 1mx2m | 80973 |
| A11 | Green | plaster | #21 113 Janitor closet | Poor 4197896 | " | 80974 |
| A12 | Brown | tree bark sheet lino | #21 120 office | good 4197897 | 5x5m (in room) | 80987 |
| A13 | Blue/gray | Blue/gray lines sheet lino | #21 123 office | good 4197898 | 3mx5m | 80980 |
| A14 | gray | plaster | #21 attic access | " 4197899 | entire building | 80978 |

8/11/11 10:00 AM

BULK MATERIAL SAMPLING LOG

Worksite: LRC Date: Jan 17/11
 Client: PWESC Job No.: 11166
 Date Results Required: _____ No. Samples: 15-28 (102) Page 2 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|-------------|-------------------------------|----------------------------|------------------|------------|
| A15 | white | plaster | #21 118 ceiling | good 4197900 | entire banking | 80982 |
| A16 | " | stipple | #21 corridor 1 ceiling | " 4197901 | " | 80986 |
| A17 | " | " | #21 Corridor 2 ceiling | " 4197902 | " | 80985 |
| A18 | " | " | #21 Corridor 3 ceiling | " 4197903 | " | 80996 |
| A19 | " | plaster | #21 Corridor 3 adjacent Rm 18 | " 4197904 | " | 80997 |
| A20 | " | stipple | #21 Corridor 4 Ceiling | " 4197905 | " | 80999 |
| A21 | gray | plaster | #21 Boiler Room | " 4197906 | walls | 109-0001 |
| A22 | Brown | " | #21 Electrical Room | fair 4197907 | " | 109-0002 |
| A23 | white | stipple | #21 Corridor 4 ceiling | good 4197908 | corridors | 80979 |
| A24 | Pink/Brown | panel board | #53 Boiler Room | " | walls + ceiling | 80960 |
| A25 | Brown | " | #53 " | " | 1/2 wall | 80962 |
| A26 | Brown streak | Floor tile | #53 AV Room 2E | " 4197909 | floor | 80963 |
| A27 | " | " | #53 3E office | fair 4197910 | " | 80964 |
| A28 | white | siding | ② siding | good/fair 4197911 on south | house + garage | 90232 |

2E in 2nd floor



ASB

BULK MATERIAL SAMPLING LOG

Worksite: LRC

Date: Jan 17 / 11

Client: PWGSC

Job No.: 11166

Date Results Required: _____

No. Samples: A29 - A42 (102) Page 3 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------|----------------|-------------------------|--------------|------------------|------------|
| A29 | brown | vermiculite | (S4) walls | poor 4197912 | 4 1/2 + walls | 90146 |
| A30 | gray | Mortar | (#21) exterior admin. | Good 4197913 | exterior | 109-005 |
| A31 | white | caulking | (#21) " | " 4197914 | window frames | 109-006 |
| A32 | " | " | (#21) " | " 4197915 | " | 109-007 |
| A33 | " | stipple | (#2) Bsmt. Shoe Box | " 4197916 | 1 m ² | 80913 |
| A34 | Black | wire | (#2) Bsmt wire | " 4197917 | sporadic | 80912 |
| A35 | Red | Brick Mortar | (#2) Bsmt chimney | " 4197918 | 2x2 25ft high | 80911 |
| A36 | gray | puddly | (#2) Bsmt window | " 4197919 | 3 windows | 80941 |
| A37 | white | stipple | (#2) Kitchen | " 4197920 | ceiling | 80916 |
| A38 | " | " | (#2) dining room | " 4197921 | ceiling | 80918 |
| A39 | gray | mortar | (#2) Main floor chimney | " 4197922 | 2x2x8 | 80917 |
| A40 | white | drywall puddly | (#2) closet in hall | " 4197923 | assume all walls | 80926 |
| A41 | " | " | (#2) closet #2 | " 4197924 | " | 80921 |
| A42 | " | " | (#2) Bathroom | " 4197925 | 1/2 walls | 80922 |

BULK MATERIAL SAMPLING LOG

 Worksite: LRC

 Date: Jan 17/11

 Client: P.W. G.S.C

 Job No.: 11166

Date Results Required: _____

 No. Samples: A43-A56 (102) Page 4 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------|-------------------------|---|--------------|------------------------|------------|
| A43 | light Brown | plaster | #2 Foyer | Fair 4197926 | walls under wall board | 80 915 |
| A44 | Black | tar paper | #2 exterior South - over window wood siding | good 4197927 | entire base | 80 950 |
| A45 | brown | vermiculite | #5A walls/ceiling | poor 4197928 | walls + attic | 90146 |
| A46 | gray | window patch | #2A garage window | Poor 4197929 | 3 windows | 80 942 |
| A47 | pink | Floor tile | #4 Kitchen | " 4197930 | assume Kitchen | 80 884 |
| A48 | beige | " | #41 " | " 4197931 | " | " |
| A49 | gray | Brick mortar | #41 Bsm't chimney | good 4197932 | chimney | 80 879 |
| A50 | white | 2x2 pnhole ceiling tile | #41 Bsm't foyer ceiling | fair — | 1/2 Bsm't | 80 878 |
| A51 | " | " | #41 " | " — | " | " |
| A52 | purple | " | #41 Bsm't in front of cold room | " 4197933 | " | 80 881 |
| A53 | drywall patch | drywall patch | #41 Main bedroom behind door | good 4197934 | Main floor | 80 886 |
| A54 | " | " | #41 Bathroom closet | " 4197935 | " | 80 885 |
| A55 | " | " | #41 2nd bedroom behind door | " 4197936 | " | 80 888 |
| A56 | light purple | 1x3 ceiling tile | #41 Bsm't by fire detector | " 4197937 | 1 Room | 80 882 |

Analyzed by PLM 1/28

BULK MATERIAL SAMPLING LOG

Worksite: _____ Date: Jan 18/11
 Client: PWASC Job No.: 11166L
 Date Results Required: _____ No. Samples: 102 Page 5 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|----------------|-------------------|----------------------|------------------------------|----------------------------|------------|
| A57 | purple | 1x3 ceiling tile | (41) Bsmnt by light | good 4197938 | one room | 0883 |
| A58 | brown | vermiculite | (41) Attic | 8 th good 4197939 | 5" vermiculite blown under | 0891 |
| A59 | white | 1x1 ceiling tile | (41) Porch | good 4197940 | porch only | 0897 |
| A60 | brown | floor covering | (2) Porch | fair 4197941 | porch only | 0925 |
| A61 | white | stipple | (2) kitchen ceiling | good 4197942 | kitchen | 0924 |
| A62 | gray | mortar | (38A) chimney | " 4197943 | chimney | 9023 |
| A63 | brown | vermiculite | (2) attic AR room | " 4197944 | attic | 935 |
| A64 | metallic brown | sink insulation | (53) AR room | " 4197945 | 1 sink | 953 |
| A65 | white | pipe elbow insul. | (21) Corridor 3 | fair 4197946 | 4 | 994 |
| A66 | " | pipe insulation | (21) " | " 4197947 | 4 | " |
| A67 | " | " | (21) " | " 4197948 | 1 | 998 |
| A68 | " | pipe insulation | (21) Corridor 4 | poor 4197949 | 5 | 003 |
| A69 | brown | vermiculite | (38A) ceiling | good 4197950 | roof | 9005 |
| A70 | brown | floor tile | (38A) room 1 furnace | fair 4197951 | 9m x 0.5m | 90043 |

BULK MATERIAL SAMPLING LOG

Worksite: _____ Date: Jan 19
 Client: PLGSC Job No.: 11166L
 Date Results Required: _____ No. Samples: 102 Page 6 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|----------------|----------------------------|--------------|--------------------------|------------|
| A71 | black | tan paper | (38) walls | poor 4197952 | all walls- | 90049 |
| A72 | white | caulking | (40) South window | poor 4197953 | all windows | 90065 |
| A73 | white | caulking | (38A) west window | poor 4197954 | all windows except N end | 90098 |
| A74 | off white | tile floor | (54) entrance | poor 4197955 | 1m x 3m. | 90137 |
| A75 | brown | vermiculite | (54) walls | poor 4197956 | ceiling + walls | 90146 |
| A76 | white/green | drywall Puddy | (52) 2nd floor | good 4197957 | entire 2nd FL | 90225 |
| A77 | " | " | (52) 2nd floor | good 4197958 | " | 90227 |
| A78 | " | " | (52) 2nd floor | good 4197959 | " | 90224 |
| A79 | white | stipple | (52) 2nd FL office north | " 4197960 | ceiling | 90230 |
| A80 | " | " | (52) 2nd FL kitchen N | " 4197961 | " | 90229 |
| A81 | " | " | (52) 2nd FL kitchen S | " 4197962 | " | 90229 |
| A82 | brown streak | linoleum | (52) 2nd FL kitchen | good 4197963 | 2nd FL floor | 90228 |
| A83 | off white | floor tile | (52) main floor office | poor 4197964 | 3m x 3m | 90217 |
| A84 | yellow | welding screen | (52) west part of east bay | poor 4197965 | 6' x 30' | 90218 |



Worksite: LRC Date: Jan 20/11
Client: PWASC Job No.: 11166L
Date Results Required: _____ No. Samples: 102 Page 7 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------|----------------|------------------------|--------------|------------------------------|------------|
| A85 | brassy | insulation | (52) East Shop wall | good 4197966 | entire 1/2 exterior building | 90219 |
| A86 | " | " | West Shop (52) Ceiling | " 4197967 | " | 90220 |
| A87 | white | window glazing | South Shop (52) window | fair 4197968 | entire window | 90231 |
| A88 | brown | vermiculite | (41) attic | good 4197969 | attic | 6891 |
| A89 | brown | vermiculite | (41) attic | " 4197970 | " | 6891 |
| A90 | " | " | (2) " | " 4197971 | " | 6935 |
| A91 | " | " | (2) " | " 4197972 | " | " |
| A92 | " | " | (38A) " | " 4197973 | " | 9005 |
| A93 | " | " | (38A) " | " 4197974 | " | " |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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BULK MATERIAL SAMPLING LOG

ASB

Worksite: L.R.C.

Date: Jan 17/11

Client: PLGASC

Job No.: 11166

Date Results Required: _____

No. Samples: 102

Page 8 of 8

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------------|-------------------|-------------|----------|-----------|------------------|------------|
| Dup 1 | red/brown | puddy | | 4197975 | | |
| Dup 2 | brown | plaster | | 4197976 | | |
| Dup 3 | brown | panel board | | 4197977 | | |
| Dup 4 | mortar | grey | | 4197978 | | |
| Dup 5 | mortar | gray | | 4197979 | | |
| Dup 6 Dup 6 | caulking white | white | | 4197980 | | |
| Dup 7 | tile | white | | 4197981 | | |
| Dup 8 | yellow | curtain | | 4197982 | | |
| Dup 9 | brown | insulation | | 4197983 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



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CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/19/2011
Project: 11166L
Project No.: 11166L

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4217100 **Description / Location:** Grey Floor Tile
Client No.: A94

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 5.9 | Chrysotile | None Detected | None Detected | PC 94.1 |

Lab No.: 4217100 **Description / Location:** Black Mastic **Layer No.:** 2
Client No.: A94

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Lab No.: 4217101 **Description / Location:** Grey Floor Tile
Client No.: A95

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 6.2 | Chrysotile | None Detected | None Detected | PC 93.8 |

Lab No.: 4217101 **Description / Location:** Black Mastic **Layer No.:** 2
Client No.: A95

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC Trace | Chrysotile | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: R. Caran

Approved By:

Date: 2/19/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-----------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/19/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | 11166L |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4217102 | Description / Location: | Grey Floor Tile | |
| Client No.: | A96 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 5.7 | Chrysotile | None Detected | None Detected | PC 94.3 |

| | | | | | |
|--------------------|-------------|--|---------------|-------------------------------|---|
| Lab No.: | 4217102 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A96 | | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC Trace | Chrysotile | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4217103 | Description / Location: | Brown Floor Tile | |
| Client No.: | A97 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

| | | | | | |
|--------------------|---------------|--|---------------|-------------------------------|---|
| Lab No.: | 4217103 | Description / Location: | Brown Mastic | Layer No.: | 2 |
| Client No.: | A97 | | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: R. Caran

Date: 2/19/2011



9000 Commerce Parkway, Ste B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/19/2011
Project: 11166L
Project No.: 11166L

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4217104 | Description / Location: | Brown Floor Tile | |
| Client No.: | A98 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: R. Caran

Date: 2/19/2011

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: 11166 L
Project No.:

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions:

Type:

| Asbestos | | Lead | | Other | |
|--|--------------------------------|--------------------------------|--------------------------------|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| <input type="checkbox"/> AAS : Lead in Drinking Water | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | <input type="checkbox"/> TEM : Other |
| <input type="checkbox"/> AAS : Other Metals / Soil | | <input type="checkbox"/> Total Dust : NIOSH 0500 |

Turnaround Time:

FAX: email results
elvie@ballastenvironmental.com
Verbals:

☐ 10 Day ☒ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ 6 hour ☐ RUSH
Preliminary FAX/Verbal Results Requested by:

Sample Numbers:

Client #(s): A94 - A98
(start) (end)

IATL#(s): 4217101 - 4217104 Total:
(start) (end)

Chain of Custody:

| | | |
|-------------------------------|-------------------------------|-------|
| Relinquished: Elvie Reinson | Date: <u>Feb 11/11</u> | Time: |
| Received: | Date: | Time: |
| Sample Log-in: <u>2116/11</u> | Date: | Time: |
| Sample Prep: | Date: | Time: |
| Analyzed: | Date: <u>2/14/11</u> | Time: |
| QA/QC Review: <u>gm2/28/m</u> | Date: <u>FEB 14 2011</u> | Time: |
| Archived/Released: | IATL - By: <u>[Signature]</u> | Time: |
| QA/QC InterLAB Use: | Date: | Time: |

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|--------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 1/28/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Materials Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|
| Lab No.: | 4197123 | Description / Location: | Grey/White Plaster | |
| Client No.: | A9 | | #21 N Stairwell | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4197124 | Description / Location: | Grey/White Plaster/Paint | |
| Client No.: | P2 | | #21 113 Janitor Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4197125 | Description / Location: | Tan/White Plaster/Paint | |
| Client No.: | P3 | | #21 116 Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4197126 | Description / Location: | Blue/Green Paint | |
| Client No.: | P4 | | #21 118 Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

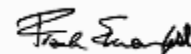
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This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: J. Haremza

Approved By:



Date: 1/28/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|--------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 1/28/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Hazardous Materials Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4197127 | Description / Location: | White/Tan Plaster/Paint | |
| Client No.: | P5 | | #21 Electric Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4197128 | Description / Location: | Grey Transite | |
| Client No.: | A24 | | #53 Boiler Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 35 | Chrysotile | None Detected | None Detected | 65 |

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4197129 | Description / Location: | Brown Transite | |
| Client No.: | A25 | | #53 Boiler Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 30 | Chrysotile | None Detected | None Detected | 70 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197137 | Description / Location: | Tan/White Ceiling Tile | |
| Client No.: | A50 | | #41 Bsmt Foyer | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 20 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: J. Haremza

Date: 1/28/2011



9000 Commerce Parkway, Ste B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|--------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 1/28/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Materials Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4197138 | Description / Location: | Tan/White Ceiling Tile | |
| Client No.: | A51 | | #41 Bsmt Foyer | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 80 | Cellulose | 20 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: J. Haremza

Date: 1/28/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 114197939F | Description / Location: | Tan Vermiculite Insulation - Floats | |
| Client No.: | A58 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100% |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|------------------------------------|-------------------------------|
| Lab No.: | 114197939S | Description / Location: | Tan Vermiculite Insulation - Sinks | |
| Client No.: | A58 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.24% | Actinolite | None Detected | None Detected | 99.76% |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|---------------|--|---------------------------------------|-------------------------------|
| Lab No.: | 114197969F | Description / Location: | Brown Vermiculite Insulation - Floats | |
| Client No.: | A88 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | Trace | Cellulose | 100% |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 114197969S | Description / Location: | Brown Vermiculite Insulation - Sinks | |
| Client No.: | A88 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.57% | Actinolite | Trace | Cellulose | 99.43% |

Analysis by EPA-600/R-04/004.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

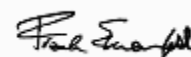
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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Approved By:



Date: 2/9/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Hazardous Mat'l's Assessment |
| | Calgary AB T2Z 3V7 | Project No.: | 11166L |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------------------------|-------------------------------|
| Lab No.: | 114197970F | Description / Location: | Brown Vermiculite Insulation - Floats | |
| Client No.: | A89 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100% |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 114197970S | Description / Location: | Brown Vermiculite Insulation - Sinks | |
| Client No.: | A89 | | #41; Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.30% | Actinolite | Trace | Cellulose | 99.7% |

Analysis by EPA-600/R-04/004.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|-----------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0311001876 |
| | Calgary AB T2Z 3V7 | Project: | Hazardous Mat'l's Assessment |
| | | Project No.: | 11166L |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 114197123 | A9 | White Paint #21; N. Stairwell | 0.023*** |
| 114197124 | P2 | Green Paint #21; 113 Janitor Closet | 0.21 |
| 114197125 | P3 | White On Dk. Green Paint #21; 116 Wall | 0.063 |
| 114197126 | P4 | Purple On White Paint #21; 118 Wall | 0.085 |
| 114197127 | P5 | Brown Paint #21; Electric Room | 0.26*** |
| 114197128 | A24 | Sample Not Analyzed Tested Positive For Asbestos | NotAnlyz'd |
| 114197129 | A25 | Sample Not Analyzed Tested Positive For Asbestos | NotAnlyz'd |
| 114197130 | P8 | Pink Over Yellow Paint #53; AV Room | 0.35*** |
| 114197131 | P9 | White Paint #53; Gym | <0.0085 |
| 114197132 | P10 | Yellow Over Green Paint #53; Corridor 5 | 0.14*** |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be

Date Received: 1/25/2011
Date Analyzed: 2/1/2011
Analyst: C. Shaffer

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|-----------------------|------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0311001876 |
| | Calgary AB T2Z 3V7 | Project: | Hazardous Mat'l's Assessment |
| | | Project No.: | 11166L |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 114197133 | P11 | White Paint #21; Exteror Window Frame-Admin. | 0.95 |
| 114197134 | P13 | Dk. Green Paint #2; Exterior Trim | 5.7 |
| 114197135 | P14 | Green Paint #2A; Interior Trim | <0.0075*** |
| 114197136 | P15 | Grey Paint #41; Bsmt. Floor | Void** |
| 114197137 | A50 | White Paint #41; Bsmt. Foyer Ceiling | <0.0092*** |
| 114197138 | A51 | White Paint #41; Bsmt. Foyer Ceiling | <0.0091*** |
| 114197139 | P16 | White Paint #38A; Garage | 0.35 |
| 114197140 | P17 | White Paint #41A; Shed | 2.5 |
| 114197141 | P18 | Green Paint #2; Bsmt. Stairs | 0.2*** |
| 114197142 | P19 | White Paint #2; Interior Of Bsmt. | 0.16 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be

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CERTIFICATE OF ANALYSIS

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/1/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0311001876 |
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| | | Project No.: | 11166L |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|-------------------------------------|---|
| 114197143 | P20 | White Paint #2; Exterior | <0.0093 |
| 114197144 | P21 | White Paint #38A; Exterior | 1.5*** |
| 114197145 | P22 | Grey Paint #38A; Floor | 0.0059*** |
| 114197146 | P23 | White Paint #38A; Walls | <0.0074*** |
| 114197147 | P24 | White Paint #38A; Pump House | 0.87 |
| 114197148 | P25 | Brown Paint #40; Interior Walls | <0.0083*** |
| 114197149 | P26 | White Paint #40; Interior Walls | 0.073*** |
| 114197150 | P27 | Green Paint #42B; Exterior Doors | 0.4*** |
| 114197151 | P28 | White Paint #54; Exterior | 0.072 |
| 114197152 | P29 | White Paint #54; Interior | 0.75 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

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CERTIFICATE OF ANALYSIS

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| | PO Box87073 RPO DouglasSq. | Report Number: | 0311001876 |
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| | | Project No.: | 11166L |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 114197153 | P30 | Red Paint #10; Interior Of Barn | 0.093*** |
| 114197154 | P31 | White Paint #10; Exterior Of Barn | 1.9*** |
| 114197155 | P32 | Yellow Paint #52; Shelves In Tool Room | 0.027*** |
| 114197156 | P33 | Grey Paint #52; Work Bench, E. Bay | 0.093*** |
| 114197157 | DP1 | White Paint | <0.0067 |
| 114197158 | DP3 | White Paint | 0.54 |
| 114197159 | DP5 | White Paint | 1.2 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
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Date Received: 1/25/2011
Date Analyzed: 2/1/2011
Analyst: C. Shaffer

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: Hazardous Materials Assessment
Project No.: 11166L

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special
Instructions:

Type:

| Asbestos | | Lead | | Other | |
|--------------------------------|--------------------------------|--------------------------------|---|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input checked="" type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|--|---|
| <input type="checkbox"/> PCM: NIOSH 7400 | <input type="checkbox"/> PLM: Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM: AHERA |
| <input type="checkbox"/> PCM: OSHA | <input type="checkbox"/> PLM: Point Counting 198.1 | <input type="checkbox"/> TEM: NIOSH 7402 |
| <input type="checkbox"/> PCM: Other | <input type="checkbox"/> PLM: NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM: EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM: Microvac / Wipe |
| <input type="checkbox"/> AAS: NIOSH 7082 (Air) | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM: Asbestos in Water |
| <input type="checkbox"/> AAS: Lead in Drinking Water | (**call to confirm TAT!) | <input type="checkbox"/> TEM: Bulk Analysis |
| <input checked="" type="checkbox"/> AAS: Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> TEM: NOB 198.4 |
| <input type="checkbox"/> AAS: Lead Dust/Wipe | | <input type="checkbox"/> TEM: Other |
| <input type="checkbox"/> AAS: Other Metals / Soil | | <input type="checkbox"/> Total Dust: NIOSH 0500 |

Turnaround

Time:

email results

FAX:

Verbals:

elvie@ballastenvironmental.com

date / time

date / time

☐ 10 Day ☒ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ 6 hour ☐ RUSH

Preliminary FAX/Verbal Results Requested by:

DP1, DP3, DP5,

Sample

Numbers:

Client #(s): P2 - P5
(start) (end)

IATL#(s):

(start)

(end)

Total: 357

Chain of

Custody:

P8 - P11

P13 - P33

A50, A51, A9, A24, A25

(See attached)

| | | | | | |
|----------------|----------------------|-------|--------------------|-------|--|
| Relinquished: | <u>Elvie Reinson</u> | Date: | <u>Jan 21/11</u> | Time: | |
| Received: | | Date: | <u>JAN 25 2011</u> | Time: | |
| Sample Log-in: | <u>0721123111</u> | Date: | | Time: | |
| Sample Prep: | | Date: | | Time: | |
| Analyzed: | <u>1/28/11</u> | Date: | | Time: | |
| QA/QC Review: | | Date: | | Time: | |

Archived/Released:

QA/QC InterLAB Use:

IATL - By

Date:



LEAD

BULK MATERIAL SAMPLING LOG

Worksite: LRC

Date: Jan 18/11

Client: PNGSC

Job No.: 11166

Date Results Required:

No. Samples: 32 total

Page 1 of 3

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------------|-------------|-----------------------------------|-----------|------------------|------------|
| A9 | white | Paint | #21 N stairwell | good | 4197123 | 972 |
| P2 | green | " | #21 113 Janitor closet | Poor | 4197124 | 974 |
| P3 | white on dark green | " | #21 116 wall | good | 4197125 | 983 |
| P4 | Purple on white | " | #21 118 wall | Poor | 4197126 | 981 |
| P5 | Brown | " | #21 Electric Room | Fair | 4197127 | 0002 |
| A24 | Pink/Brown | " | #53 Boiler Room | good | 4197128 | |
| A25 | Brown | " | #53 " | " | 4197129 | |
| P8 | Pink over yellow | " | #53 AV Room | " | 4197130 | |
| P9 | white | " | #53 gym | Poor | 4197131 | |
| P10 | Yellow over green | " | #53 Corridor 5 | Fair | 4197132 | |
| P11 | white | " | #21 exterior window frame - admin | Poor | 4197133 | 004 |
| P13 | dark green | " | #2 exterior trim | Poor | 4197134 | 0943 |
| P14 | green | " | #2A interior trim | Poor | 4197135 | 0944 |
| P15 | gray | " | #41 Bsm't floor | " | 4197136 | 0880 |

Testing for asbestos first (in isolation first)

LEAD

BULK MATERIAL SAMPLING LOG

Worksite: L RC

Date: Jan 18/11

Client: PWGSC

Job No.: 11166

Date Results Required: _____

No. Samples: _____

Page 2 of 3

Test 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------|-------------|-------------------------------|--------------|---------------------|------------|
| A50 | white | Paint | #41 Bsmnt fayer ceiling | Fair 419713 | 1/2 7 Bsmnt | 0878 |
| A51 | | add samples | together to get enough sample | 4197138 | | |
| P16 | white | Paint | #38A Garage | Poor 4197139 | garage + shed | 0902 |
| P17 | " | " | #41A Shed | " 4197140 | Shed | 0903 |
| P18 | green | " | #2 Bsmnt stairs | Okay 4197141 | stairs + support | 0914 |
| P19 | white | " | #2 interior of Bsmnt | good 4197142 | through out house | 0927 |
| P20 | white | " | #2 exterior | Okay 4197143 | entire exterior | 0947 |
| P21 | " | " | #38A exterior | Poor 4197144 | " | 90013 |
| P22 | gray | " | #38A floor | Fair 4197145 | entire floor | 90025 |
| P23 | white | " | #38A walls | good 4197146 | walls + ceiling | 90026 |
| P24 | " | " | #38A Pump house | Poor 4197147 | exterior walls | 90045 |
| P25 | Brown | " | #40 interior walls | " 4197148 | 1/2 walls (all) | 9056 |
| P26 | white | " | #40 " | " 4197149 | 1/2 walls + ceiling | 9064 |
| P27 | green | " | #42B exterior doors | " 4197150 | 14 sets of doors | 9090 |

[illegible]

| | |
|--|--|
| Name: Ballast Environmental Cons. Ltd. Address: PO Box 87073 RPO Douglas SQ Calgary AB T2Z 3V7 Contact: Elvie Reinson Phone: (403) 452-3110 Fax: (403) 452-3133 | Workorder: 32273 COC: 43740 Project: 11166L Legal Desc: L.R.C. Date Received: Jan 21, 2011 Date Reported: Feb 1, 2011 Samples: 1 Wood |
|--|--|

Semivolatile Organics By GC-MS - Wood*

Lab #: 32273-01
Date Sampled: Jan 18, 2011
Detection Limit **Units** **Dry Cow Feed Lot 42b**

PHENOLS

| | | | |
|--------------------|-----|-------|----|
| Cresols | 2 | mg/kg | 72 |
| 2-methylphenol | 2.3 | mg/kg | 20 |
| 3 & 4-methylphenol | 2.3 | mg/kg | 52 |

*analysis performed by Maxxam Analytics in Calgary

Access Analytical Laboratories Inc.

Per: *Bob Corbet*
BC Bob Corbet, M.Sc., P.Chem.
Manager, Technical Services

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|-------|--------------------|---------------|--------------|--------------------------|---------------------------------|------------------------------------|----------------|----------------|----------------------|----------------------------|---------------------------------|-----------|------------------|--------------|-----------|--------------|----------|
| 1: Administration Office | Bsmt | Basement Office | office | drywall | drywall | linoleum | - | blue | blue | blue speckle | - | - | - | - | blue | P11 | office | Negative |
| | | | | | | | | | | | | blue drywall mud | A35 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | blue speckle linoleum | A36 | floor at drain | - | - | - | Negative |
| 1: Administration Office | Bsmt | Main Computer Room | computer room | drywall | drywall | linoleum | - | blue | blue | blue speckle | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Hallway | hallway | drywall | drywall/ cement | carpet/9x9 floor tile/ linoleum | smoke detector; 9m pipe insulation | white | white | light brown | - | - | - | - | white | P12 | hall | Negative |
| | | | | | | | | | | | | white drywall mud | A37 | hall | - | - | - | Positive |
| | | | | | | | | | | | | brown with white 9x9 floor tile | A41 | hall floor | - | - | - | Positive |
| | | | | | | | | | | | | brown with white 9x9 floor tile | A75 | hall floor | - | - | - | Positive |
| 1: Administration Office | Bsmt | Library | library | ceiling tile | wall wood board | carpet on cement | - | white | beige | - | 12x12 grid and 12x12 holes | white pipe wrap | A38 | pipe wrap | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A39 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 grid ceiling tile | A40 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 grid ceiling tile | A73 | west ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 grid ceiling tile | A74 | NE corner | - | - | - | Negative |
| 1: Administration Office | Bsmt | Library Closet | closet | drywall | plywood/ drywall | cement | - | white | wood | red | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Mens Washroom | washroom | drywall | drywall | linoleum | - | white | beige | new | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Furnace Room | furnace | drywall | brick/ cement | cement | - | bare | yellow | gray | - | - | - | - | yellow | P13 | furnace room | Negative |
| | | | | | | | | | | | | white drywall mud | A42 | wall | - | - | - | Positive |
| | | | | | | | | | | | | yellow insulating board | A43 | make-up air duct | - | - | - | Negative |
| | | | | | | | | | | | | silver sink insulation | A44 | sink | - | - | - | Negative |
| 1: Administration Office | Bsmt | Vault | vault | cement brick | cement brick | cement | - | white | white | red | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Dark Room | dark room | fibre board | cement brick/fibre board | rubber mat on cement | ACM sink | black on green | black on green | black mat/red cement | - | - | - | - | black | P14 | dark room | Positive |
| | | | | | | | | | | | | silver sink insulation | A46 | sink | - | - | - | Positive |
| | | | | | | | | | | | | black fibre board | A47 | wall | - | - | - | Negative |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------|-------|----------------------|-----------------|--------------|-------------------------|--------------------|-------------------------------|---------------|----------------------|-------------------------------|-------------------|--------------------------------|-----------|------------------------|--------------|-----------|--------------|----------|
| 1: Administration Office | Bsmt | Storage | storage | ceiling tile | drywall/ cement | linoleum on cement | - | white | white | blue speckle | 12x12 holes | white 12x12 holes ceiling tile | A45 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | blue speckle linoleum | A48 | floor | - | - | - | Negative |
| 1: Administration Office | Bsmt | Womens Washroom | washroom | drywall | drywall | newer linoleum | - | white | beige | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Conference Room | conference room | ceiling tile | drywall/ cement pillars | linoleum | 9 m pipe insulation; 6 elbows | white | white | square pattern light coloured | 12x12 holes | brown square linoleum | A49 | floor | - | - | - | Positive |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A50 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white drywall mud | A51 | SW corner wall | - | - | - | Positive |
| 1: Administration Office | Bsmt | Kitchen | kitchen | drywall | drywall | linoleum | fridge; sink with ACM coating | white | white | square pattern light coloured | - | white drywall mud | A52 | wall | - | - | - | Positive |
| | | | | | | | | | | | | bronze sink insulation | A53 | sink insulation | - | - | - | Positive |
| 1: Administration Office | Bsmt | West Stairwell | stairwell | drywall | drywall | carpet | emergency lights | white | light green on white | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | Bsmt | Under West Stairwell | storage | wood | drywall | cement | - | wood | blue | - | - | - | - | - | blue | P15 | under stairs | Negative |
| 1: Administration Office | Main | Hall | hallway | ceiling tile | plaster wall | carpet | radioactive smoke detector | white | green | - | 12x12 holes | white 12x12 holes ceiling tile | A55 | ceiling (middle) | - | - | - | Negative |
| | | | | | | | | | | | | white ceiling texture | A60 | ceiling | - | - | - | Positive |
| | | | | | | | | | | | | white ceiling texture | A61 | ceiling at east stairs | - | - | - | Positive |
| 1: Administration Office | Main | Storage East | storage | ceiling tile | plaster wall | linoleum on wood | mini fridge ODS-R12 | white | beige | square pattern light coloured | 12x12 holes | brown square linoleum | A56 | floor | - | - | - | Positive |
| 1: Administration Office | Main | Storage West | storage | ceiling tile | plaster wall | linoleum on wood | - | white | beige | square pattern light coloured | 12x12 holes | - | - | - | - | - | - | - |
| 1: Administration Office | Main | Reception | reception room | ceiling tile | plaster wall | wood | - | white | green | wood | 12x12 holes | - | - | - | white | P18 | ceiling | Negative |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A64 | north ceiling | - | - | - | Negative |
| 1: Administration Office | Main | Reception Closet | closet | drywall | plaster wall | carpet on wood | - | blue | blue | - | - | green drywall mud | A58 | wall | - | - | - | Negative |
| 1: Administration Office | Main | Office 6 | office | ceiling tile | drywall | carpet | - | white | beige | - | 12x12 holes | white 12x12 holes ceiling tile | A57 | SE corner | - | - | - | Negative |
| 1: Administration Office | Main | Office 5 | office | ceiling tile | plaster wall | carpet | - | white | beige | - | 12x12 holes | white 12x12 holes ceiling tile | A63 | SW corner ceiling | - | - | - | Negative |
| 1: Administration Office | Main | Office 4 | office | ceiling tile | plaster wall | wood | - | white | beige | - | 12x12 holes | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|-----------|-----------------|-----------------|-------------------------|----------------------|---------------------|--|---------------|-------------|-------------------------------|-------------------|------------------------|-----------|--------------------|--------------|-----------|--------------|----------|
| 1: Administration Office | Main | Office 3 | office | textured | plaster wall | hardwood | - | white | pink | - | - | white ceiling texture | A62 | SW corner ceiling | - | - | - | Positive |
| | | | | | | | | | | | | pink drywall mud | A65 | SW corner wall | - | - | - | Negative |
| 1: Administration Office | Main | Office 2 | office | ceiling tile | plaster wall | carpet | - | white | light green | - | 12x12 holes | - | - | - | - | - | - | - |
| 1: Administration Office | Main | Office 1 | office | ceiling tile/wood board | plaster wall | carpet | - | white/brown | light green | - | 12x12 holes | green drywall mud | A59 | SW corner wall | - | - | - | Negative |
| 1: Administration Office | Main | Conference Room | conference room | ceiling tile | drywall | carpet | - | white | white | - | 12x12 holes | - | - | - | - | - | - | - |
| 1: Administration Office | Main | East Stairwell | stairwell | drywall | plaster wall/drywall | new linoleum/carpet | radioactive smoke detector; emergency light; shoe rack with old linoleum | white | green/white | - | - | brown linoleum | A33 | shoe rack | - | - | - | Positive |
| | | | | | | | | | | | | white drywall mud | A34 | basement stairwell | - | - | - | Negative |
| 1: Administration Office | 2nd Floor | Office 28 | office | plaster wall | plaster wall | carpet | - | white | green | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 26 | office | plaster-wall | plaster wall | carpet | - | white | light green | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 24 | office | plaster-wall | plaster wall | carpet | - | white | yellow | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 22 | office | plaster-wall | plaster wall | carpet | - | white | light blue | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 27 | office | plaster-wall | plaster wall | hardwood | - | white | light green | wood | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 25 | office | plaster-wall | plaster wall | carpet | - | white | white | - | - | - | - | - | white | P16 | window frame | Negative |
| | | | | | | | | | | | | white drywall mud | A67 | south wall | - | - | - | Negative |
| 1: Administration Office | 2nd Floor | Office 23 | office | plaster-wall | plaster wall | carpet | - | white | yellow | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 21 | office | drywall | drywall | carpet | - | white | dark green | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Hall | hallway | plaster-wall | plaster wall/drywall | carpet | radioactive smoke detector | white | white | - | - | white drywall mud | A66 | attic access | - | - | - | Negative |
| | | | | | | | | | | | | brown insulating paper | A69 | attic access | - | - | - | Negative |
| 1: Administration Office | 2nd Floor | Office 20 | office | drywall | drywall | linoleum | - | white | white | square pattern light coloured | - | white drywall mud | A68 | NW corner | - | - | - | Positive |
| 1: Administration Office | 2nd Floor | Office 18 | office | drywall | drywall | linoleum | - | white | white | square pattern light coloured | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------|-----------|----------------|-------------|--------------|-----------------------------|---|---|---------------|-----------------|---------------------|-------------------|-------------------------------|-----------|-----------------------|--------------------|-----------|--------------|----------|
| 1: Administration Office | 2nd Floor | Office 19 | office | drywall | drywall | carpet | - | white | light green | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 17 | office | drywall | drywall | carpet | - | white | white | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | 2nd Floor | Office 15 | office | ceiling tile | drywall | carpet | - | white | white | - | - | - | - | - | - | - | - | - |
| 1: Administration Office | Exterior | Exterior | exterior | - | stucco; wood doors and trim | - | 2 HID lights | - | white; brown | - | - | - | - | - | white | P17 | south window | Positive |
| | | | | | | | | | | | | multi-coloured stucco | A70 | main entrance | - | - | - | Positive |
| | | | | | | | | | | | | multi-coloured stucco | A71 | main entrance | - | - | - | Positive |
| | | | | | | | | | | | | multi-coloured stucco | A72 | main entrance | - | - | - | Positive |
| | | | | | | | | | | | | gray cement | A76 | NE corner | - | - | - | Negative |
| | | | | | | | | | | | | gray cement | A77 | N wall | - | - | - | Negative |
| 10: Canola Laboratory | Attic | Attic | attic | - | - | foil/yellow fiberglass/ recycled spray in paper | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | 2nd Floor | Office 1 | office | drywall | drywall | linoleum | 8' fluorescent | white | white | gray squares | - | brown fibre board | A93 | bulletin board | - | - | - | Negative |
| 10: Canola Laboratory | 2nd Floor | Office 10 | office | drywall | drywall | linoleum | Closet has hole in it for fume hood; 8' fluorescent | white | white | gray squares | - | brown streak tile | A94 | floor | - | - | - | Negative |
| 10: Canola Laboratory | 2nd Floor | Office 2 | office | drywall | drywall | linoleum | 2 fridges; 2 fluorescent; two ODS-R12 | white | white | gray squares | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | 2nd Floor | Office 9 | office | drywall | drywall | linoleum | 8' fluorescent | white | white | gray squares | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | 2nd Floor | Storage | storage | drywall | drywall | linoleum | - | light green | light green | gray squares | - | - | - | - | green paint | P21 | wall | Negative |
| | | | | | | | | | | | | white drywall mud | A128 | closet wall | - | - | - | Positive |
| 10: Canola Laboratory | 2nd Floor | Room 8 | storage | drywall | drywall | floor tile | Incandescent light with suspect backing | green | green | brown streak | - | brown streak tile | A95 | floor | - | - | - | Negative |
| 10: Canola Laboratory | 2nd Floor | Office 3 | office | drywall | drywall | linoleum | 8' fluorescent | blue | white | gray squares | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | 2nd Floor | Office 4 | office | drywall | drywall | linoleum | Incandescent Light with suspect backing | green | white | gray squares | - | black/silver light insulation | A96 | light fixture backing | - | - | - | Positive |
| 10: Canola Laboratory | 2nd Floor | Janitor Closet | Closet | drywall | drywall | linoleum | general cleaners | white | white on yellow | gray squares | - | - | - | - | white/yellow paint | P22 | wall | Negative |
| | | | | | | | | | | | | white drywall mud | A127 | closet wall | - | - | - | *** |
| 10: Canola Laboratory | 2nd Floor | Washroom Hall | hallway | drywall | wood paneling | linoleum | - | white | white | off-white | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------|-----------|------------------|-------------------|-------------------------|--|------------------|---|---------------|----------------------------|---------------------|-------------------|-------------------------------|-----------|-----------------------|--------------|-----------|-------------|----------|
| 10: Canola Laboratory | 2nd Floor | Washroom 1 | washroom | drywall | wood paneling | linoleum | fluorescent; general cleaner under sinks; sunken floor | white | white | off-white | - | white/rose linoleum | A97 | floor | - | - | - | Negative |
| 10: Canola Laboratory | 2nd Floor | Washroom 2 | washroom | drywall | wood paneling | linoleum | fluorescent; general cleaner under sinks; sunken floor | white | white | off-white | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | 2nd Floor | Office 5 | office | drywall | drywall | 12x12 floor tile | 1 fluorescent light and 3 more on shelf | blue | blue | brown | - | - | - | - | blue paint | P24 | wall | Negative |
| | | | | | | | | | | | | brown 12x12 floor tile | A98 | floor | - | - | - | Positive |
| 10: Canola Laboratory | 2nd Floor | Office 6 | office | drywall | drywall | linoleum | 8' fluorescent | white | white | gray squares | - | white drywall mud | A126 | closet wall | - | - | - | Positive |
| 10: Canola Laboratory | 2nd Floor | Office 7 | office | drywall | drywall | linoleum | 8' fluorescent; closet blue paint | white | white | gray squares | - | - | - | - | white | P23 | closet door | Negative |
| 10: Canola Laboratory | 2nd Floor | Hall | hallway | ceiling tile | drywall/wallpaper | linoleum | 2 incandescent lights with backing | white | white/white (yellow doors) | gray squares | 12x12 grid | white 12x12 grid ceiling tile | A99 | middle | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 grid ceiling tile | A100 | NE corner | - | - | - | Negative |
| 10: Canola Laboratory | 2nd Floor | Stairwell | stairwell | ceiling tile | drywall/wallpaper | linoleum | Incandescent light with backing | white | white/white | gray squares | 12x12 grid | white drywall mud | A129 | wall | - | - | - | Negative |
| 10: Canola Laboratory | Main | Hall | hallway | ceiling tile | drywall/wallpaper | linoleum | Incandescent light with backing; fluorescent light; thermostat; two ODS-R12 | white | yellow/white | gray squares | 12x12 grid | brown/black wall tile | A103 | hall | - | - | - | Negative |
| | | | | | | | | | | | | white fibre board | A104 | bulletin board | - | - | - | Negative |
| 10: Canola Laboratory | Main | Breaker box room | utility room | ceiling tile | drywall | linoleum | Incandescent Light with backing; 2 incubators | white | white | gray squares | 12x12 grid | white 12x12 grid ceiling tile | A101 | breaker box | - | - | - | Negative |
| 10: Canola Laboratory | Main | Storage room | storage | drywall | drywall/wall board/ceramic tiles | linoleum | storage cabinet for chemicals; incubator; ODS-R12 | white | purple | gray squares | - | - | - | - | purple paint | P26 | wall | Negative |
| | | | | | | | | | | | | silver/black light insulation | A102 | ceiling | - | - | - | Positive |
| 10: Canola Laboratory | Main | Lab NE | lab | ceiling tile/wood panel | drywall | linoleum | chemicals; two 8' fluorescent; freezer | white | white over blue | gray squares | 12x12 grid | | | | - | - | - | - |
| 10: Canola Laboratory | Main | Lab SE | lab | ceiling tile | drywall | linoleum | three 8' fluorescent; two old lights | white | white | gray squares | 12x12 grid | white 12x12 grid ceiling tile | A106 | east wall | - | - | - | Negative |
| 10: Canola Laboratory | Main | Lab SW | lab | ceiling tile | drywall/wall tile | linoleum | four 8' fluorescent and three old fluorescent lights | white | white | gray squares | 12x12 grid | white 12x12 grid ceiling tile | A105 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | gray wall tile | A107 | wall | - | - | - | Negative |
| | | | | | | | | | | | | green floor tile | A108 | between SW and NW lab | - | - | - | Negative |
| 10: Canola Laboratory | Main | Lab NW | lab (old kitchen) | ceiling tile | drywall/ceramic tile/concrete backsplash | linoleum | fume hood with board | white | white | gray squares | 12x12 grid | gray cement board | A109 | fume hood | - | - | - | Negative |
| | | | | | | | | | | | | gray cement board | A110 | sink backsplash | - | - | - | Negative |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------|-------|--------------|-------------------------|--------------|---|--|---|--|------------------|-----------------------------------|-------------------|----------------------------|-----------|--------------------------|---------------------|-----------|-------------|----------|
| 10: Canola Laboratory | Main | NE Entry | hallway | drywall | drywall/ compressed fibre board | linoleum | - | white | white | gray squares | - | brown fibre board | A111 | stairwell board | - | - | - | Negative |
| 10: Canola Laboratory | Main | NW Entry | hallway | ceiling tile | drywall; stair runners | linoleum | - | white; upper stair runner yellow tile; lower | yellow-off white | upper blue; stair tops vinyl tile | 12x12 grid | yellow floor tile | A112 | floor | - | - | - | Negative |
| | | | | | | | | | | | | multi-brown floor tile | A113 | stair runner down | - | - | - | Negative |
| | | | | | | | | | | | | white drywall mud | A130 | wall | - | - | - | Negative |
| 10: Canola Laboratory | Main | Lab W-N | lab | ceiling tile | drywall | linoleum | fridge; two sinks | white | white | new blue | 12x12 grid | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Main | Lab W-S | lab | ceiling tile | drywall | linoleum | one 8' fluorescent | white | white | new blue | 12x12 grid | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Storage 7 | storage | drywall | drywall | 9x9 floor tile | hole in ceiling - fibreglass yellow insulation; one 8' fluorescent | blue | blue | light brown and dark brown | - | - | - | - | light blue paint | P28 | wall | Negative |
| | | | | | | | | | | | | light brown 9x9 floor tile | A114 | floor | - | - | - | Positive |
| | | | | | | | | | | | | dark brown 9x9 floor tile | A115 | floor | - | - | - | Positive |
| | | | | | | | | | | | | white drywall mud | A124 | closet wall | - | - | - | Negative |
| 10: Canola Laboratory | Bsmt | Storage 6 | storage | drywall | drywall | 9x9 floor tile | hole in ceiling - fibreglass yellow insulation; one 8' fluorescent; 10" aerocell pipe | blue | blue | light brown and dark brown | - | - | - | - | light green paint | P27 | closet wall | Negative |
| | | | | | | | | | | | | white aerocell insulation | A120 | pipe wrap | - | - | - | Positive |
| | | | | | | | | | | | | white drywall mud | A123 | wall | - | - | - | Negative |
| 10: Canola Laboratory | Bsmt | Storage 8 | under stairwell storage | stairs | cinderblock east wall; concrete north wall; | cork tile on top of concrete; 9x9 floor tile | - | - | - | light brown and dark brown | - | black caulking | A118 | around wiring | - | - | - | Positive |
| | | | | | | | | | | | | gray caulking | A119 | around light | - | - | - | Positive |
| 10: Canola Laboratory | Bsmt | Storage 5 | cooler | plywood | plywood | concrete | caulking around piping and lights; cork insulation | wood | wood | gray | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Storage 4 | cooler | wood plank | wood plank (silver foil between walls) | concrete floor | mould growth and water damage; airocell insulated pipe | white | white | gray | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Furnace Room | furnace room | - | cinderblock walls | bare concrete floor | gaskets; boiler with insulation | - | - | gray | - | white furnace insulation | A121 | top corner of insulation | - | - | - | Positive |
| 10: Canola Laboratory | Bsmt | Storage 3 | cooler | plywood | plywood/ west wall wood plank | concrete | screen to crawl space | white | white | gray | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Storage 11 | storage | - | cinderblock/ concrete/ wood planks | concrete | - | - | - | - | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Storage 2 | storage | plywood | plywood | concrete | - | white | white | gray | - | - | - | - | white/ yellow paint | P29 | wall | Positive |
| 10: Canola Laboratory | Bsmt | Storage 1 | storage | plywood | plywood | concrete | fume hood; two 8' fluorescent; one old fluorescent | white | white | gray | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|----------|--------------|-------------|-----------------------------|---|-------------------------------------|---|---------------|--------------------------------|-------------------------------|--------------------------|-------------------------------------|-----------|--------------------------|---------------------|-----------|--------------------|----------|
| 10: Canola Laboratory | Bsmt | Storage 9 | storage | plywood | plywood | floor levelling compound | shelves and pipes (no insulation) | white | white | gray | - | gray/green floor levelling compound | A122 | center of floor | - | - | - | Negative |
| 10: Canola Laboratory | Bsmt | Storage 10 | storage | wood | concrete | floor levelling compound | well; old wiring | - | - | gray | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Laundry | laundry | plywood | plywood | concrete | pipe with no insulation | - | - | - | - | - | - | - | - | - | - | - |
| 10: Canola Laboratory | Bsmt | Hall | hallway | - | plywood | concrete | - | - | white | gray | - | - | - | - | white paint | P30 | wall | Negative |
| | | | | | | | | | | | | white drywall mud | A125 | wall | - | - | - | Negative |
| 10: Canola Laboratory | Exterior | Exterior | exterior | - | stucco with parchment on concrete; white frames | - | - | - | - | - | - | - | - | - | white paint | P31 | Main entrance trim | Positive |
| | | | | | | | | | | | | white/gray stucco/ cement | A131 | N wall entrance | - | - | - | Negative |
| | | | | | | | | | | | | white/gray stucco/ cement | A132 | S main entrance | - | - | - | Negative |
| | | | | | | | | | | | | white/gray stucco/ cement | A133 | NW corner | - | - | - | Negative |
| | | | | | | | | | | | | black tar paper | A134 | N wall entrance | - | - | - | Negative |
| 14: Soils Research Building | Main | Entry | hallway | ceiling tile on fibre board | wood paneling | linoleum/ floor tile/ cement | fire alarm control; cryogenic freezer | white | wood; frames peach/ white | floor square/ gray floor tile | 12x12 ceiling flat tiles | - | - | - | peach paint | P32 | frames at entry | Negative |
| | | | | | | | | | | | | gray 12x12 floor tile | A135 | entry under linoleum | - | - | - | Positive |
| | | | | | | | | | | | | white 12x12 ceiling tile | A136 | ceiling | - | - | - | Negative |
| 14: Soils Research Building | Main | Porch | porch | panel board | panel board/ stucco | 9x9 floor tile | pink fibreglass insulation in walls and ceiling | wood | wood/ white frames/ wood doors | gray | - | white/gray 9x9 floor tile | A137 | porch floor | - | - | - | Negative |
| | | | | | | | | | | | | white stucco | A138 | porch west building wall | - | - | - | Negative |
| 14: Soils Research Building | Main | SW Lab | lab | ceiling tile/ drywall | drywall; N wall wood | 9x9 floor tile | two suspect countertops; 2 sinks with insulation; two 8' fluorescent; one 4' fluorescent; chemicals | white | white on yellow | white/ gray | 12x12 holes | - | - | - | white/ yellow paint | P33 | wall | Negative |
| | | | | | | | | | | | | gray cement board | A139 | leaning on wall x 2 | - | - | - | Positive |
| | | | | | | | | | | | | white drywall mud | A140 | SW corner | - | - | - | Negative |
| | | | | | | | | | | | | bronze sink insulation | A141 | sinks | - | - | - | Positive |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A142 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white/gray 9x9 floor tile | A143 | floor | - | - | - | Positive |
| 14: Soils Research Building | Main | Furnace Room | furnace | fibre board | drywall; N wall concrete with parchment | 12x12 floor tile on mastic concrete | water damage to ceiling; furnace, hot water, sump | off-white | off-white | gray/blue and black mastic | - | - | - | - | white/ yellow paint | P34 | wall | Negative |
| | | | | | | | | | | | | gray parchment | A144 | N wall | - | - | - | Negative |
| | | | | | | | | | | | | gray/blue 12x12 floor tile | A145 | floor | - | - | - | Negative |
| | | | | | | | | | | | | white drywall mud | A146 | walls | - | - | - | Positive |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|-----------|---------------------|-------------------------|--|---|--|--|---------------|------------|----------------------------|-------------------|-----------------------------|-----------|------------|--------------|-----------|----------|---------------------|
| 14: Soils Research Building | Main | Washroom | washroom | ceiling tile spackle | wall board | linoleum | sink; household cleaners under sink; one 4' fluorescent | white | white | floor square | spackle | white sink insulation | A147 | sink | - | - | - | Negative |
| | | | | | | | | | | | | white spackle ceiling tile | A148 | ceiling | - | - | - | Negative |
| 14: Soils Research Building | Main | Storage | vault | concrete with suspect black fabric | concrete | concrete | household chemicals; water inside | white | white | gray | - | black/white fabric | A149 | ceiling | - | - | - | Negative |
| 14: Soils Research Building | Main | Hall | hallway | spackle ceiling tile in hall; fibre board in other | panel board in hall; wood in other (fibreglass with foil inside wall) | linoleum | four fluorescent, 1 of which is really old; growth chamber | white | white | brown square | spackle | spackle ceiling tile | A165 | ceiling | - | - | - | Sample Not Received |
| 14: Soils Research Building | Main | Under stairs | under stairwell storage | stairs | plywood | 9x9 floor tiles on concrete | sump | - | - | light brown and dark brown | - | light brown 9x9 floor tile | A153 | floor | - | - | - | Positive |
| | | | | | | | | | | | | dark brown 9x9 floor tile | A154 | floor | - | - | - | Positive |
| 14: Soils Research Building | Main | Growth Chamber Room | storage | fibre board | plywood; N wall concrete with parchment | 9x9 floor tiles on concrete | growth chambers; mercury thermometer; ODS-R12 | white | white | light brown and dark brown | - | brown fibre board | A152 | ceiling | - | - | - | Negative |
| 14: Soils Research Building | Main | NW Lab | lab | fibre board | drywall; N wall concrete with parchment | 9x9 floor tiles on concrete | water damage along pipe on W; laminant countertops board in fume hood, 5 fluorescent, 2 fridge; two ODS-R12 | white | white | light brown and dark brown | - | - | - | - | white | P35 | wall | Negative |
| | | | | | | | | | | | | light brown 9x9 floor tile | A155 | floor | - | - | - | Positive |
| | | | | | | | | | | | | dark brown 9x9 floor tile | A156 | floor | - | - | - | Positive |
| | | | | | | | | | | | | gray cement board | A157 | fume hood | - | - | - | Negative |
| | | | | | | | | | | | | white drywall mud | A158 | wall | - | - | - | Positive |
| | | | | | | | | | | | | white/gray parchment | A159 | north wall | - | - | - | Negative |
| 14: Soils Research Building | Main | NE Lab | lab | flat ceiling tile | N and W walls wall board; others concrete | linoleum on concrete | 4 fluorescent lights; 2 cylinders of compressed gas; 3 cell batteries; Atomic Abs. Spectrometer; 4 mini rechargeable batt.; laminate countertops | white | white | brown squares | flat ceiling tile | gray sink insulation | A160 | sinks | - | - | - | Positive |
| | | | | | | | | | | | | white flat ceiling tile | A161 | N ceiling | - | - | - | Negative |
| | | | | | | | | | | | | brown square sheet linoleum | A162 | W corner | - | - | - | Positive |
| | | | | | | | | | | | | white flat ceiling tile | A163 | east | - | - | - | Negative |
| | | | | | | | | | | | | white flat ceiling tile | A164 | south | - | - | - | Negative |
| 14: Soils Research Building | 2nd floor | Power Panel Room | utility room | cement board | west wall is wood on cement board | 9x9 floor tile over cement board over wood | - | - | - | dark gray | - | gray cement board | A166 | wall | - | - | - | Positive |
| | | | | | | | | | | | | dark gray 9x9 floor tile | A167 | floor | - | - | - | Negative |
| | | | | | | | | | | | | dark gray 9x9 floor tile | A168 | floor | - | - | - | Positive |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|-----------|----------|-------------|--------------|----------------------------|--|--|---------------|------------|----------------------------|-------------------------------------|-------------------------------------|-----------|----------------------|--------------|-----------|-------------|----------|
| 14: Soils Research Building | 2nd floor | Lab 1 | lab | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | three 8' fluorescent; mercury thermostat | white | white | speckled sheet; white gray | 12x12 holes | white 12x12 holes ceiling tile | A169 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white sink insulation | A170 | sink | - | - | - | Negative |
| | | | | | | | | | | | | white/gray 9x9 floor tile | A171 | north wall | - | - | - | Positive |
| 14: Soils Research Building | 2nd floor | Lab 2 | lab | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | fume hood with suspect insulation; battery backup; four 8' fluorescent; five 4' fluorescent; fridge; ODS-R12 | white | white | speckled sheet; white gray | 12x12 holes (water damage at vents) | - | - | - | white | P36 | east window | Positive |
| | | | | | | | | | | | | white sink insulation | A172 | N sink | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A173 | N ceiling | - | - | - | Negative |
| | | | | | | | | | | | | white/gray 9x9 floor tile | A174 | NE corner | - | - | - | Negative |
| 14: Soils Research Building | 2nd floor | Hall | hallway | ceiling tile | wood paneling | linoleum on 9x9 floor tile on cement board | - | white | white | speckled sheet; white gray | 12x12 holes | white/gray 12x12 holes ceiling tile | A175 | S wall | - | - | - | Negative |
| | | | | | | | | | | | | white/gray cement board | A176 | SW corner | - | - | - | Positive |
| 14: Soils Research Building | 2nd floor | Office 1 | office | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | two 4' fluorescent | white | - | speckled sheet; white gray | 12x12 holes | - | - | - | white | P37 | frame | Positive |
| | | | | | | | | | | | | white/gray cement board | A177 | Ceiling above stairs | - | - | - | Positive |
| 14: Soils Research Building | 2nd floor | Office 2 | office | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | one 8' fluorescent | white | - | speckled sheet; white gray | 12x12 holes | white/gray 9x9 floor tile | A178 | NE corner | - | - | - | Positive |
| 14: Soils Research Building | 2nd floor | Office 3 | office | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | one 8' fluorescent | white | - | speckled sheet; white gray | 12x12 holes | - | - | - | - | - | - | - |
| 14: Soils Research Building | 2nd floor | Office 4 | office | ceiling tile | wall board on cement board | linoleum on 9x9 floor tile on cement board | one 8' fluorescent | white | - | speckled sheet; white gray | 12x12 holes | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-----------------------------|-----------|---------------------|-------------|------------------|--|-------------------------------------|---|---------------|--------------------|------------------------|-------------------|-----------------------------|-----------|--------------------------|--------------|-----------|------------|----------|
| 14: Soils Research Building | Exterior | Exterior | exterior | No attic access | wood trim; stucco | - | - | - | white | - | - | white stucco | A179 | N door | - | - | - | Negative |
| | | | | | | | | | | | | white stucco | A180 | SW corner | - | - | - | Negative |
| | | | | | | | | | | | | white caulking | A219 | S wall | - | - | - | Negative |
| | | | | | | | | | | | | white caulking | A220 | S window | - | - | - | Negative |
| | | | | | | | | | | | | gray parchment | A221 | basement wall west | - | - | - | Negative |
| | | | | | | | | | | | | gray parchment | A222 | basement wall south | - | - | - | Negative |
| | | | | | | | | | | | | gray parchment | A223 | basement wall east | - | - | - | Negative |
| 15: Ecology Building | 3rd floor | 3rd floor | storage | gable roof | wood | wood | water damage on roof; fume hood pipes with water running down | - | - | - | - | white insulating board | A25 | S of stairwell | - | - | - | Negative |
| 15: Ecology Building | 2nd floor | 2nd Floor | storage | insulating board | fibre board; fibreglass and woodchips insulation | plywood | grey desks; suspect desk tops | white | white | white | - | - | - | - | white paint | P10 | north wall | Positive |
| | | | | | | | | | | | | gray countertop | A20 | table adjacent to stairs | - | - | - | Positive |
| | | | | | | | | | | | | green countertop | A21 | east | - | - | - | Positive |
| | | | | | | | | | | | | brown countertop | A22 | E wall | - | - | - | Negative |
| | | | | | | | | | | | | black countertop | A23 | S wall | - | - | - | Negative |
| | | | | | | | | | | | | white insulating board | A24 | bulletin board | - | - | - | Negative |
| | | | | | | | | | | | | white/brown fibre board | A26 | SE corner | - | - | - | Negative |
| | | | | | | | | | | | | white/brown fibre board | A27 | NE corner | - | - | - | Negative |
| | | | | | | | | | | | | white/brown fibre board | A28 | NW corner | - | - | - | Negative |
| | | | | | | | | | | | | black tar paper | A29 | SE end | - | - | - | Negative |
| 15: Ecology Building | 2nd floor | 2nd floor stairwell | stairwell | plywood | plywood; E and W fibreboard | wood steps | - | white | white | gray | - | - | - | - | - | - | - | - |
| 15: Ecology Building | Main | Washroom | washroom | ceiling tile | ceramic tile; wood; cupboards | 9x9 floor tile | toilet; sinks | white | green; white | white | 12x12 | - | - | - | - | - | - | - |
| 15: Ecology Building | Main | Entrance Hall | hallway | ceiling tile | wood paneling | 12x12 floor tile with carpet on top | - | white | beige; white doors | white/blue; red carpet | 12x12 | white/blue 12x12 floor tile | A7 | west door way | - | - | - | Positive |
| | | | | | | | | | | | | white ceiling tile | A19 | E entrance | - | - | - | Negative |
| 15: Ecology Building | Main | Main Stairwell | stairwell | wood paneling | wood paneling | wood | - | beige | beige; white doors | gray | - | - | - | - | gray paint | P9 | stairs | Negative |
| 15: Ecology Building | Main | Hall | hallway | ceiling tile | wood panelling | 9x9 floor tile | thermostat | - | beige | white | - | white fibre board | A17 | bulletin board | - | - | - | Negative |
| | | | | | | | | | | | | white/blue 12x12 floor tile | A18 | floor | - | - | - | Positive |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|----------------------|-------|---------------------|--------------|--------------|---|---------------------------|---|---------------|---------------------------------|---------------------|-------------------|--------------------------------|-----------|--------------|--------------|-----------|--------------------|----------|
| 15: Ecology Building | Main | Furnace Room | furnace room | drywall | drywall | cement | furnace | white | white | gray | - | - | - | - | yellow paint | P8 | utility room wall | Negative |
| | | | | | | | | | | | | yellow drywall mud | A15 | NW corner | - | - | - | Positive |
| | | | | | | | | | | | | yellow drywall mud | A16 | SW corner | - | - | - | Positive |
| 15: Ecology Building | Main | South Lab | lab | ceiling tile | wood paneling/ wood base panel | 9x9 floor tile | fridge; freezer; 3 heating cabinets; 2 sinks; fume hood | white | brown and beige; white on brown | white | 12x12 | white/silver sink insulation | A1 | sink | - | - | - | Positive |
| | | | | | | | | | | | | white with gray 9x9 floor tile | A3 | Floor E wall | - | - | - | Positive |
| | | | | | | | | | | | | white with gray 9x9 floor tile | A4 | W doorway | - | - | - | Positive |
| 15: Ecology Building | Main | Growth Chamber Room | storage | ceiling tile | wood paneling/ wood base panel/ drywall on one side | cement | 2 growth chambers | white | brown and beige | gray | 12x12 | white ceiling tile | A2 | ceiling | - | - | - | Negative |
| 15: Ecology Building | Main | South Storage | storage | ceiling tile | wood paneling and footing | 9x9 floor tile and cement | - | white | brown and beige | white | 12x12 | - | - | - | pink paint | P4 | interior kickboard | Negative |
| | | | | | | | | | | | | white with gray 9x9 floor tile | A5 | floor | - | - | - | Positive |
| | | | | | | | | | | | | white ceiling tile | A6 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | black tar paper | A30 | ceiling | - | - | - | Negative |
| 15: Ecology Building | Main | North Storage | storage | ceiling tile | wood paneling and footing | 9x9 floor tile | cleaning solvents; 160 L of floor stripper | white | brown and beige | white | 12x12 | - | - | - | - | - | - | - |
| 15: Ecology Building | Main | Office | office | ceiling tile | wood paneling and footing | 12x12 floor tile | - | white | brown and beige | white/ blue | 12x12 | - | - | - | white paint | P5 | office kickboard | Negative |
| | | | | | | | | | | | | white/blue 12x12 floor tile | A8 | office floor | - | - | - | Negative |
| | | | | | | | | | | | | green linoleum | A31 | office floor | - | - | - | Negative |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|----------------------|----------|----------------------|-----------------|------------------|--|-----------------------|---|---------------|--|---------------------|-------------------|-----------------------------|-----------|-------------------------------------|--------------|-----------|-----------------------|----------|
| 15: Ecology Building | Main | North Lab | lab | ceiling tile | wood paneling and footing | 12x12 floor tile | 12 sq. feet of water damage north wall; fume hood with suspect board and suspect countertop | white | brown and beige | white/ blue | 12x12 | - | - | - | white paint | P6 | window frame | Negative |
| | | | | | | | | | | | | - | - | - | white paint | P7 | cabinet on N wall | Negative |
| | | | | | | | | | | | | white/blue 12x12 floor tile | A9 | middle of lab floor | - | - | - | Positive |
| | | | | | | | | | | | | white ceiling tile | A10 | ceiling | - | - | - | Negative |
| | | | | | | | | | | | | gray countertop | A11 | counter on N wall | - | - | - | Positive |
| | | | | | | | | | | | | gray countertop | A12 | counter on E wall | - | - | - | Negative |
| | | | | | | | | | | | | gray board fume hood | A13 | fume hood | - | - | - | Negative |
| | | | | | | | | | | | | gray insulating board | A14 | Inside acid cabinet under fume hood | - | - | - | Negative |
| 15: Ecology Building | Exterior | Exterior | exterior | cedar shake | wood and cement footings | - | - | red | white/ gray | - | - | - | - | - | white paint | P3 | exterior | Negative |
| | | | | | | | | | | | | | | | | | | |
| 17: Carpenter Shop | Main | Entrance | hallway | drywall | drywall/tin | cement | security unit with battery | white | white | gray | - | - | - | - | - | - | - | - |
| 17: Carpenter Shop | Main | Garage | Garage and shop | drywall/ plywood | tin/fibre board/foil/ wood siding | cement | thermostat; twenty-four 8' fluorescent | white | green and blue on NE shelving; gray work bench | gray | - | - | - | - | green paint | P39 | garage | Negative |
| | | | | | | | | | | | | - | - | - | white paint | P40 | work bench | Negative |
| | | | | | | | | | | | | - | - | - | gray paint | P41 | work bench countertop | Negative |
| | | | | | | | | | | | | white drywall mud | A184 | SE ceiling | - | - | - | Positive |
| | | | | | | | | | | | | white window caulking | A191 | SE window | - | - | - | Negative |
| 17: Carpenter Shop | Main | Storage Above Office | storage | fibre board | - | - | 2 incandescent lights with suspect backing; rupture in ceiling with vermiculite coming out | - | - | - | - | - | - | - | - | - | - | - |
| 17: Carpenter Shop | Main | Paint Storage | storage | drywall/ plywood | half drywall on fibre board/ half tin on fibre board | cement | 770 L of paint; 40 cans of spray paint; 20 L of solvent; three 8' fluorescent | white | white | paint splatter | - | - | - | - | - | - | - | - |
| 17: Carpenter Shop | Main | Washroom | washroom | drywall | drywall on tin/ drywall on fibre board | floor tile on plywood | - | white | white | gray | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | gray 9x9 floor tile | A189 | floor | - | - | - | Negative |
| | | | | | | | | | | | | white drywall mud | A190 | NE corner | - | - | - | Positive |
| 17: Carpenter Shop | Main | Utility Room | utility room | drywall | drywall on tin | plywood | - | white | white | gray | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|---------------------------|----------|--------------------|----------------------|-----------------------------------|---|----------------------------|---|---------------|--|---------------------------|-------------------|-----------------------------|-----------|-------------------------|--------------|-----------|-----------------|----------|
| 17: Carpenter Shop | Main | Office | office | drywall on wood panelling | drywall on wood panelling | floor tile on plywood | 2 desk top fluorescent; one 8' fluorescent | white | white | gray and light gray tiles | - | white drywall mud | A186 | SW corner office | - | - | - | Positive |
| | | | | | | | | | | | | gray 12x12 floor tile | A187 | door | - | - | - | Positive |
| | | | | | | | | | | | | light gray 12x12 floor tile | A188 | middle of floor | - | - | - | Negative |
| 17: Carpenter Shop | Bsmt | Basement | undeveloped basement | unfinished ceiling | cement walls and a section of brick (old chimney) | cement (poor condition) | water damage low; old sump and new sump; 12 sq. foot of cement board stored | - | gray/blue stairway | gray | - | - | - | - | blue paint | P42 | top of stairway | Negative |
| 17: Carpenter Shop | Attic | Attic | attic | - | - | - | vermiculite | - | - | - | - | brown/silver vermiculite | A181 | SE access | - | - | - | Positive |
| | | | | | | | | | | | | brown/silver vermiculite | A182 | SE access | - | - | - | Positive |
| | | | | | | | | | | | | brown/silver vermiculite | A183 | SE access | - | - | - | Positive |
| | | | | | | | | | | | | brown/silver vermiculite | A185 | SW access | - | - | - | Positive |
| 17: Carpenter Shop | Exterior | Exterior | exterior | - | wood siding | cement base with parchment | 1 HID light | - | blue and white accent on doors, trim, and eave troughs | gray | - | - | - | - | blue paint | P38 | at entrance | Positive |
| 18: Apiculture Laboratory | Bsmt | Basement main area | basement | concrete | concrete | concrete | fridge; 2 freezers, one with ODS-R12; incubator | white | white | gray | - | gray parchment | A83 | stairwell on south wall | - | - | - | Negative |
| 18: Apiculture Laboratory | Bsmt | Washroom | washroom | wood | wood | linoleum | newer construction | white | brown | - | - | - | - | - | - | - | - | - |
| 18: Apiculture Laboratory | Bsmt | Under stairs | storage | stairs/ bare | wood | concrete | household cleaning supplies | - | white | gray | - | - | - | - | white paint | P19 | under stair | Negative |
| 18: Apiculture Laboratory | Bsmt | Cooler 1 | cooler | cement board with cork insulation | cement board with cork insulation | concrete | wood doors with cork insulation | wood | wood | gray | - | gray cement board | A78 | outside wall | - | - | - | Negative |
| 18: Apiculture Laboratory | Bsmt | Cooler 2 | cooler | cement board with cork insulation | cement board with cork insulation | concrete | wood doors with cork insulation | wood | wood | gray | - | gray caulking | A79 | inside cooler | - | - | - | Positive |
| | | | | | | | | | | | | gray cement board | A80 | inside wall | - | - | - | Negative |
| | | | | | | | | | | | | black door seal | A82 | cooler door | - | - | - | Negative |
| 18: Apiculture Laboratory | Bsmt | Cooler 3 | cooler | cement board with cork insulation | cement board with cork insulation | concrete | wood doors with cork insulation | wood | wood | gray | - | - | - | - | - | - | - | - |
| 18: Apiculture Laboratory | Bsmt | Cooler 4 | cooler | cement board with cork insulation | cement board with cork insulation | concrete | wood doors with cork insulation | wood | wood | gray | - | gray cement board | A81 | cooler ceiling | - | - | - | Negative |
| 18: Apiculture Laboratory | Main | Entryway | hallway | plywood | plywood | linoleum | sink | white | white | new | - | - | - | - | - | - | - | - |

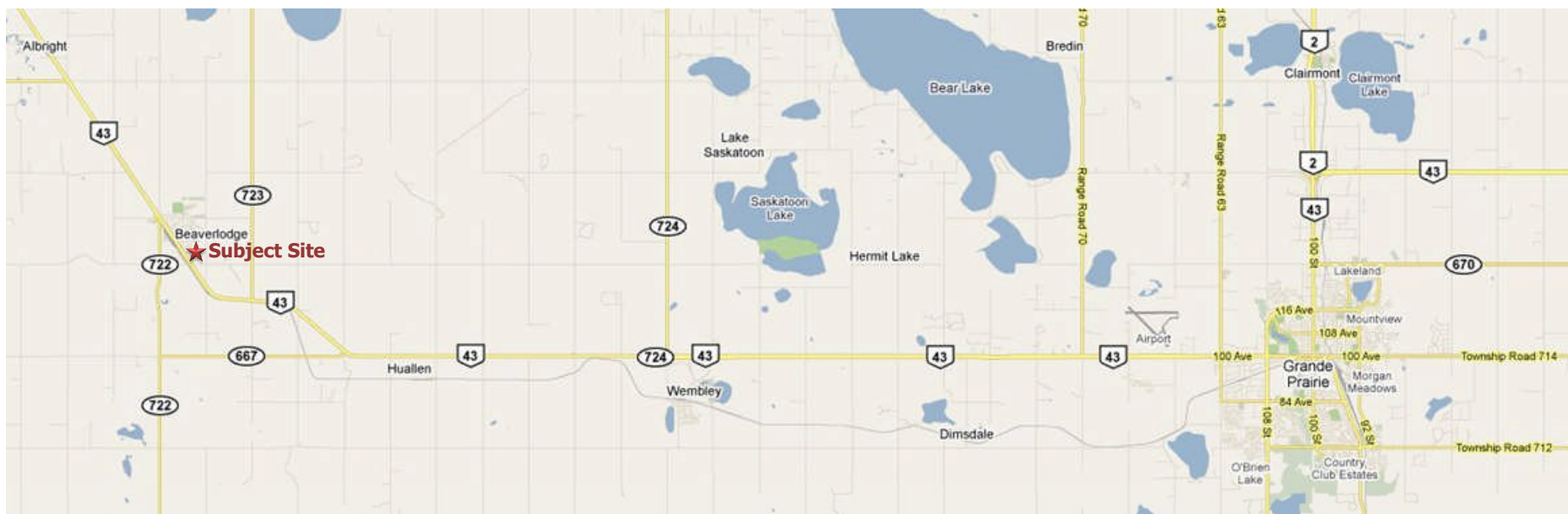
| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-------------------------------|------------|-----------------------|--------------|--------------|-------------------------|---------------|--|---------------|---|---------------------|-------------------|-----------------------|-----------|--------------------------------|--------------------|-----------|--------------------|----------|
| 18: Apiculture Laboratory | Main | South Lab | lab | plywood | plywood | linoleum | fridge; incubator | white | white | brown squares | - | brown square linoleum | A84 | lab floor | - | - | - | Negative |
| | | | | | | | | | | | | white insulation | A85 | sink | - | - | - | Negative |
| 18: Apiculture Laboratory | Main | Office | office | plywood | plywood | linoleum | - | white | white | new | - | - | - | - | - | - | - | - |
| 18: Apiculture Laboratory | Main | North Lab | lab | plywood | plywood | linoleum | 2 fridges; 3 incubators; 2 canisters of CO2; sink; emergency light; 2 fume hoods | white | white | new | - | gray cement board | A86 | fume hood | - | - | - | Negative |
| 18: Apiculture Laboratory | Attic | Attic | attic | - | - | - | 4 inches of vermiculite with fibreglass overtop | - | - | - | - | brown vermiculite | A89 | north attic | - | - | - | Negative |
| | | | | | | | | | | | | brown vermiculite | A90 | south attic | - | - | - | Negative |
| | | | | | | | | | | | | brown vermiculite | A91 | east attic | - | - | - | Negative |
| 18: Apiculture Laboratory | Exterior | Exterior | exterior | - | wood siding | concrete base | - | - | white | - | - | - | - | - | white paint | P20 | west exterior | Positive |
| | | | | | | | | | | | | gray parchement | A87 | exterior concrete | - | - | - | Negative |
| | | | | | | | | | | | | black tar paper | A88 | SW exterior corner | - | - | - | Negative |
| | | | | | | | | | | | | gray mortar | A92 | chimney on south side exterior | - | - | - | Negative |
| 25: Honey Extraction Building | Main | Honey Extracting Area | work area | drywall | drywall/wall panel | cement | water cooler; thermostat | white | white | gray | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | Main | Furnace Room | utility room | drywall | drywall | cement | - | white | white | gray | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | Main | Washroom | washroom | ceiling tile | drywall | linoleum | water damage and visible mould on ceiling tile | white | yellow | new | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | Main | Office | office | drywall | drywall | - | - | white | white | - | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | North wing | Honey Super Storage | storage | tin roof | plywood/tin/s teal door | cement | bee hive cell storage; 1 HID light | tin | white | gray | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | North wing | Work Room | work area | wood | plywood | cement | chemical storage | white | white | gray | - | - | - | - | yellow/white paint | P2 | interior work room | Negative |
| 25: Honey Extraction Building | North wing | Hot Room | storage | - | - | - | No access | - | - | - | - | - | - | - | - | - | - | - |
| 25: Honey Extraction Building | Exterior | Exterior | exterior | tin roof | tin | tin | - | - | yellow with brown trim and eave troughs | yellow | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-------------|-------|-----------------|------------------|-------------------------------------|--|-------------------|---|---------------|------------|---------------------|-------------------|-----------------------------|-----------|--------------|--------------|-----------|------------|----------|
| 26: Storage | Main | Threshing Room | work area/garage | drywall | drywall | concrete | mould around/on pipe and on walls; cement board lining box area in NW | white | white | gray | - | - | - | - | white paint | P46 | south wall | Negative |
| | | | | | | | | | | | | gray drywall mud | A199 | south wall | - | - | - | Positive |
| | | | | | | | | | | | | gray cement board | A200 | NW enclosure | - | - | - | Positive |
| 26: Storage | Main | Lab 1 | lab | drywall | drywall | 9x9 floor tile | fume hood; two 8' and two 4' fluorescent | white | white | white/gray | - | white/gray 9x9 floor tile | A201 | south floor | - | - | - | Negative |
| | | | | | | | | | | | | white/gray duct tape | A202 | NE pipe | - | - | - | Negative |
| 26: Storage | Main | Office 1 | office | drywall | drywall with fiberglass insulation | 12x12 floor tiles | water damage NW ceiling and window frame | white | white | white/gray | - | white/gray 12x12 floor tile | A203 | office floor | - | - | - | Negative |
| 26: Storage | Main | Seed Storage | cooler | drywall | drywall | concrete | water damage on ceiling; vermiculite leaking from | white | white | gray | - | - | - | - | white paint | P47 | wall | Negative |
| | | | | | | | | | | | | gray drywall mud | A204 | wall | - | - | - | Positive |
| 26: Storage | Main | Cooler | cooler | plywood (blue Styrofoam insulation) | plywood (blue Styrofoam insulation) | wood | thermometer; plywood door with cork insulation | white | white | gray | - | black door seal | A205 | door | - | - | - | Negative |
| 26: Storage | Main | Furnace Room | utility room | drywall | drywall and cement board on east wall (8x4m) | concrete | spilt zonolite on floor; fiberglass insulation on pipes; water damage on vent stacks on west side | white | white | gray | - | gray/white cement board | A206 | south wall | - | - | - | Positive |
| | | | | | | | | | | | | gray drywall mud | A207 | east wall | - | - | - | Positive |
| 26: Storage | Main | Air Drying Room | storage | drywall | drywall with fiberglass insulation | concrete | ceiling water damage; nine 8' fluorescent; thermostat | white | white | gray | - | gray drywall mud | A208 | wall | - | - | - | Positive |
| 26: Storage | Main | Storage | storage | drywall | drywall | concrete | D cell batteries; fiberglass pipe insulation; oven | white | white | gray | - | - | - | - | - | - | - | - |
| 26: Storage | Main | Seed Cleaning | work area | drywall | drywall | concrete | two 8' fluorescent; fiberglass pipe insulation incubator; | white | white | gray | - | - | - | - | - | - | - | - |
| 26: Storage | Main | Lab 2 | lab | drywall | drywall | concrete | centrifuge; fiberglass pipe storage; seven 8' and three 4' fluorescent | white | white | gray | - | - | - | - | blue paint | P48 | cupboards | Negative |
| 26: Storage | Main | Drying Room | work area | new T-bar ceiling | drywall | concrete | dryer | white | white | gray | - | - | - | - | - | - | - | - |
| 26: Storage | Main | Office 2 | office | drywall | drywall | 9x9 floor tile | fiberglass pipe insulation; three 8' and three 4' fluorescent | white | white | white/gray tiles | - | white/gray 9x9 floor tile | A209 | SW corner | - | - | - | Negative |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|-------------|-------|-----------------|-------------|--------------|--------------------------|---|---|---------------|---|---------------------------|-------------------|--------------------------------|-----------|---------------------------|--------------|-----------|-------------------|----------|
| 26: Storage | Main | Lab 3 | lunch room | drywall | drywall | 12x12 floor tile | fridge; fibreglass insulation; water cooler; minor water damage on window | white | white | white/gray | - | white/gray 12x12 floor tile | A210 | South side | - | - | - | Negative |
| 26: Storage | Main | Office 3 | office | drywall | drywall | 9x9 floor tile | fibreglass pipe insulation; 12 sq. foot cement board counter; three 8' fluorescent | white | white | white/gray | - | white/gray 9x9 floor tile | A211 | office floor | - | - | - | Negative |
| | | | | | | | | | | | | gray cement countertop | A212 | S and E walls | - | - | - | Positive |
| 26: Storage | Main | Washroom Hall | hallway | drywall | drywall | 9x9 floor tile | two 4' fluorescent; household cleaners | white | white | white/gray | - | green 9x9 floor tile | A213 | north hall | - | - | - | Negative |
| | | | | | | | | | | | | green 9x9 floor tile | A214 | south hall | - | - | - | Positive |
| 26: Storage | Main | Mens Washroom | washroom | drywall | drywall | 9x9 floor tile | water damage at fan NW corner; one 4' fluorescent | white | white | green | - | - | - | - | - | - | - | - |
| 26: Storage | Main | Womens Washroom | washroom | drywall | drywall | 9x9 floor tile | fibreglass pipe insulation; one 4' fluorescent; bad water damage with mould in wall | white | white | green | - | - | - | - | white paint | P50 | interior washroom | Negative |
| | | | | | | | | | | | | green 9x9 floor tile | A215 | west side floor | - | - | - | Negative |
| | | | | | | | | | | | | gray drywall mud | A216 | west side floor | - | - | - | Positive |
| 26: Storage | Main | Office 4 | office | drywall | drywall | 9x9 floor tile | four 4' fluorescent | white | white | green | - | gray drywall mud | A217 | east wall | - | - | - | Positive |
| 26: Storage | Main | Main Hall | hallway | drywall | drywall | concrete | water damage adjacent to Cooler and Seed Storage; fibreglass pipe | white | white | gray | - | gray drywall mud | A218 | south wall in the center | - | - | - | Positive |
| | | | | | | | | | | | | gray drywall mud | A224 | main hall at attic stairs | - | - | - | Positive |
| 26: Storage | Main | Attic | attic | - | - | - | 1 inch vermiculite on fibreglass; sacks of left over zonolite; dead squirrels | - | - | - | - | brown/silver vermiculite | A225 | NW | - | - | - | Negative |
| | | | | | | | | | | | | brown/silver vermiculite | A226 | East middle | - | - | - | Positive |
| | | | | | | | | | | | | brown/silver vermiculite | A227 | SE | - | - | - | Positive |
| | | | | | | | | | | | | brown/silver vermiculite | A228 | center | - | - | - | Negative |
| 26: Storage | Main | Exterior | exterior | tin roof | tin | - | - | tin | yellow with brown trim and eave troughs | - | - | - | - | - | white paint | P49 | exterior window | Negative |
| 35: Garage | Main | Office 1 | office | ceiling tile | panel board over plywood | 9x9 floor tile and 2 strips of 12x12 floor tile | 4 fluorescent lights (new) | white | white | white/blue and gray/black | 12x12 holes | white/blue 9x9 floor tile | A192 | NE floor | - | - | - | Negative |
| | | | | | | | | | | | | gray/black 12x12 floor tile | A193 | NE floor | - | - | - | Negative |
| | | | | | | | | | | | | white 12x12 holes ceiling tile | A194 | SW ceiling corner | - | - | - | Negative |
| 35: Garage | Main | Washroom | washroom | ceiling tile | wall board | concrete | household cleaning supplies; 1 new fluorescent | white | white | gray | 12x12 flat tile | white 12x12 flat ceiling tile | A195 | ceiling | - | - | - | Negative |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|------------------------|-----------|-----------------|-----------------|-----------------------------|---|----------|---|---------------|-------------|---------------------|-------------------|--------------------------------|-----------|---|-----------------|-----------|----------|----------|
| 35: Garage | Main | Entry | hallway | ceiling tile | wall board | concrete | fire alarm batteries; battery on counter; household cleaning chemicals | white | white | gray | 12x12 holes | white 12x12 holes ceiling tile | A196 | west wall | - | - | - | Negative |
| 35: Garage | Main | Office 2 | office | drywall | drywall/N wall board | concrete | 3 fluorescents on ceiling and one on counter | white | white | gray | - | - | - | - | off-white paint | P43 | walls | Negative |
| | | | | | | | | | | | | white drywall mud | A197 | wall | - | - | - | Negative |
| 35: Garage | Main | Conference Room | conference room | drywall | wallboard on N and E walls/ metal on others | concrete | 4 new fluorescents; water cooler and fridge/freezer | white | white | gray | - | - | - | - | - | - | - | - |
| 35: Garage | 2nd floor | Storage Room | storage | metal with baton insulation | metal with baton insulation | wood | storage of old fluorescent lights; 7 radioactive smoke detectors; gray storage shelves | white | white | gray | - | - | - | - | gray paint | P44 | shelves | Negative |
| 35: Garage | Main | South Shop | shop/garage | batton insulation | cinderblock separating shops | concrete | engine hoist; drainage area into 2 sumps; antifreeze, oils, WD40, solvents, cleaners; welders; drums of oil | - | - | gray | - | brown/grey vermiculite | A198 | cinderblock wall in center of entire shop | - | - | - | Positive |
| 35: Garage | Main | North Shop | shop/garage | batton insulation | batton insulation | concrete | oil, steel, vehicles, tractors, batteries | - | - | gray | - | - | - | - | - | - | - | - |
| 35: Garage | Exterior | Exterior | exterior | tin roof | tin | tin | large garage door | tin | green | green | - | - | - | - | - | - | - | - |
| 36: Forage Building | 2nd Floor | Loft | storage | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | Cool Room | cooler | - | - | - | mercury thermometers; ODS-R12 | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | Lunch Room | storage | - | - | - | mercury thermometers | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | Lab | lab | - | - | - | mercury thermometers | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | East washroom | washroom | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | West washroom | washroom | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | Boiler Room | utility room | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36: Forage Building | Main | Storage | storage | - | - | - | two ODS-R12 | - | - | - | - | - | - | - | - | - | - | - |
| 39: Apiculture Storage | Main | Storage | storage | tin roof | tin/drywall on S wall | concrete | bee hive cell storage | - | green/brown | - | - | - | - | - | - | - | - | - |

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|------------------------|----------|---------------------------|--------------|------------------------------------|---------------------|--------------------------------|--|---------------|---|---------------------|-------------------|-----------------|-----------|----------|--------------|-----------|------------|----------|
| 39: Apiculture Storage | Exterior | Exterior | exterior | tin roof | tin | - | - | brown | yellow with brown trim, eave troughs, and doors | - | - | - | - | - | - | - | - | - |
| #40: Seed Storage | Main | Interior | storage | drywall with fibreglass insulation | cinderblock | concrete | - | - | gray | gray | - | - | - | - | brown paint | P1 | front door | Negative |
| #40: Seed Storage | Exterior | Exterior | exterior | asphalt shingles | cinderblock | - | - | brown | brown doors | - | - | - | - | - | - | - | - | - |
| #43: Soils Building | Main | Store Room | storage | particle board | particle board | linoleum | chemical storage; helium canister | white | white | beige | - | - | - | - | - | - | - | - |
| #43: Soils Building | Main | Grinding Room | work area | drywall | drywall | linoleum | fridges; 4 incubators; 1 emergency light | white | white | beige | - | - | - | - | - | - | - | - |
| #43: Soils Building | Main | Washroom | washroom | drywall | drywall | linoleum | sink taps leaking | white | white | square pattern | - | - | - | - | - | - | - | - |
| #43: Soils Building | Main | Office | office | drywall | drywall | linoleum | cooler; insulation board | white | white/green on cupboards | square pattern | - | - | - | - | - | - | - | - |
| #43: Soils Building | Main | Boot room | entrance | drywall | drywall | linoleum | emergency lights | white | white | square pattern | - | - | - | - | - | - | - | - |
| #43: Soils Building | Exterior | Exterior | exterior | tin roof | tin | - | 2 HID lights | brown | yellow/white on doors windows | - | - | - | - | - | - | - | - | - |
| #45: Chemical Storage | Main | Lab Chemicals Room | storage | tin roof | tin | cement (with in-floor heating) | Chemical storage | gray | gray | gray | - | - | - | - | - | - | - | - |
| #45: Chemical Storage | Main | Agriculture Chemical Room | storage | tin roof | tin | cement (with in-floor heating) | Chemical storage | gray | gray | gray | - | - | - | - | - | - | - | - |
| #45: Chemical Storage | Main | Center Room | utility room | tin roof | tin | cement (with in-floor heating) | mercury thermostat | gray | gray | gray | - | - | - | - | - | - | - | - |
| #45: Chemical Storage | Exterior | Exterior | exterior | tin roof | tin | - | HID light | gray | yellow with brown painted steel supports | - | - | - | - | - | - | - | - | - |
| Tin Shed | Main | Structure | storage | metal | tin (no insulation) | cement | Fuel; fertilizer; tools | gray | gray | gray | - | - | - | - | - | - | - | - |



VICINITY MAP



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: Google

Edited by: CL

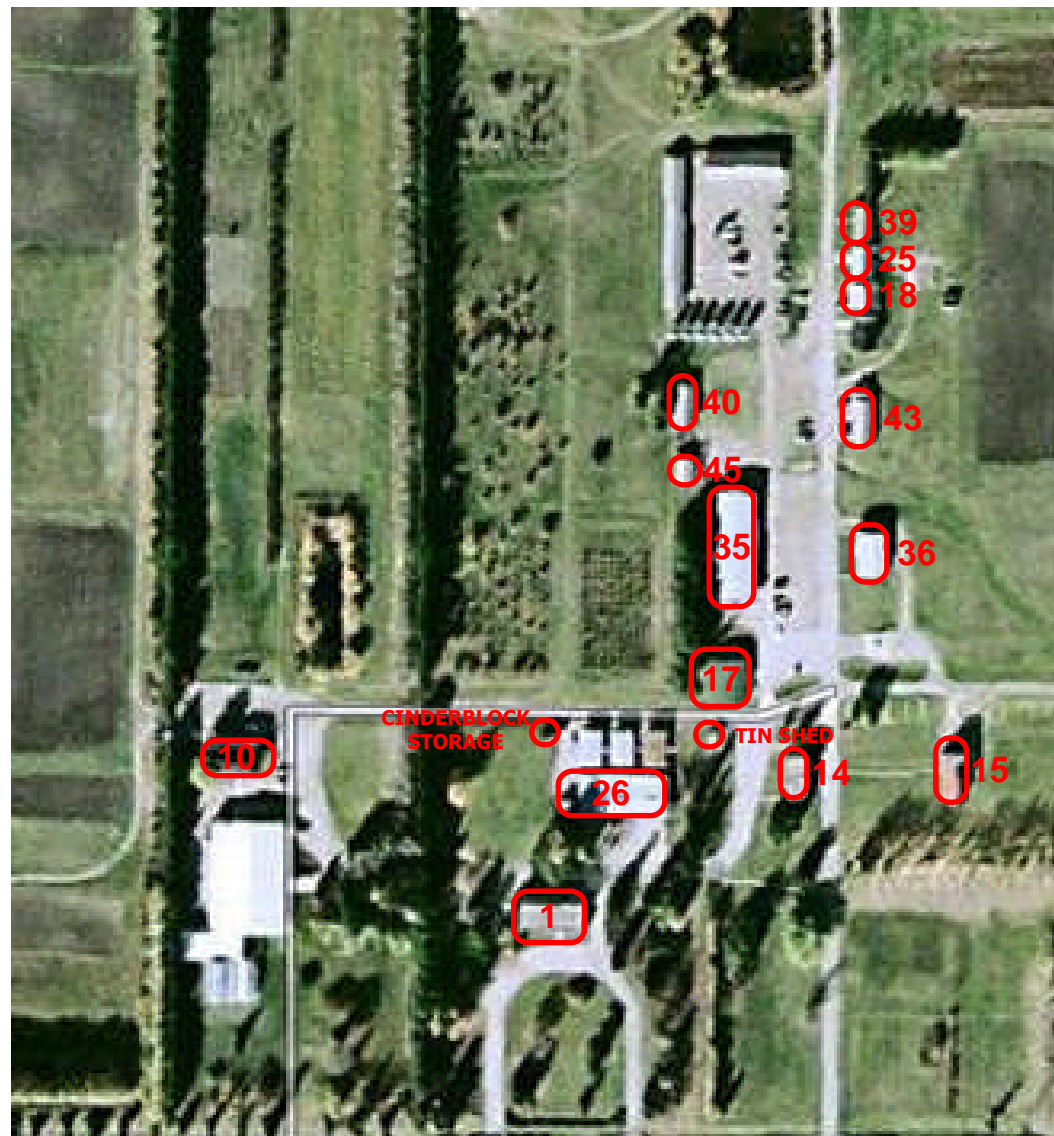
Project Name: Hazardous Materials Assessment Project No.: 11166

Project Location: Beaverlodge Research Center

**Appendix
2b-1**

— Building Assessed

Building Number



BUILDINGS ASSESSED



Date: Feb, 2011

Edited: Feb, 2011

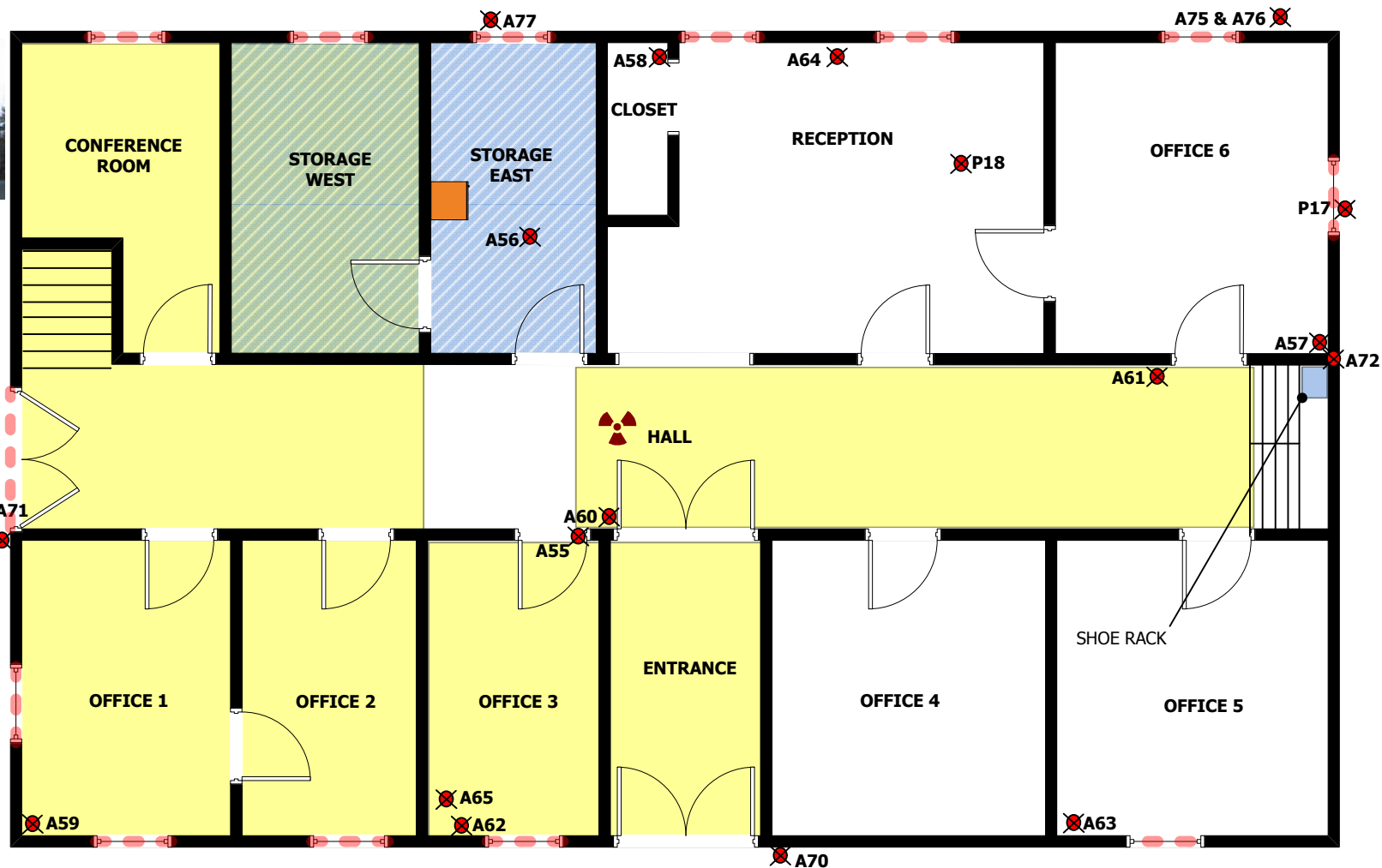
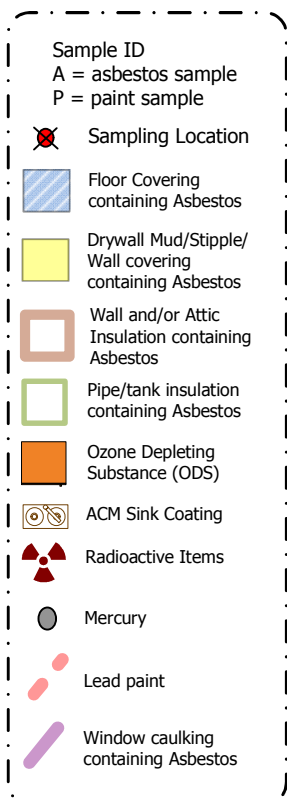
Drawn by: Google

Edited by: CL

Project Name: Hazardous Materials Assessment Project No.: 11166

Project Location: Beaverlodge Research Center

**Appendix
2b-2**



SITE SAMPLING DIAGRAM: #1 ADMINISTRATION OFFICE Main Floor



Date: Feb, 2011

Drawn by: CL

Project Name: Hazardous Materials Assessment

Project No.: 11166

**Appendix
2b-3**

Edited: Feb, 2011

Edited by: ER

Project Location: Beaverlodge Research
Centre



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

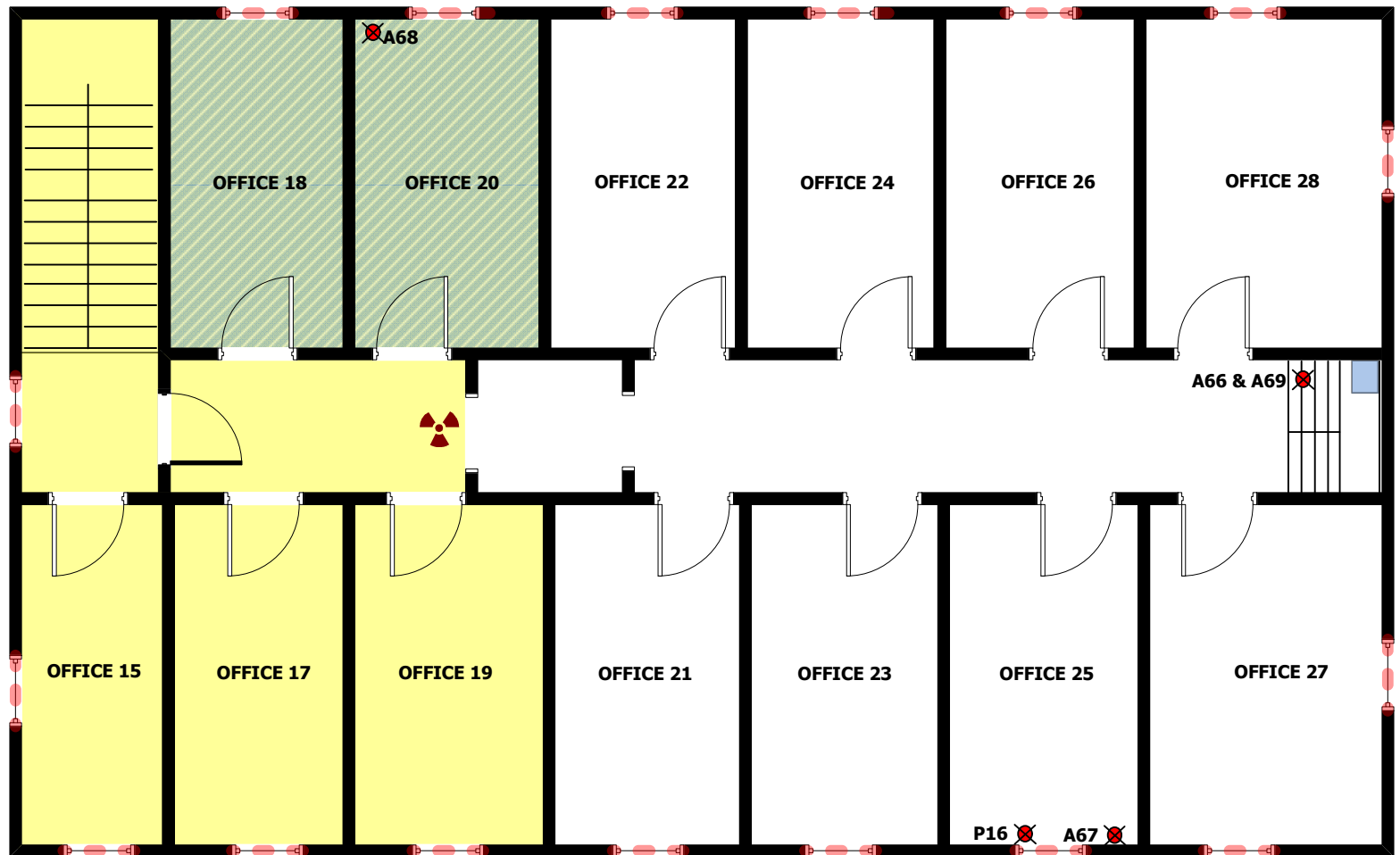
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #1 ADMINISTRATION OFFICE 2nd Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

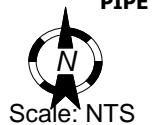
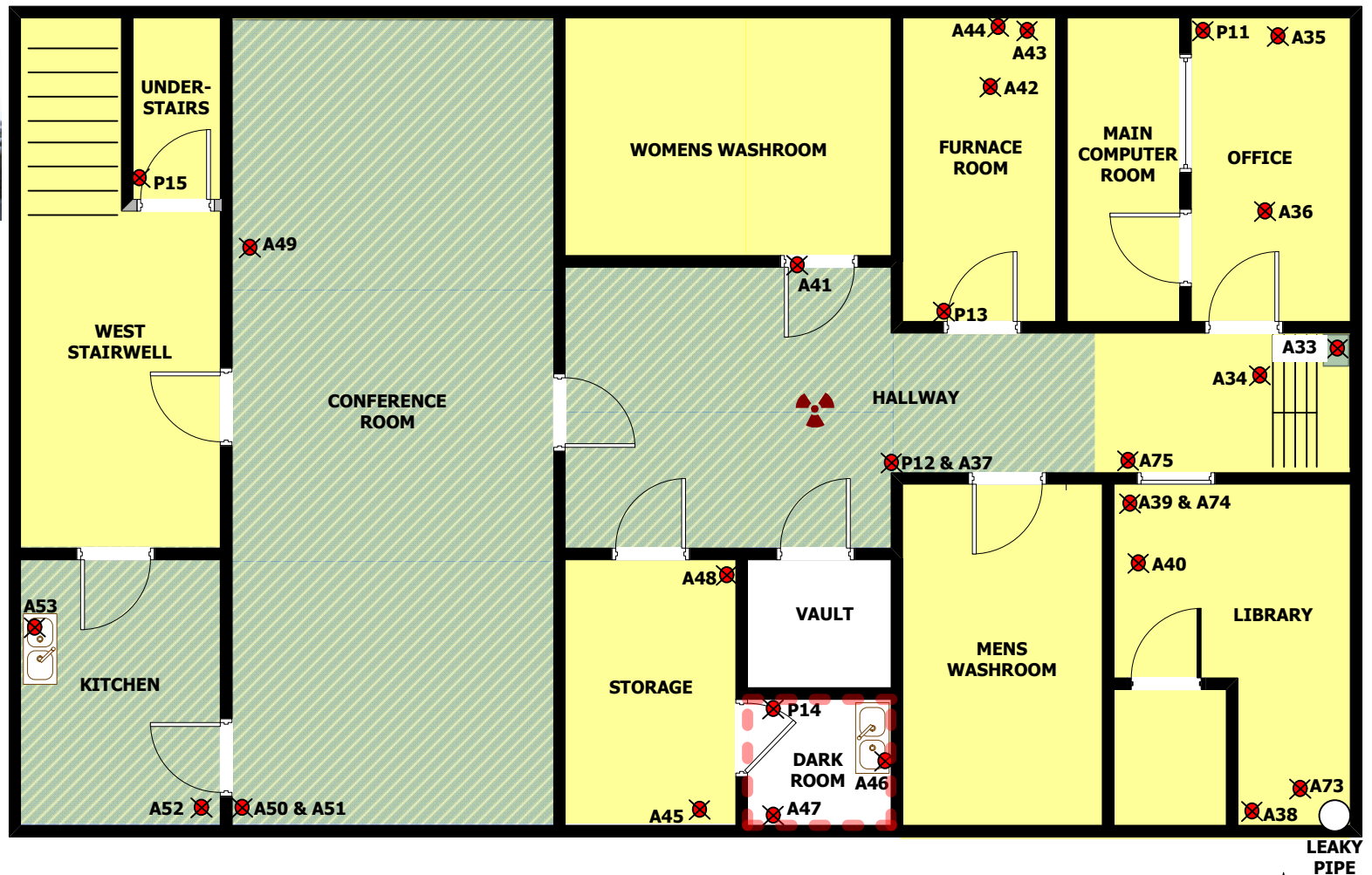
Project No.: 11166

**Appendix
2b-4**



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #1 ADMINISTRATION OFFICE Basement



Date: Feb, 2011

Edited: Mar. 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

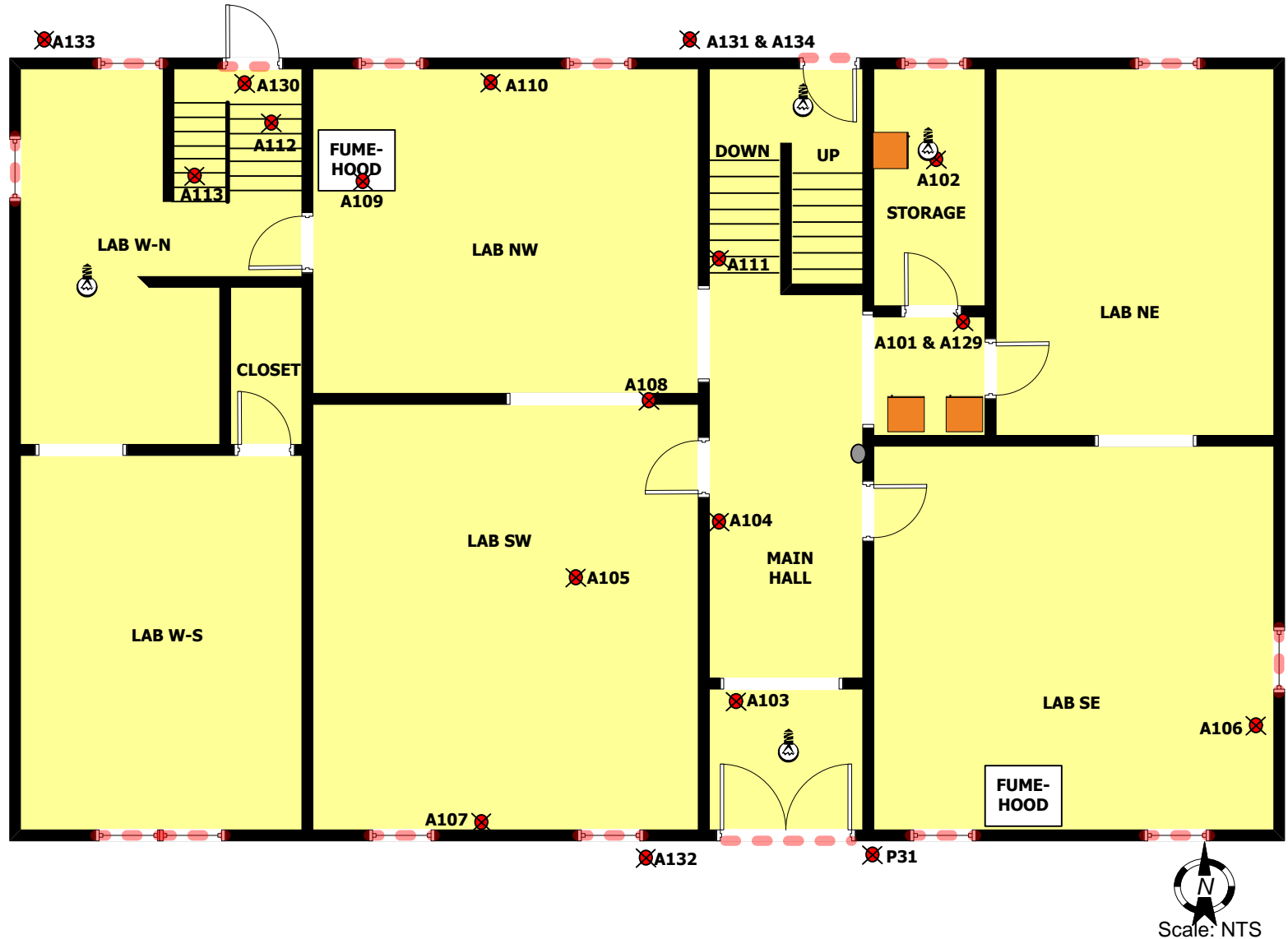
Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-5**



- Sample ID
A = asbestos sample
P = paint sample
- Sampling Location
 - Floor Covering containing Asbestos
 - Drywall Mud/Stipple/Wall covering containing Asbestos
 - Wall and/or Attic Insulation containing Asbestos
 - Pipe/tank insulation containing Asbestos
 - Ozone Depleting Substance (ODS)
 - ACM Sink Coating
 - Radioactive Items
 - Mercury
 - Lead paint
 - Window caulking containing Asbestos
 - Asbestos insulation in light fixture



SITE SAMPLING DIAGRAM: #10 CANOLA LABORATORY Main Floor



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research
Centre

Project No.: 11166

**Appendix
2b-6**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos

Asbestos insulation in light fixture



SITE SAMPLING DIAGRAM: #10 CANOLA LABORATORY 2nd Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

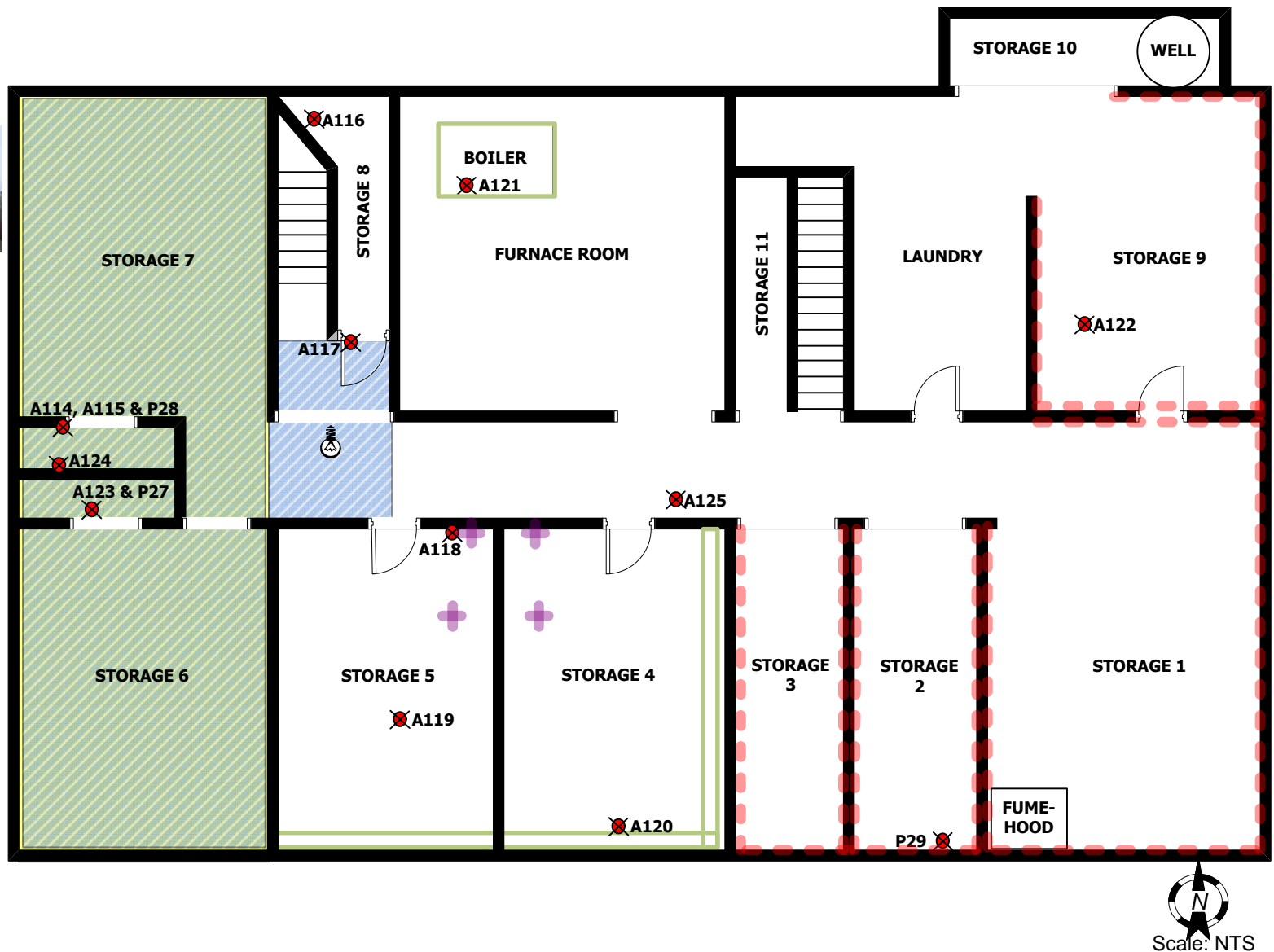
Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-7**



- Sample ID
A = asbestos sample
P = paint sample
- Sampling Location
 - Floor Covering containing Asbestos
 - Drywall Mud/Stipple/Wall covering containing Asbestos
 - Wall and/or Attic Insulation containing Asbestos
 - Pipe/tank insulation containing Asbestos
 - Ozone Depleting Substance (ODS)
 - ACM Sink Coating
 - Radioactive Items
 - Mercury
 - Lead paint
 - Window caulking containing Asbestos
 - Asbestos insulation in light fixture



SITE SAMPLING DIAGRAM: #10 CANOLA LABORATORY Basement



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Caulking containing Asbestos



SITE SAMPLING DIAGRAM: #14 SOILS RESEARCH BUILDING Main Floor



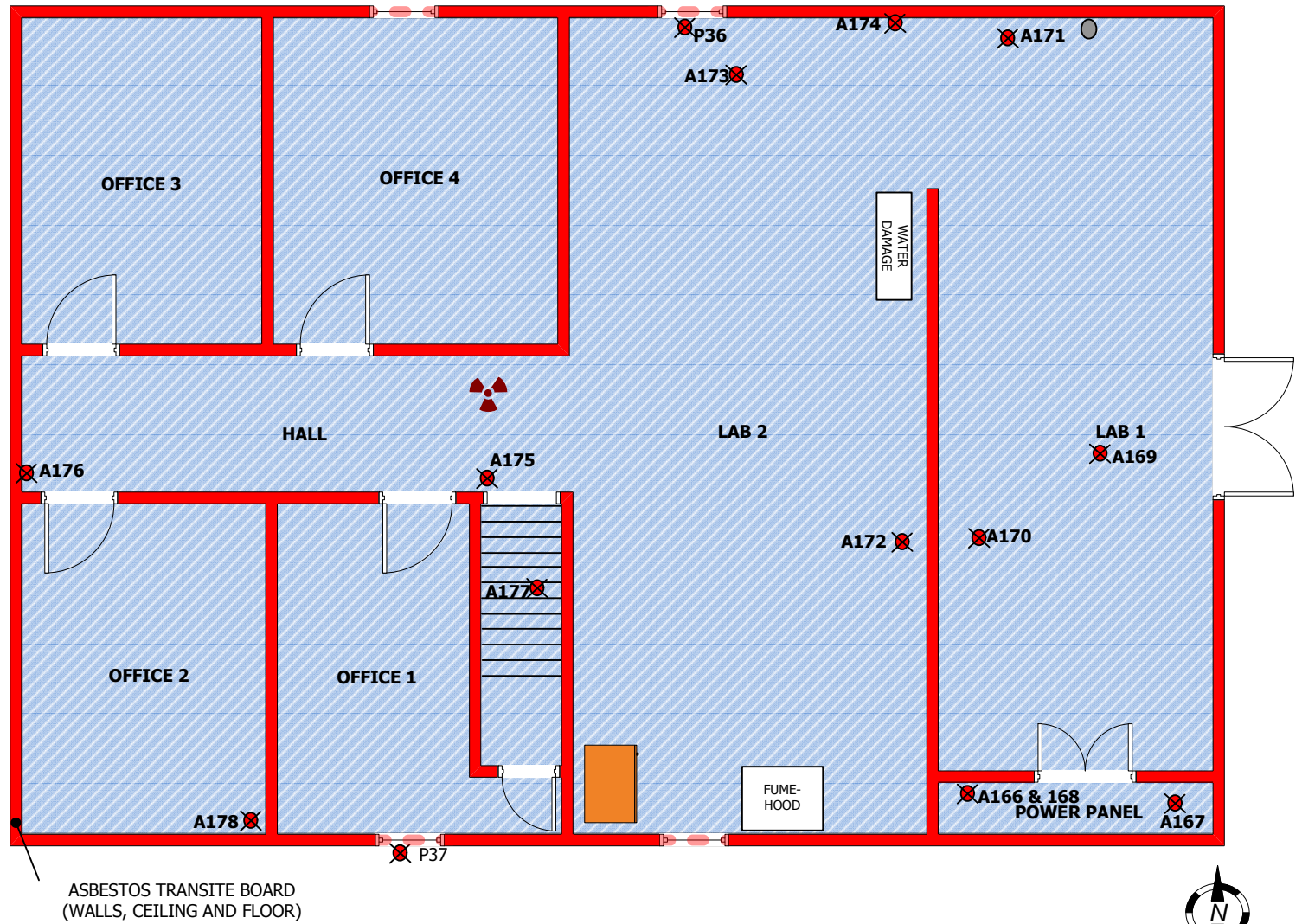
| | | | |
|-------------------|---------------|---|--------------------|
| Date: Feb, 2011 | Drawn by: CL | Project Name: Hazardous Materials Assessment | Project No.: 11166 |
| Edited: Mar, 2011 | Edited by: ER | Project Location: Beaverlodge Research Centre | |

Appendix
2b-9



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Caulking containing Asbestos



SITE SAMPLING DIAGRAM: #14 SOILS RESEARCH BUILDING 2nd Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

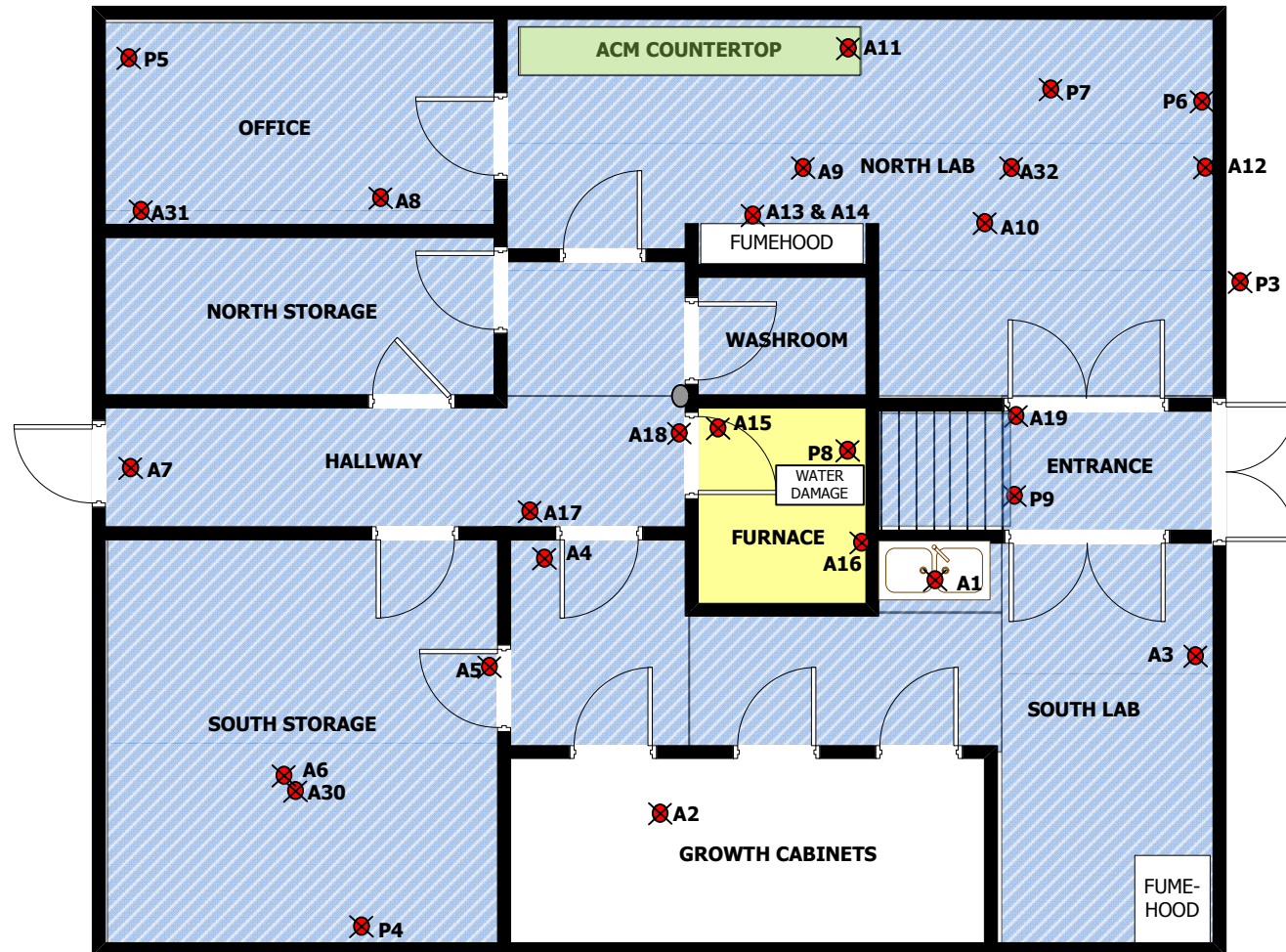
Project No.: 11166

**Appendix
2b-10**



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #15 ECOLOGY BUILDING Main Floor



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-11**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

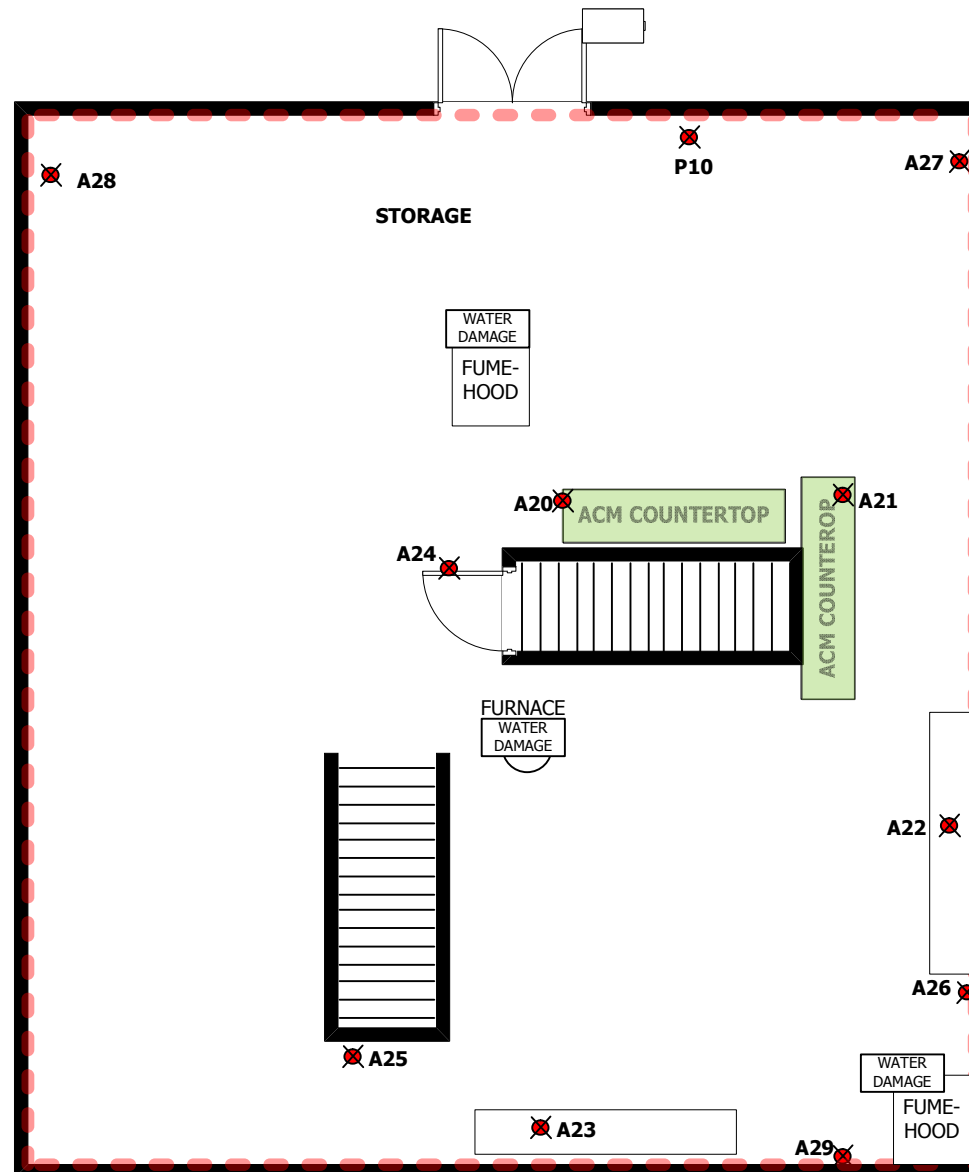
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #15 ECOLOGY BUILDING 2nd Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment












Project Location: Beaverlodge Research Centre

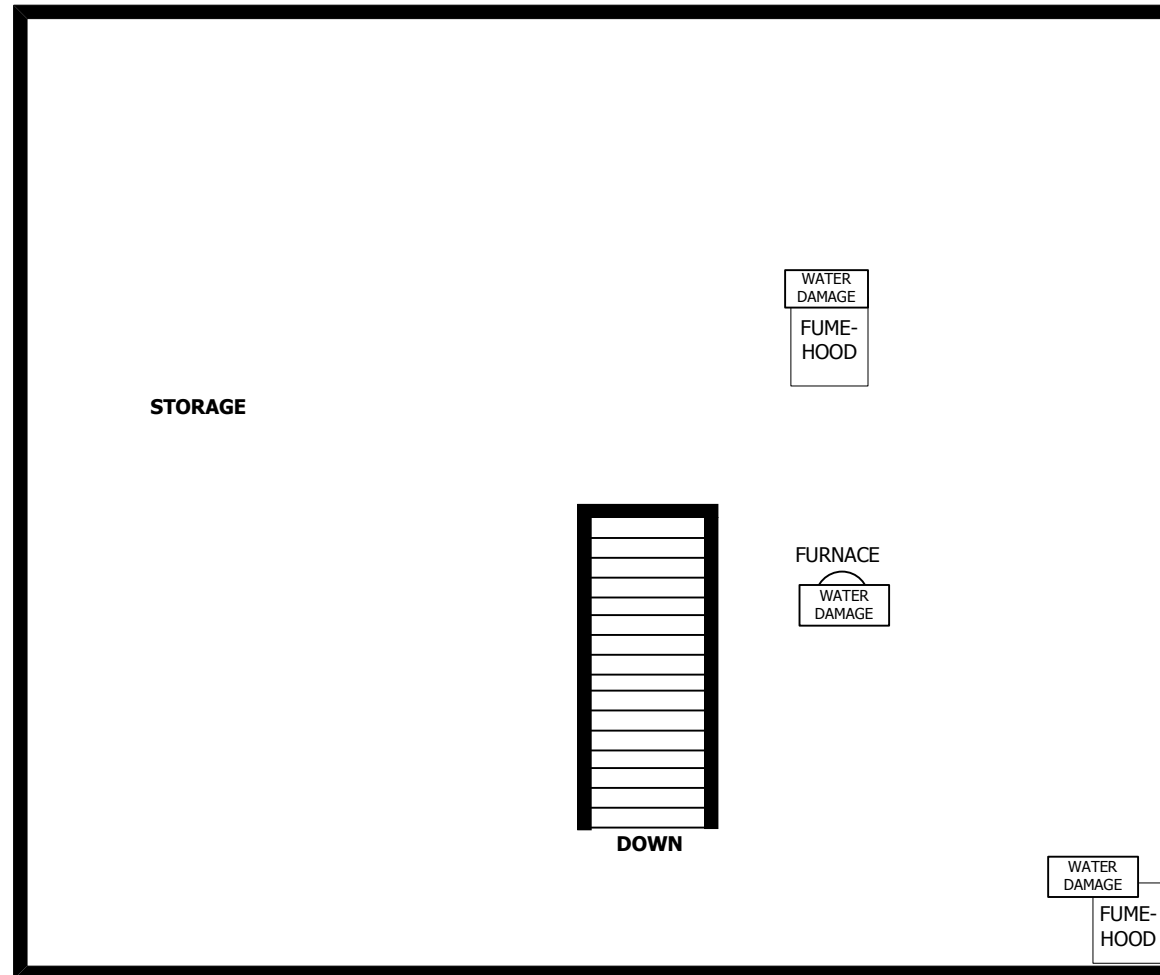
Project No.: 11166

**Appendix
2b-12**



Sample ID
A = asbestos sample
P = paint sample

-  Sampling Location
-  Floor Covering containing Asbestos
-  Drywall Mud/Stipple/ Wall covering containing Asbestos
-  Wall and/or Attic Insulation containing Asbestos
-  Pipe/tank insulation containing Asbestos
-  Ozone Depleting Substance (ODS)
-  ACM Sink Coating
-  Radioactive Items
-  Mercury
-  Lead paint
-  Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #15 ECOLOGY BUILDING 3rd Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

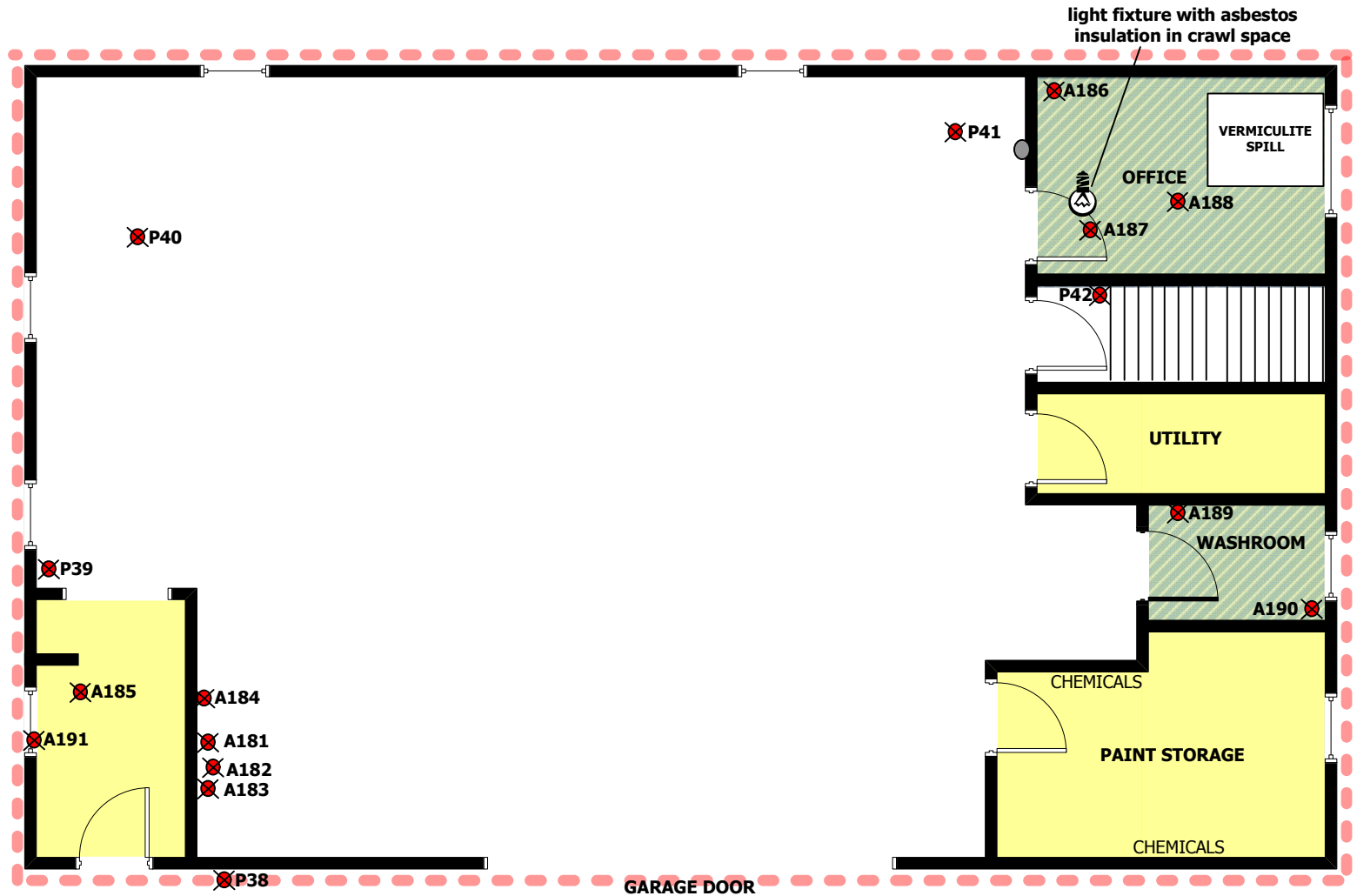
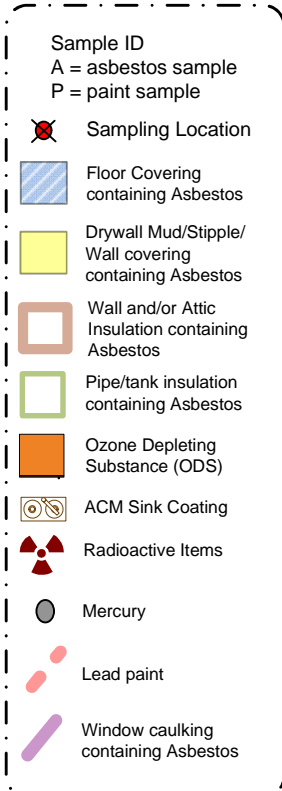
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-13**



SITE SAMPLING DIAGRAM: #17 CARPENTER SHOP

Main Floor



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

Appendix
2b-14



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

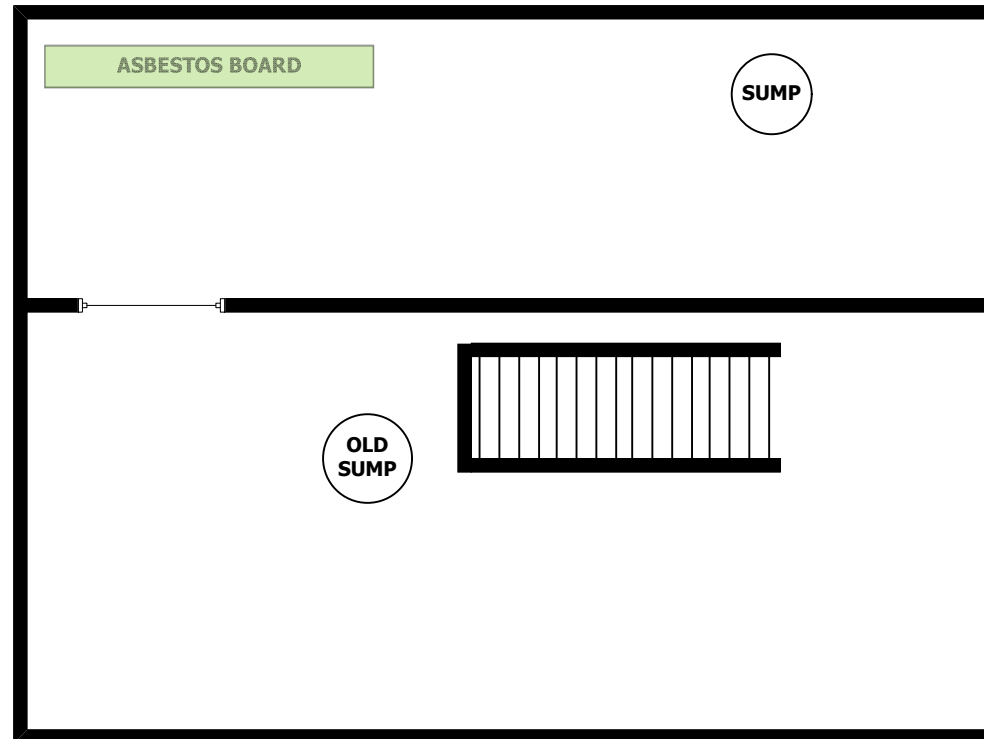
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #17 CARPENTER SHOP Basement



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research
Centre

Project No.: 11166

Appendix
2b-15



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

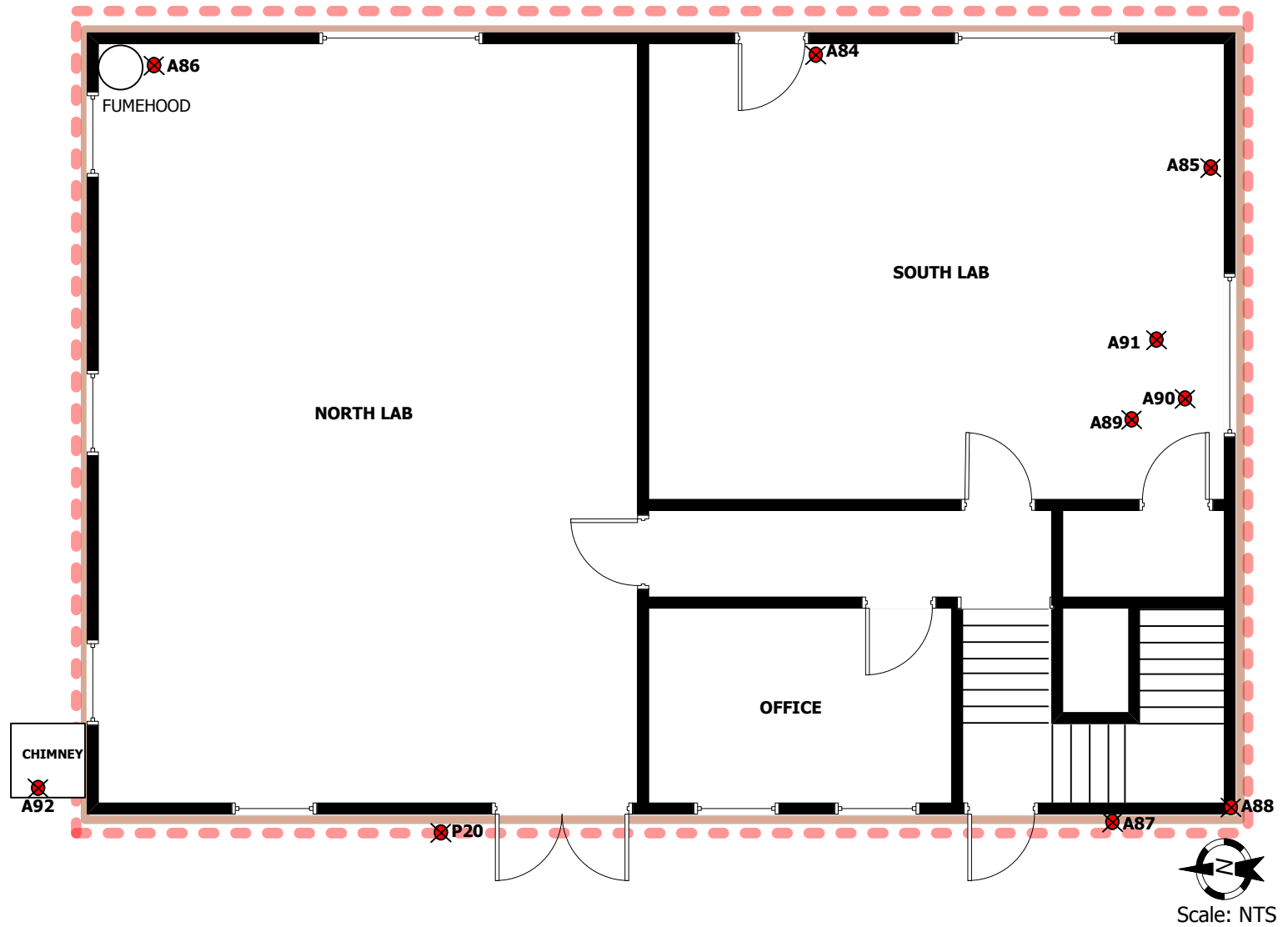
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Caulking containing Asbestos



SITE SAMPLING DIAGRAM: #18 APICULTURE LABORATORY

Main Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

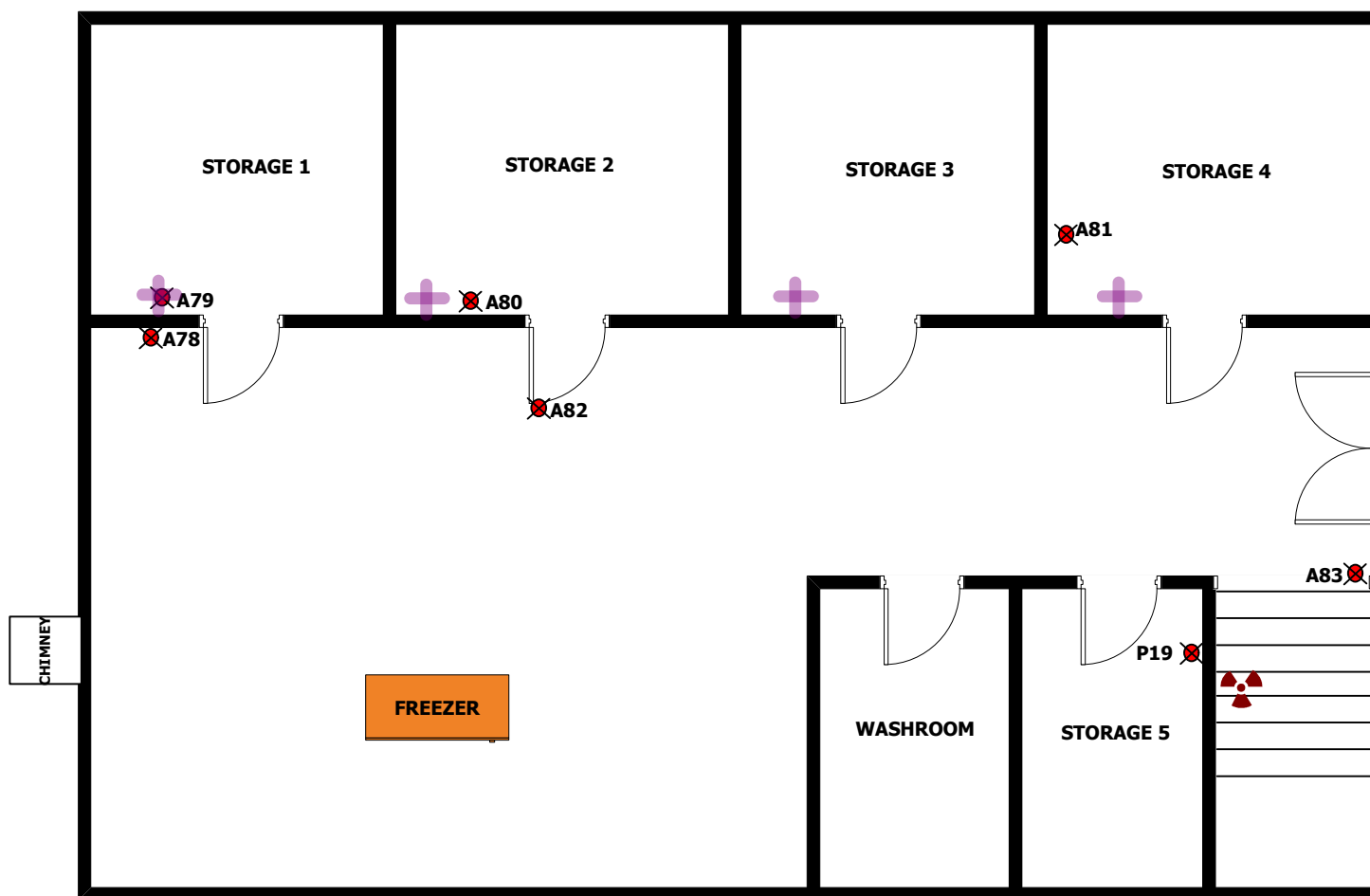
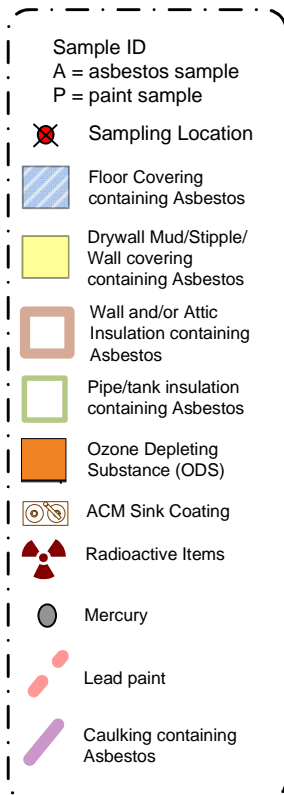
Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

Appendix

2b-16



SITE SAMPLING DIAGRAM: #18 APICULTURE LABORATORY

Basement



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

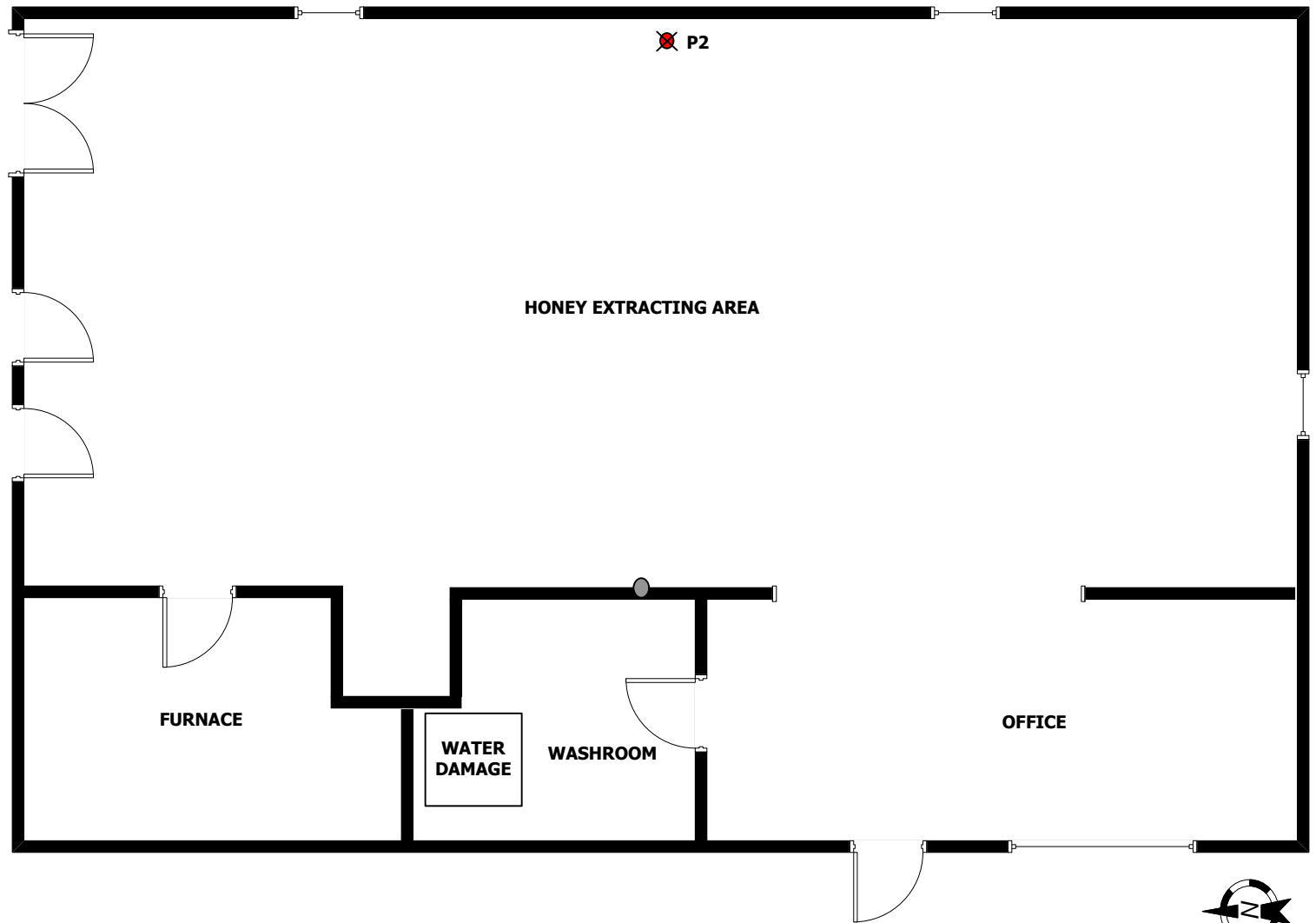
Project No.: 11166

Appendix
2b-17



- Sample ID
A = asbestos sample
P = paint sample
- Sampling Location
 - Floor Covering containing Asbestos
 - Drywall Mud/Stipple/ Wall covering containing Asbestos
 - Wall and/or Attic Insulation containing Asbestos
 - Pipe/tank insulation containing Asbestos
 - Ozone Depleting Substance (ODS)
 - ACM Sink Coating
 - Radioactive Items
 - Mercury
 - Lead paint
 - Caulking containing Asbestos

Refer to Appendix 2b-19



Scale: NTS

SITE SAMPLING DIAGRAM: #25 HONEY EXTRACTION BUILDING

Main Floor - South



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

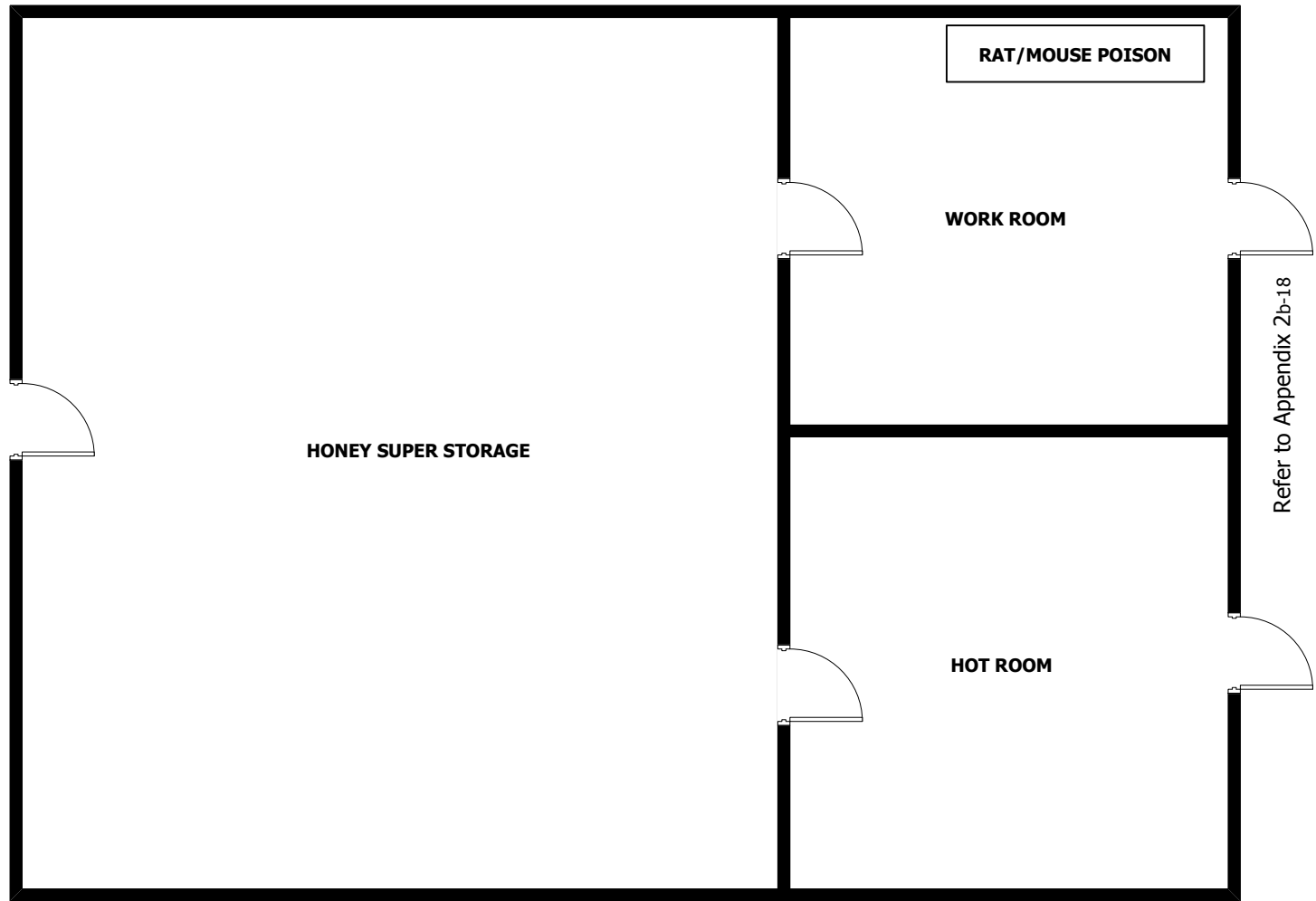
Project No.: 11166

Appendix
2b-18



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/ Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #25 HONEY EXTRACTION BUILDING

Main Floor - North



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

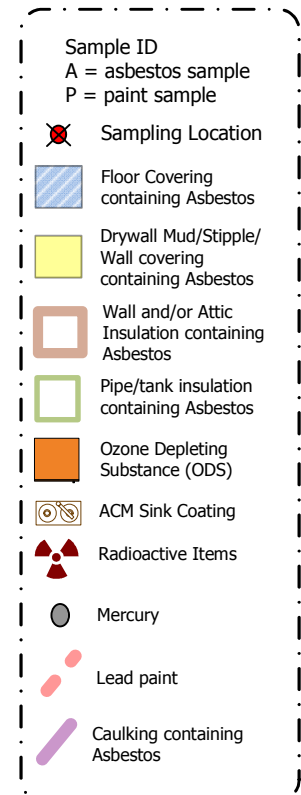
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

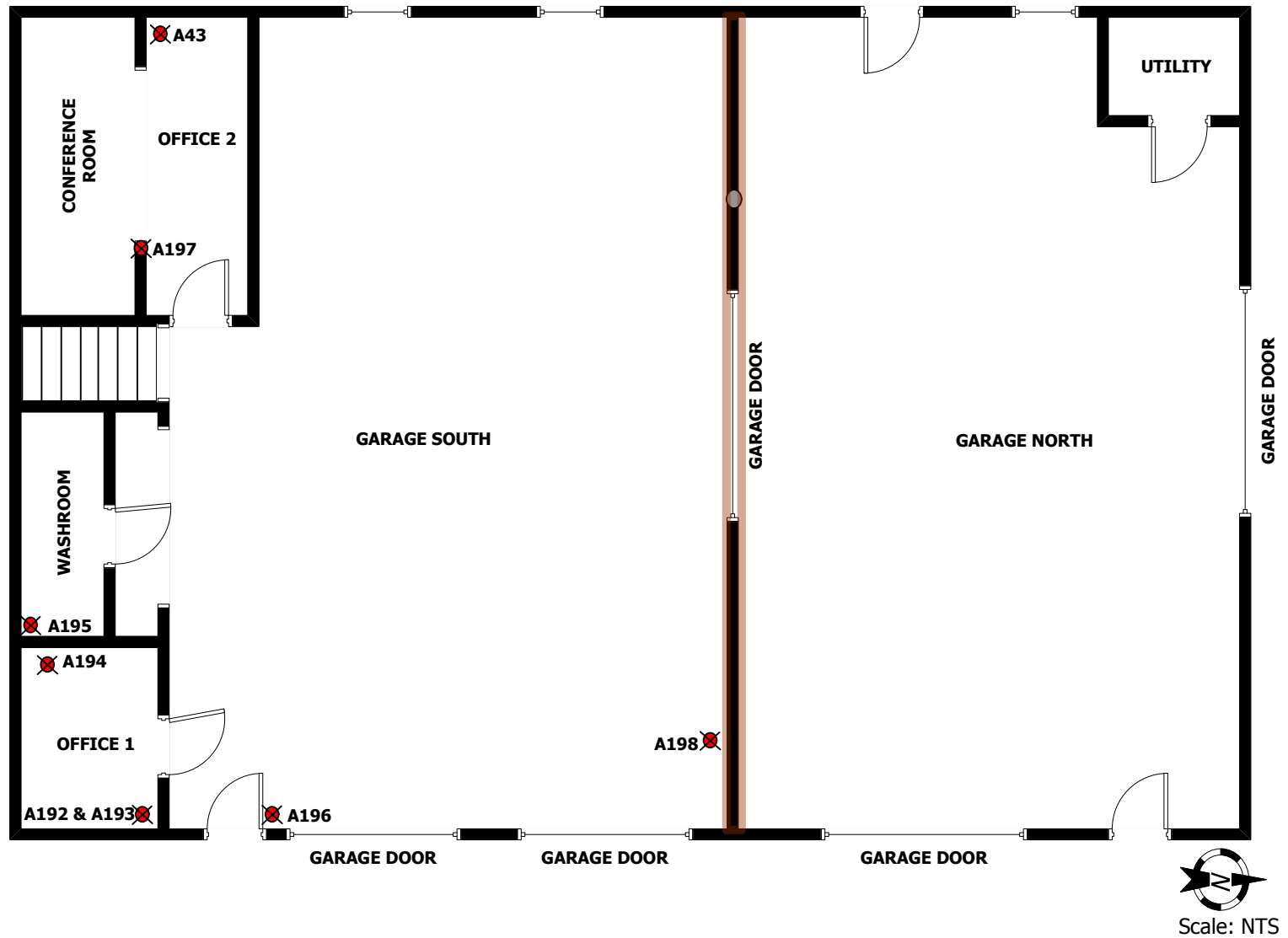
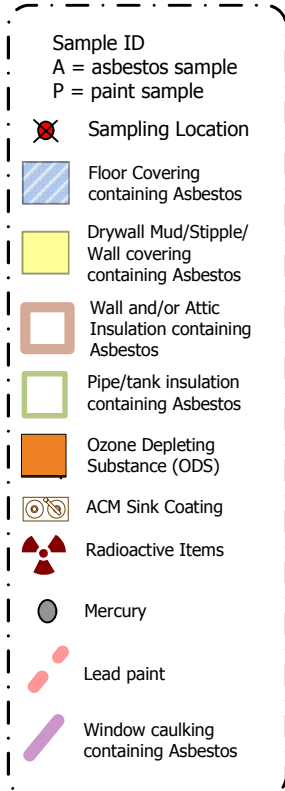
Project No.: 11166

Appendix
2b-19



BALLAST
ENVIRONMENTAL CONSULTING LTD.
- Providing a Balance -

**Appendix
2b-20**



SITE SAMPLING DIAGRAM: #35 GARAGE Main Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research
Centre

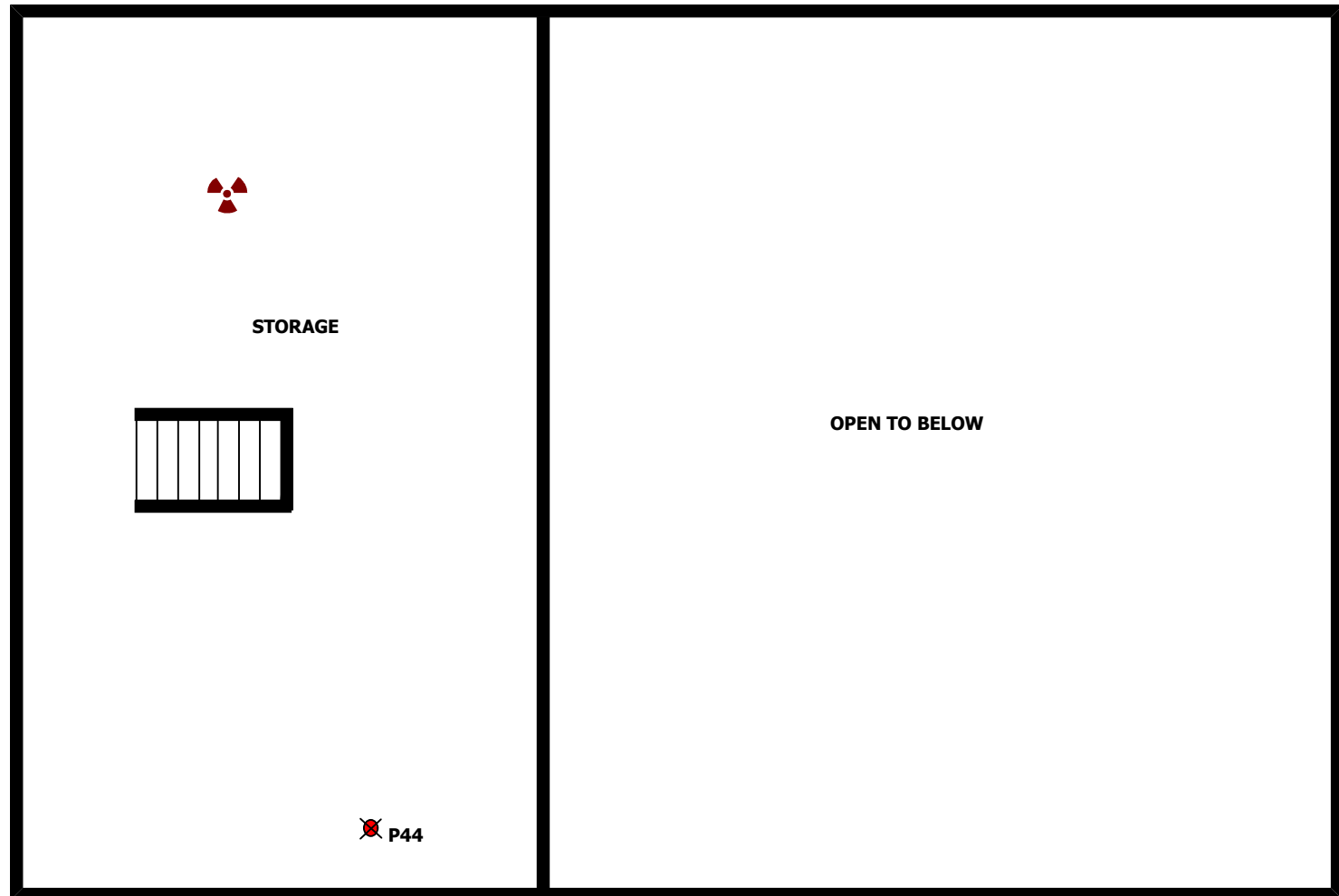
Project No.: 11166

**Appendix
2b-21**



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #35 GARAGE Loft



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-22**



- Sample ID
A = asbestos sample
P = paint sample
- Sampling Location
 - Floor Covering containing Asbestos
 - Drywall Mud/Stipple/Wall covering containing Asbestos
 - Wall and/or Attic Insulation containing Asbestos
 - Pipe/tank insulation containing Asbestos
 - Ozone Depleting Substance (ODS)
 - ACM Sink Coating
 - Radioactive Items
 - Mercury
 - Lead paint
 - Caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #36 FORAGE BUILDING Main Floor



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-23**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

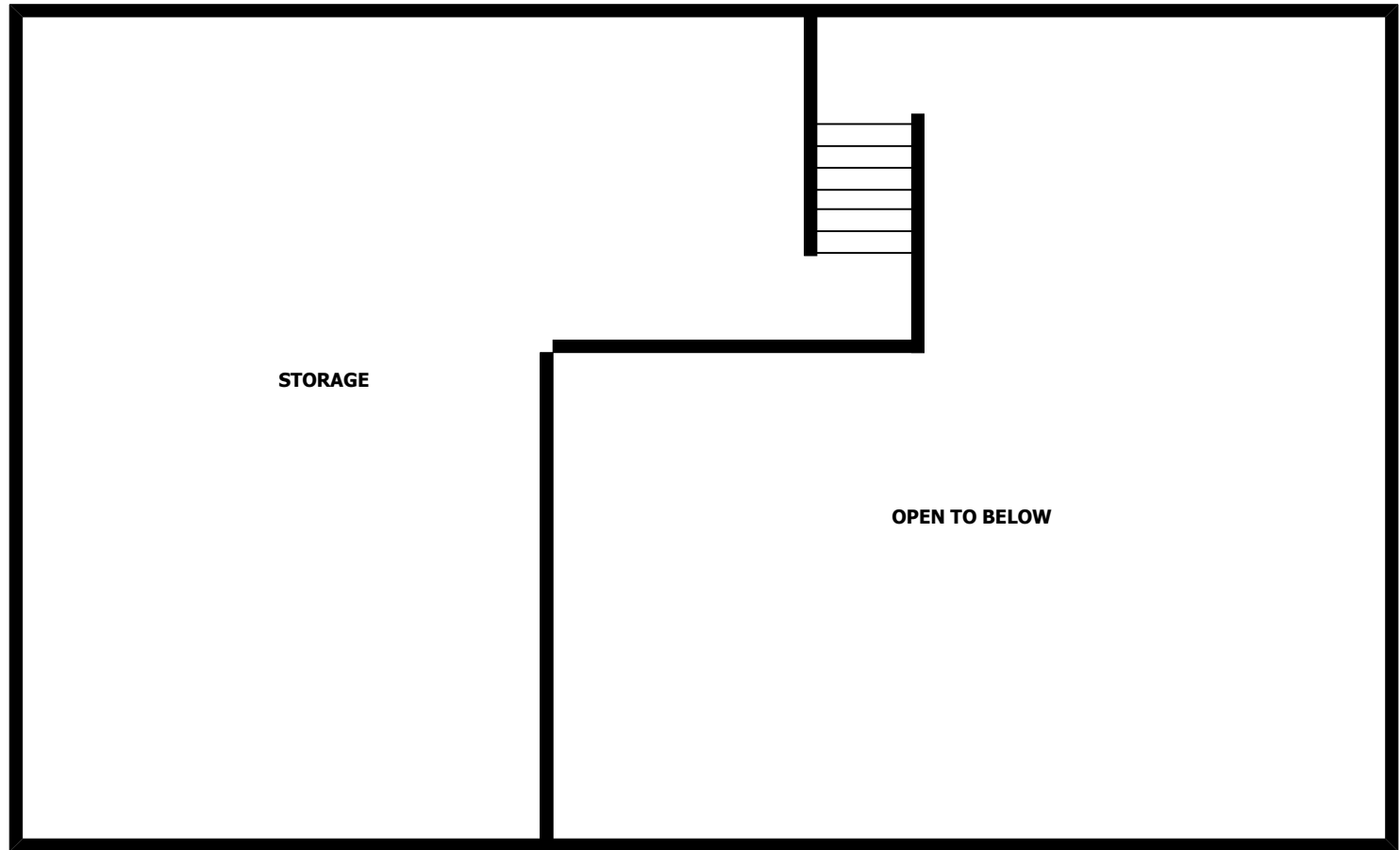
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Caulking containing Asbestos



SITE SAMPLING DIAGRAM: #36 FORAGE BUILDING Loft



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

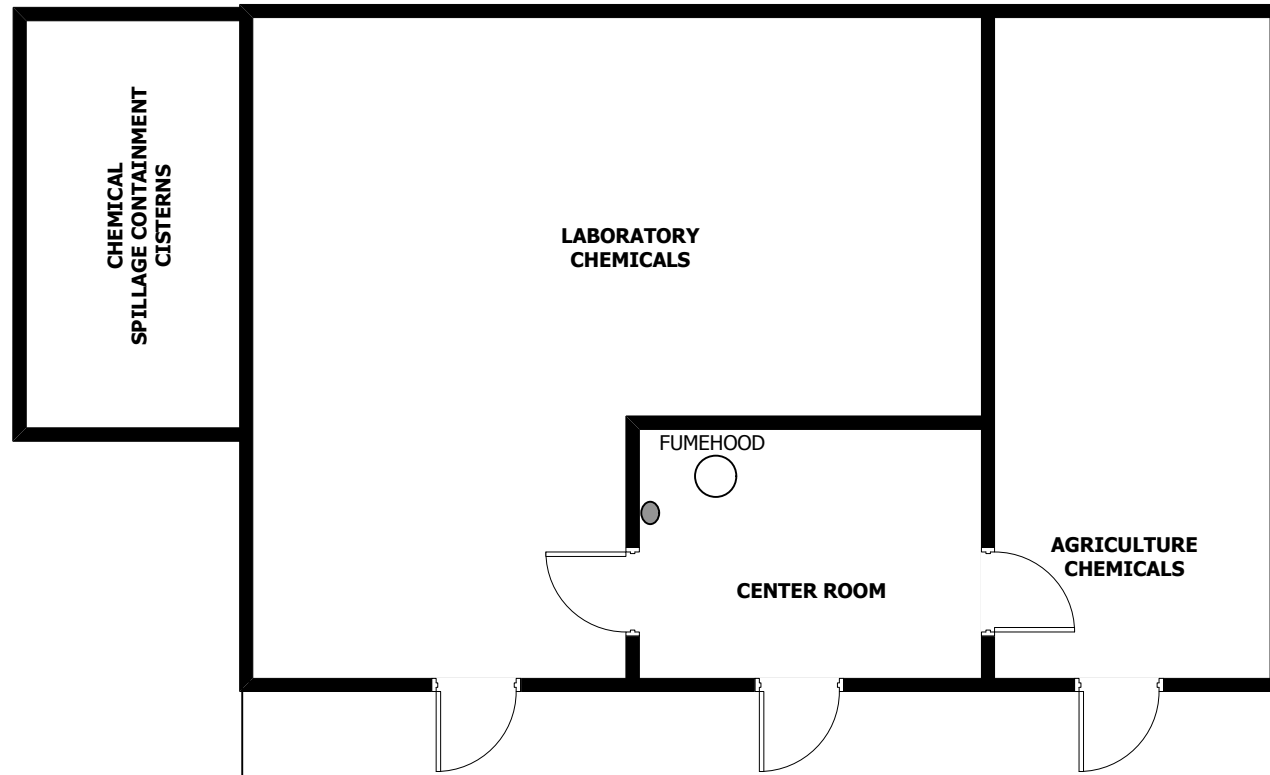
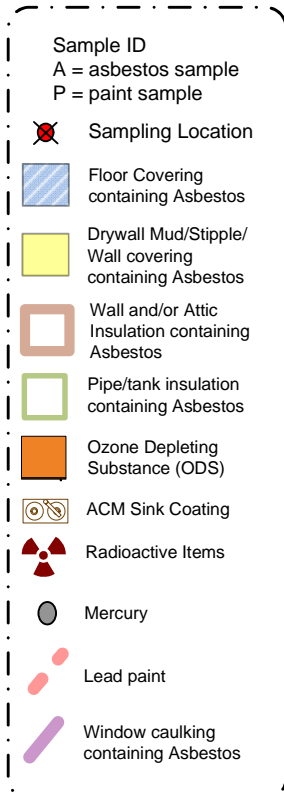
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-24**



SITE SAMPLING DIAGRAM: #45: CHEMICAL STORAGE

Main



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

Appendix
2b-25



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

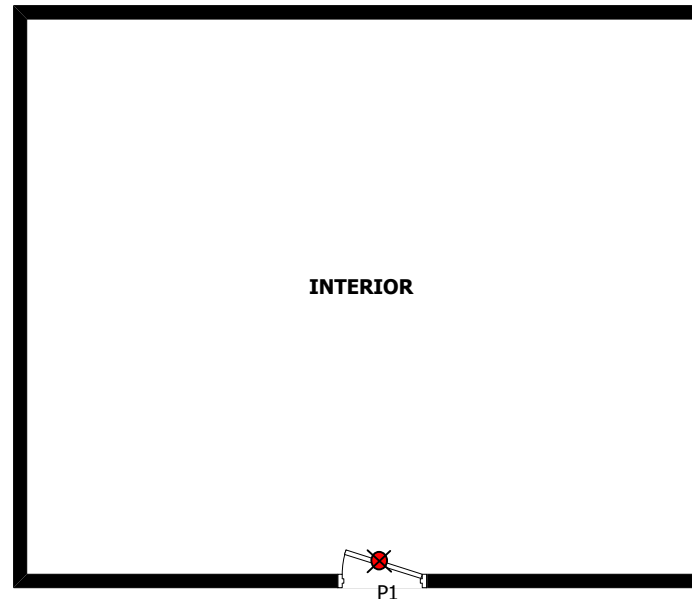
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: CINDERBLOCK STORAGE



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Beaverlodge Research Centre

Project No.: 11166

**Appendix
2b-26**



#1: Administration Office

Sample A37: Drywall mud on basement hallway wall



#1: Administration Office

Sample A41 & A75: Brown/white 9x9 floor tile on basement hall floor



#1: Administration Office

Sample A62: Ceiling texture on SW wall of Office 3



#1: Administration Office

Sample A42: Drywall mud on Furnace Room wall

PHOTOGRAPHIC LOG



#1: Administration Office

Sample A46: Sink insulation in dark room



#1: Administration Office

Sample A49: Brown square linoleum on basement conference room floor



#1: Administration Office

Sample A51: Drywall mud on basement conference wall



#1: Administration Office

Sample A53: Sink insulation in basement kitchen

PHOTOGRAPHIC LOG



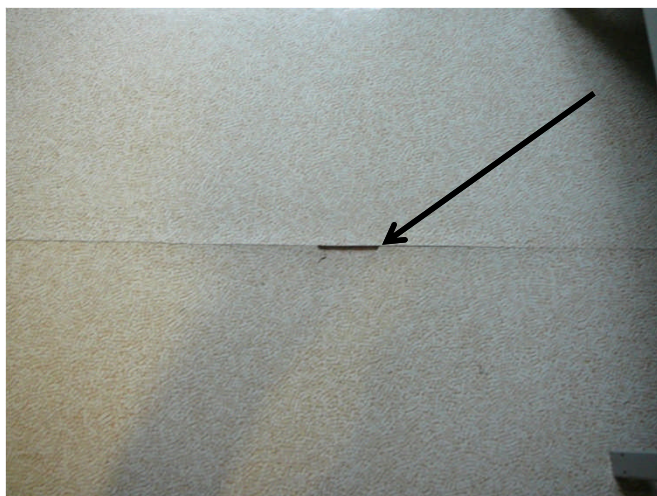
#1: Administration Office

Sample A60: White ceiling texture on main floor hall ceiling



#1: Administration Office

Sample A61: White ceiling texture at east stairs



#1: Administration Office

Sample A56: Brown square linoleum on the main level east storage floor



#1: Administration Office

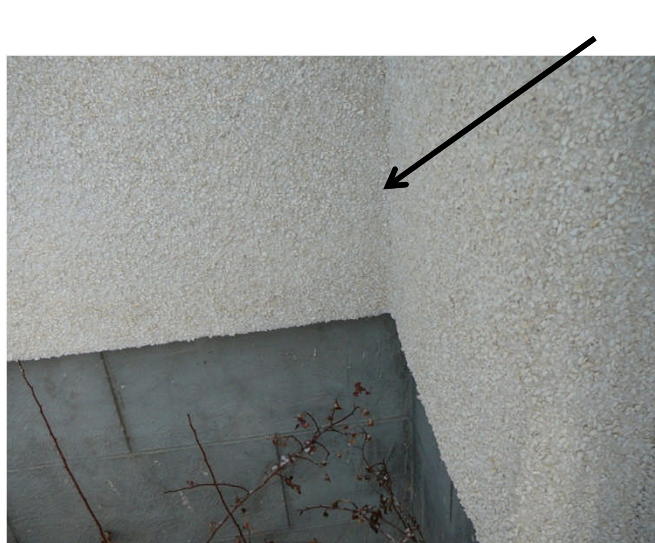
Sample A33: Brown linoleum on shoe rack in east stairwell.

PHOTOGRAPHIC LOG



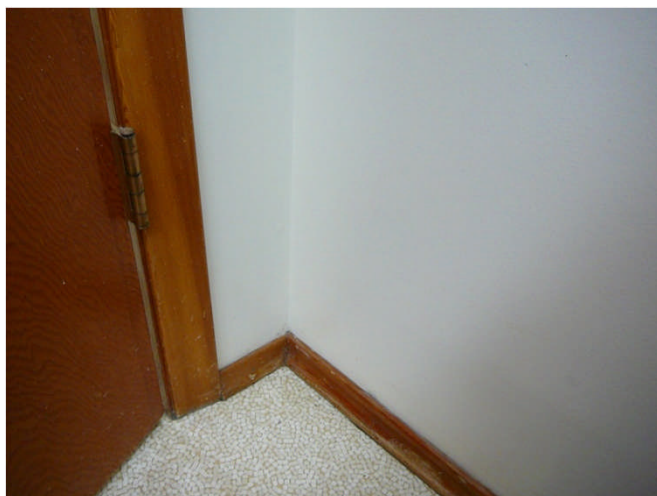
#1: Administration Office

Sample A68: Drywall mud on office 20 wall



#1: Administration Office

Sample A70, A71 & A 72: Stucco on exterior of building



#10: Administration Office

Sample A52: Drywall mud on south east Kitchen wall



#10: Canola Laboratory

Sample A126: Drywall mud on second level office 6 wall

PHOTOGRAPHIC LOG



#10: Canola Laboratory

Sample A96: Black/silver light insulation from fixture in second level Office 4



#10: Canola Laboratory

Sample A98: Brown 12x12 floor tile on Office 5 floor



#10: Canola Laboratory

Sample A116 & A117: Light brown & Dark brown 9x9 floor tile on Storage 8 floor



#10: Canola Laboratory

Sample A129: Drywall mud on main level under electrical box wall

PHOTOGRAPHIC LOG



#10: Canola Laboratory

Sample A119: Gray caulking around light in basement storage 8



#10: Canola Laboratory

Sample A128: Drywall mud on closet wall of in 2nd floor storage



#10: Canola Laboratory

Sample A121: White insulation covering boiler in furnace room



#10: Canola Laboratory

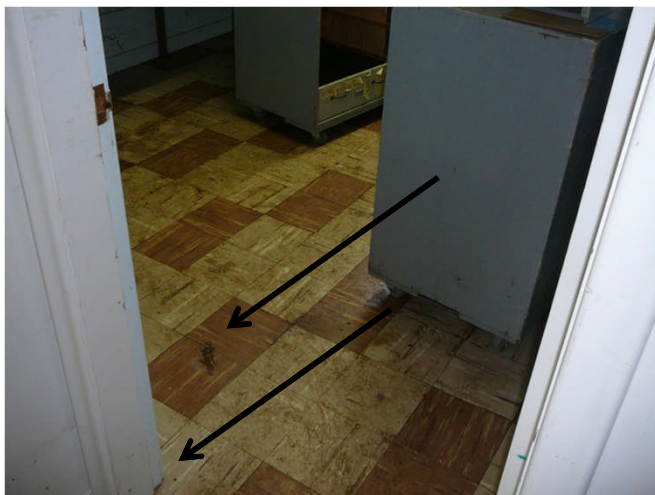
Sample A120: White airocell insulation on basement storage 6 pipe

PHOTOGRAPHIC LOG



#10: Canola Laboratory

Sample A102: Black/silver light insulation from fixture in main level storage room



#10: Canola Laboratory

Sample A114 & A 115: Light brown & dark brown 9x9 floor tile on basement storage 7 floor



#10: Canola Laboratory

Sample A118: Black caulking around wiring in basement storage 5



#14: Soils Research Building

Sample A167: Dark gray 9x9 floor tile on second floor power panel room floor

PHOTOGRAPHIC LOG



#14: Soils Research Building

Sample 139: Gray cement board stored in main level southwest lab



#14: Soils Research Building

Sample A153 & A154: Light brown & dark brown 9x9 floor tile under the stairwell



#14: Soils Research Building

Sample A155 & A156: Light brown & dark brown 9x9 floor tile on the main level northwest lab floor



#14: Soils Research Building

Sample A135: Gray 12x12 floor tile on main entry floor under the linoleum

PHOTOGRAPHIC LOG



#14: Soils Research Building

Sample A176: White/gray cement board in 2nd floor hall



#14: Soils Research Building

Sample A141: Bronze sink insulation in southwest lab



#14: Soils Research Building

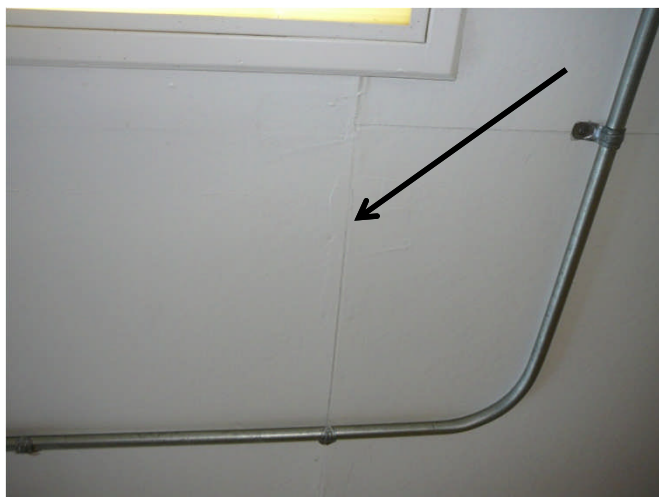
Sample A143: White/gray 9x9 floor tile on floor in main level southwest lab



#14: Soils Research Building

Sample A146: Drywall mud on furnace room wall.

PHOTOGRAPHIC LOG



#14: Soils Research Building

Sample A158: Drywall mud on main level northwest lab walls



#14: Soils Research Building

Sample A160: Gray sink insulation in main level northeast lab



#14: Soils Research Building

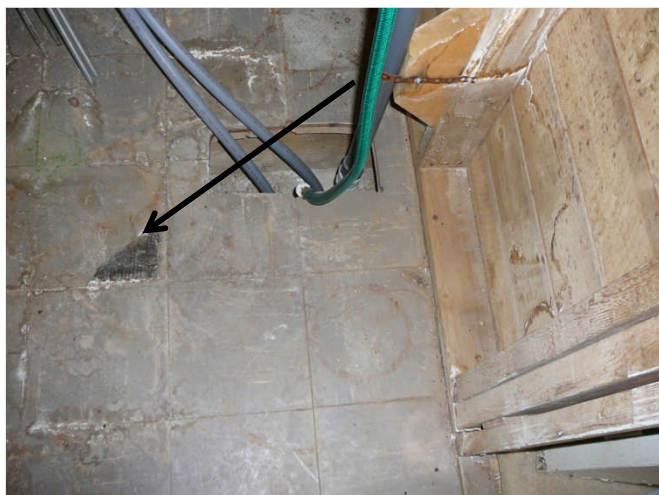
Sample A162: Brown square linoleum on main level northeast lab floor



#14: Soils Research Building

Sample A166: Gray transite board in the 2nd level power panel room

PHOTOGRAPHIC LOG



#14: Soils Research Building

Sample A168: Dark gray 9x9 floor tile on power panel room floor



14: Soils Research Building

Sample A171: White/gray 9x9 floor tile on 2nd level lab 1 floor



#14: Soils Research Building

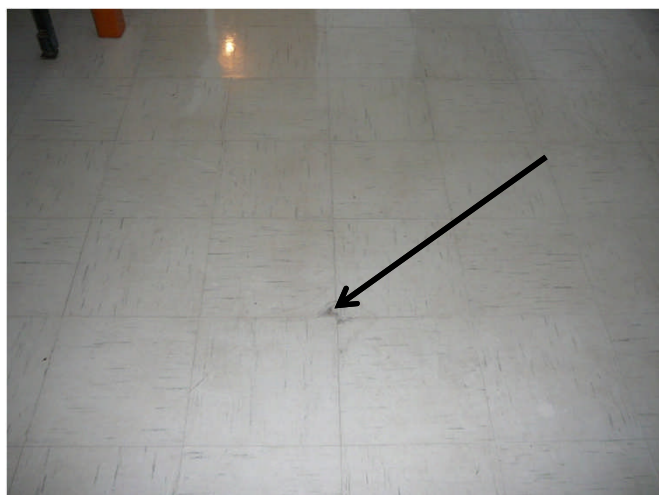
Sample A177: White/gray cement board in 2nd level office 1 stairwell



14: Soils Research Building

Sample A178: White/gray 9x9 floor tile on 2nd level office 2 floor

PHOTOGRAPHIC LOG



#15: Ecology Building

Sample A9: White/blue 12x12 floor tile on main level north lab floor



#15: Ecology Building

Sample A11: Gray counter top on main level north lab



#15: Ecology Building

Sample A20: Gray counter top on 2nd level desk



#15: Ecology Building

Sample A21: Green counter top on 2nd level desk

PHOTOGRAPHIC LOG



#15: Ecology Building

Sample A7: White/blue 12x12 floor tile on main entrance hall floor



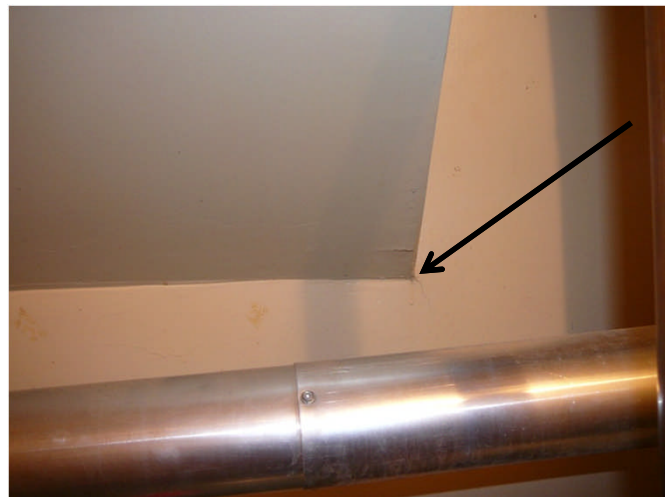
#15: Ecology Building

Sample A18: White/blue 12x12 floor tile on main Hall floor



#15: Ecology Building

Sample A15: Drywall mud on furnace room wall



#15: Ecology Building

Sample A16: Drywall mud on furnace room wall

PHOTOGRAPHIC LOG



#15: Ecology Building

Sample A1: White/silver sink insulation in main level south lab



#15: Ecology Building

Sample A3: White/gray 9x9 floor tile on main level south lab floor



#15: Ecology Building

Sample A4: White/gray 9x9 floor tile on main level south lab floor



#15: Ecology Building

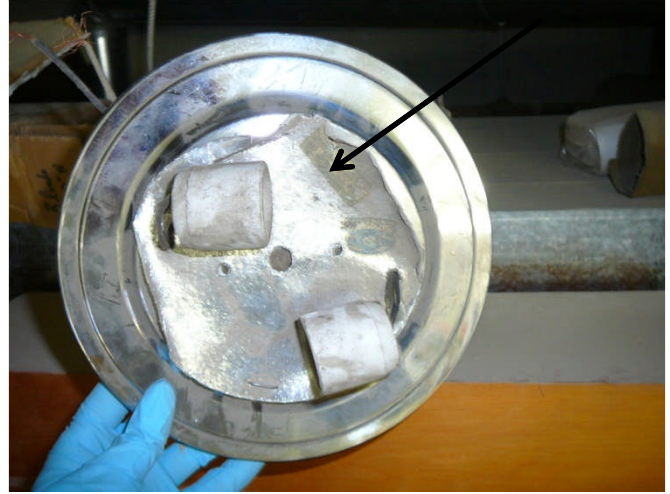
Sample A5: White/gray 9x9 floor tile on main level south storage floor

PHOTOGRAPHIC LOG



#15: Ecology Building

Sample A8: White/blue 12x12 floor tile on main level office floor



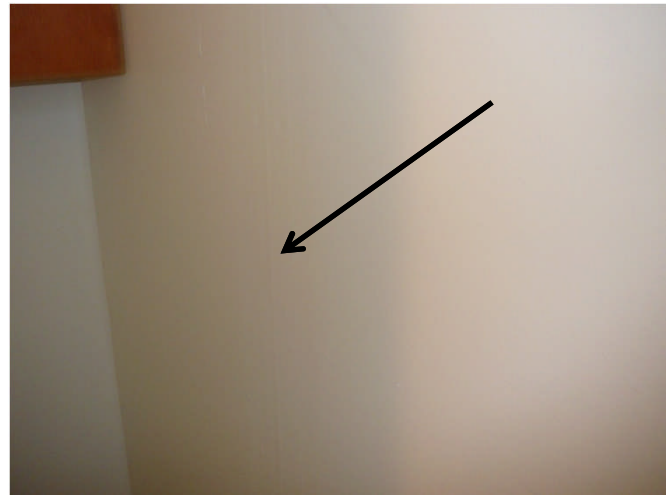
#17: Carpenter Shop

Light fixture with backing in storage crawlspace above office



#17: Carpenter Shop

Sample A184: Drywall mud on garage ceiling



#17: Carpenter Shop

Sample A190: Drywall mud on bathroom wall

PHOTOGRAPHIC LOG



#17: Carpenter Shop

Sample A186: Drywall mud on office wall



#17: Carpenter Shop

Sample A187: Gray 12x12 floor tile on office floor



#17: Carpenter Shop

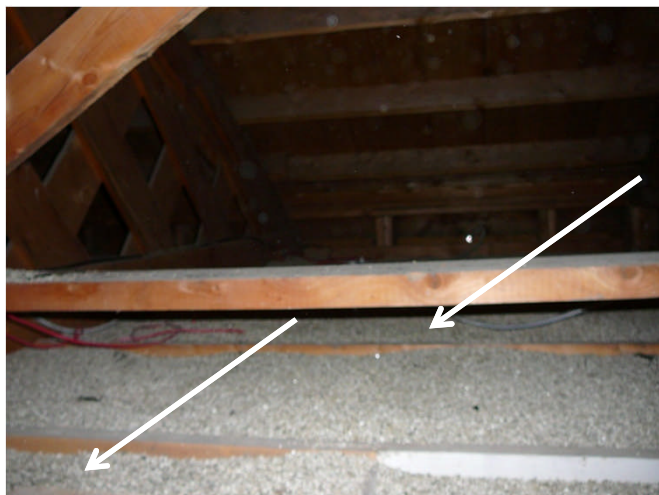
Sample A181: Brown/silver vermiculite in the attic



#17: Carpenter Shop

Sample A182: Brown/silver vermiculite in the attic

PHOTOGRAPHIC LOG



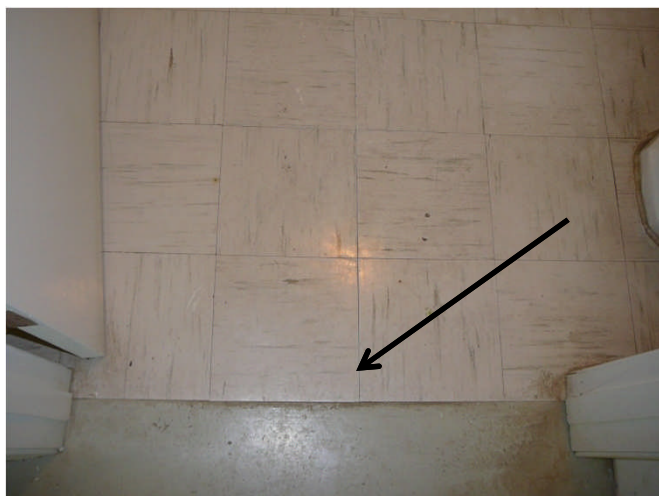
#17: Carpenter Shop

Sample A183 & A185: Brown/silver vermiculite in the attic



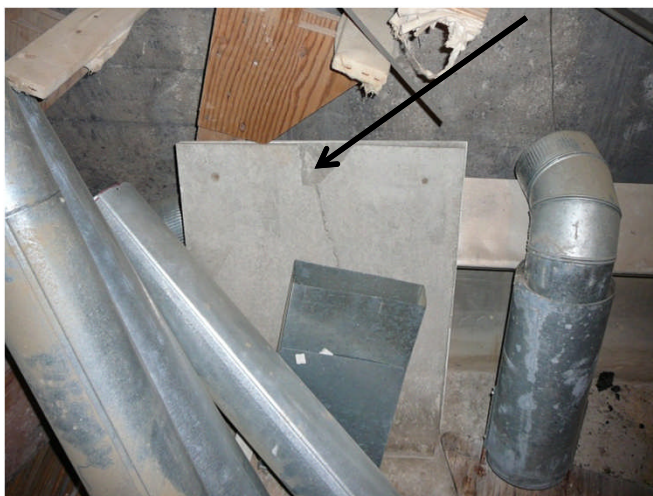
#17: Carpenter Shop

Vermiculite spillage in crawlspace above office



#17: Carpenter Shop

Sample A189: Gray 9x9 floor tile in the main floor bathroom



#17: Carpenter Shop

Cement board being stored in the basement

PHOTOGRAPHIC LOG



#18: Apiculture Laboratory

Sample A79: Gray caulking inside basement cooler 2



#18: Apiculture Laboratory

Sample A89, A90 & A91: Vermiculite in the attic



#25: Honey Extraction Building

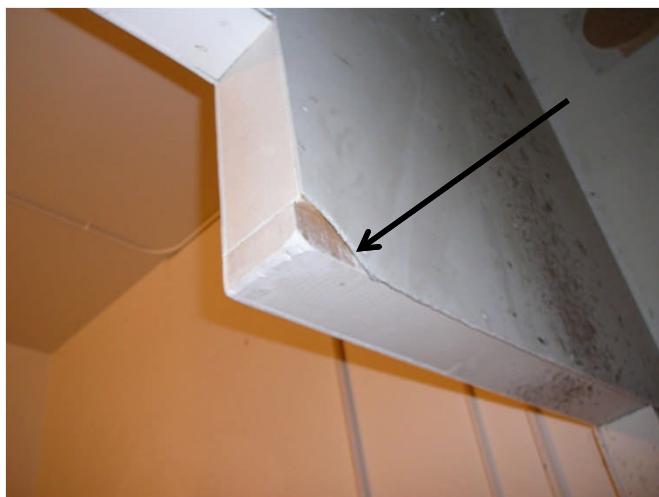
Water damage on ceiling of bathroom



#26: Storage

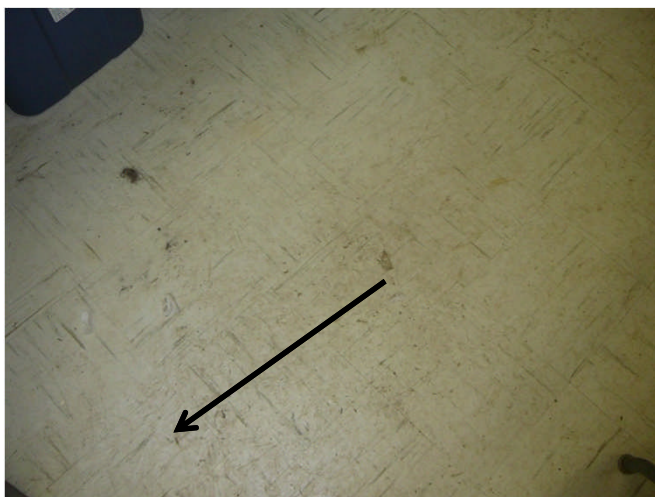
Water damage on ceiling in the air drying room

PHOTOGRAPHIC LOG



#26: Storage

Sample A200: Gray cement board on northwest enclosure in the threshing room



#26: Storage

Sample A201: White/gray 9x9 floor tile on lab 1 floor



#26: Storage

Sample A204: Drywall mud on seed storage wall



#26: Storage

Sample A206: Gray/white cement board on the furnace room wall

PHOTOGRAPHIC LOG



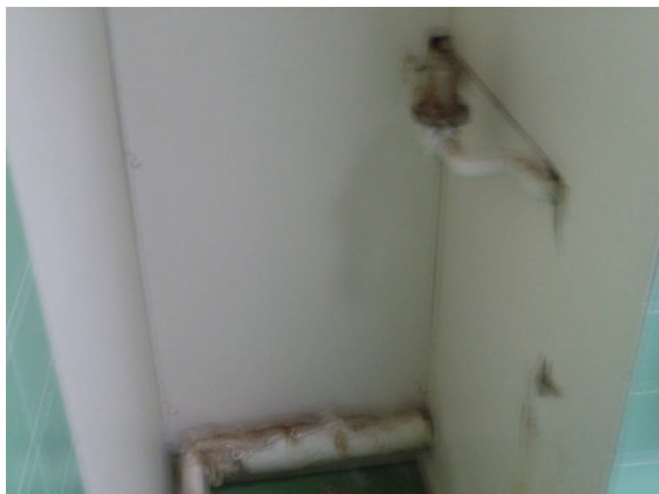
#26: Storage

Sample A208: Drywall mud on air drying room wall



#26: Storage

Sample A207: Drywall mud on furnace room wall



#26: Storage

Sample A216: Drywall mud on Women's washroom wall



#26: Storage

Vermiculite leakage on panel in furnace room

PHOTOGRAPHIC LOG



#26: Storage

Sample A212: Gray cement countertop in office 3



#26: Storage

Sample A214: Green 9x9 floor tile on bathroom hall floor



#26: Storage

Water damage and suspect mould growth in Woman's bathroom



#26: Storage

Evidence of squirrel activity

PHOTOGRAPHIC LOG



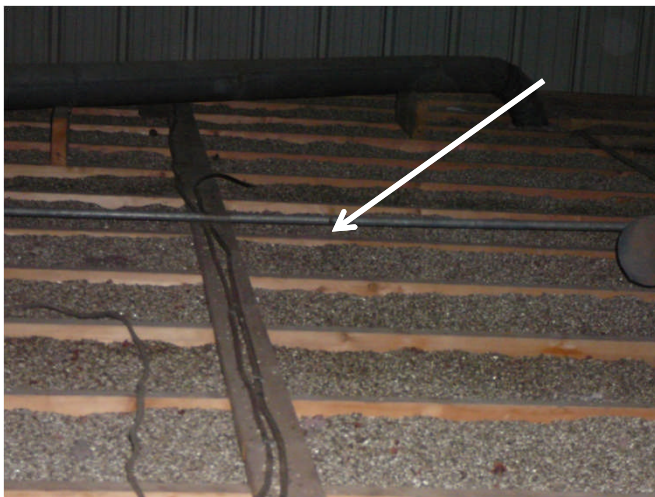
#26: Storage

Sample A217: Drywall mud on office 4 wall



#26: Storage

Sample A224: Drywall mud on main hall wall



#26: Storage

Sample A227: Brown/silver vermiculite in attic



#26: Storage

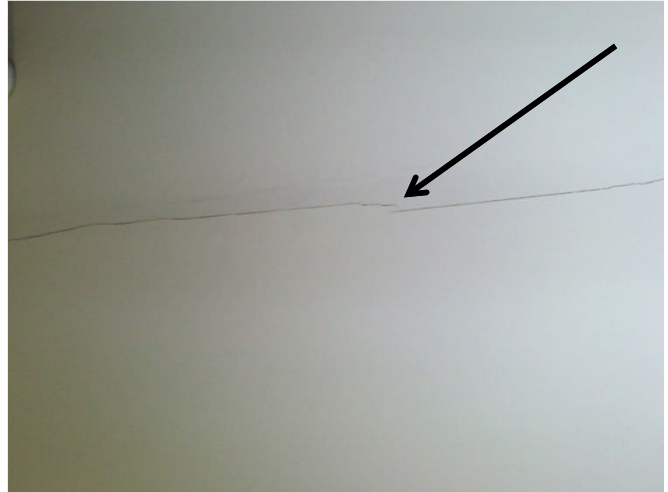
Sample A225: Brown/silver vermiculite in attic

PHOTOGRAPHIC LOG



#26: Storage

Sample A226: Brown/silver vermiculite in attic



#26: Storage

Sample A218: Drywall mud on the main hall wall



#26: Storage

Sample A199: Drywall mud on the threshing room wall



#26: Storage

Water damage on Threshing room wall

PHOTOGRAPHIC LOG



#26: Storage

Water damage on office 1 wall/ceiling corner



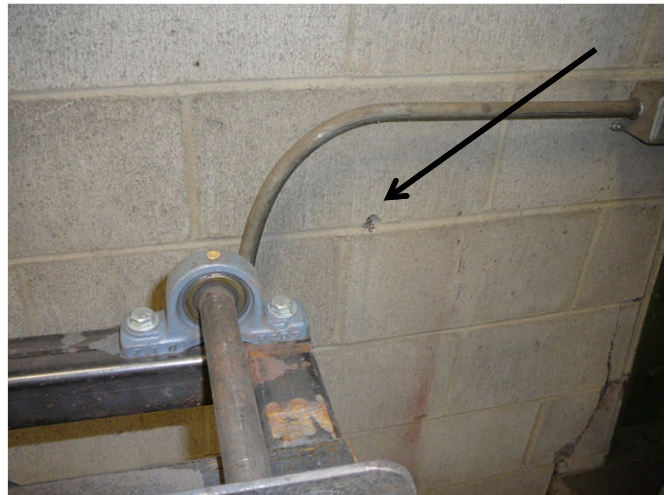
#26: Storage

Vermiculite leakage on floor in seed storage



#26: Storage

Water damage on ceiling in furnace room



#35 Garage

Sample A198: Vermiculite in cinderblock wall separating garage sections

PHOTOGRAPHIC LOG



#1: Administration Office

Sample P14: Black paint on dark room walls and ceiling



#1: Administration Office

Sample P17: White paint on exterior window



#10: Canola Laboratory

Sample P31: White paint on exterior trim



#10: Canola Laboratory

Sample P29: Yellow/white paint on walls and ceiling in storage 2

PHOTOGRAPHIC LOG



#14: Soils Research Building

Sample P37: White paint on trim in office 1



#14: Soils Research Building

Sample P36: White paint on trim in lab 2



#15: Ecology Laboratory

Sample P10: White paint on 2nd floor walls



#17: Carpenter Shop

Sample P38: Blue paint on building exterior

PHOTOGRAPHIC LOG



#18: Apiculture Laboratory

Sample P20: White paint on west side of exterior wall



#15: Ecology Building

Example of water intrusion on fume hood vent



#10: Canola Laboratory

View of flood line in basement



#14: Soils Research Building

Example of water damage at fume hood vent

PHOTOGRAPHIC LOG

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|-------------------------|---|--|---------------|-------------------------------|
| Lab No.: 4218815 | Description / Location: Silver/Grey Insulation | | | |
| Client No.: A1 | (15) South Lab Sinks | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | |
|-------------------------|---|--|-------------|-------------------------------|
| Lab No.: 4218816 | Description / Location: White/Tan Ceiling Tile | | | |
| Client No.: A2 | (15) Growth Cabinet | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|-------------------------|--|--|---------------|-------------------------------|
| Lab No.: 4218817 | Description / Location: White Floor Tile; 9x9 | | | |
| Client No.: A3 | (15) South Lab - E Wall | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|-------------------------|---|--|---------------|-------------------------------|
| Lab No.: 4218817 | Description / Location: Black Mastic | Layer No.: 2 | | |
| Client No.: A3 | (15) South Lab - E Wall | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Approved By:

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218818 | Description / Location: | White Floor Tile; 9x9 | |
| Client No.: | A4 | | (15) South Lab - West Doorway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|---|
| Lab No.: | 4218818 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A4 | | (15) South Lab - West Doorway | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218819 | Description / Location: | White Floor Tile; 9x9 | |
| Client No.: | A5 | | (15) South Storage | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4218820 | Description / Location: | White/Tan Ceiling Tile | |
| Client No.: | A6 | | (15) South Storage | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218821 | Description / Location: | Off-White Floor Tile; 12x12 | |
| Client No.: | A7 | | (15) West Doorway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.8 | Chrysotile | None Detected | None Detected | PC 98.2 |

| | | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|---|
| Lab No.: | 4218821 | Description / Location: | Brown Mastic | Layer No.: | 2 |
| Client No.: | A7 | | (15) West Doorway | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218822 | Description / Location: | Off-White Floor Tile; 12x12 | |
| Client No.: | A8 | | (15) Main Floor Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

| | | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|---|
| Lab No.: | 4218822 | Description / Location: | Yellow Mastic | Layer No.: | 2 |
| Client No.: | A8 | | (15) Main Floor Office | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218823 | Description / Location: | Off-White Floor Tile; 12x12 | |
| Client No.: | A9 | | (15) Middle Of North Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.8 | Chrysotile | None Detected | None Detected | PC 98.2 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4218824 | Description / Location: | White/Tan Ceiling Tile | |
| Client No.: | A10 | | (15) North Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 4218825 | Description / Location: | Grey Transite | |
| Client No.: | A11 | | (15) North Lab Counter On North Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 20 | Chrysotile | None Detected | None Detected | 80 |

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4218826 | Description / Location: | Black/Grey Paint/Cementitious | |
| Client No.: | A12 | | (15) North Lab Counter On East Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218827 | Description / Location: | Grey Cementitious | |
| Client No.: | A13 | | (15) North Lab Fume Hood | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 93 |
| | | 2 | Fibrous Glass | |

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4218828 | Description / Location: | Grey Cementitious; (15) North Lab I | |
| Client No.: | A14 | | Inside Acid Cabinet Under Fume Hood | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Fibrous Glass | 98 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218829 | Description / Location: | Lt. Tan Joint Compound | |
| Client No.: | A15 | | (15) Utility Room NW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218830 | Description / Location: | Lt. Tan Joint Compound | |
| Client No.: | A16 | | (15) Utility Room SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218831 | Description / Location: | White/Tan Fibrous | |
| Client No.: | A17 | | (15) Hallway Bulletin Board | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218832 | Description / Location: | White Floor Tile; 12x12 | |
| Client No.: | A18 | | (15) Hallway/Utility Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.1 | Chrysotile | None Detected | None Detected | PC 97.9 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218833 | Description / Location: | White/Tan Ceiling Tile | |
| Client No.: | A19 | | (15) Main Floor East Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4218834 | Description / Location: | Grey Transite | |
| Client No.: | A20 | | (15) 2nd Floor Table Adj. Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 15 | Chrysotile | None Detected | None Detected | 85 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---|-------------------------------|
| Lab No.: | 4218835 | Description / Location: | Grey Transite | |
| Client No.: | A21 | | (15) 2nd Floor Table Adj. Stairs (East) | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 20 | Chrysotile | None Detected | None Detected | 80 |

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4218836 | Description / Location: | Tan Fibrous | |
| Client No.: | A22 | | (15) Cabinet Counter On E. Wall 2nd Fl. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218837 | Description / Location: | Tan Fibrous | |
| Client No.: | A23 | | (15) Table On S. Wall 2nd Fl. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218838 | Description / Location: | White/Tan Fibrous | |
| Client No.: | A24 | | (15) Door Blt. 1st & 2nd Fl. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218839 | Description / Location: | White/Tan Fibrous | |
| Client No.: | A25 | | (15) Ceiling S. Of 3rd Fl. Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218841 | Description / Location: | Tan/Black Fibrous | |
| Client No.: | A26 | | (15) 2nd Fl. Wall SE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218841 | Description / Location: | Tan Fibrous | |
| Client No.: | A27 | | (15) 2nd Fl. Wall NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218842 | Description / Location: | Tan Fibrous | |
| Client No.: | A28 | | (15) 2nd Fl. Wall NW Side | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|---------------------|
| Lab No.: | 4218843 | Description / Location: | Black Tar Paper |
| Client No.: | A29 | | (15) 2nd Fl. SE End |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | 95 | Cellulose |
| | | | 5 |

| | | | |
|--------------------|---------------|--|----------------------------------|
| Lab No.: | 4218844 | Description / Location: | Black Tar Paper |
| Client No.: | A30 | | (15) Main Fl. S. Storage Ceiling |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | 95 | Cellulose |
| | | | 5 |

| | | | |
|--------------------|---------------|--|----------------------------|
| Lab No.: | 4218845 | Description / Location: | Green Vinyl Sheet Flooring |
| Client No.: | A31 | | (15) Main Fl. Office |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | 10 | Cellulose |
| | | | 90 |

| | | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|---|
| Lab No.: | 4218845 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A31 | | (15) Main Fl. Office | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218846 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A32 | | (15) Middle Of N. Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Cellulose | 90 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218847 | Description / Location: | Tan Vinyl Sheet Flooring | |
| Client No.: | A33 | | (1) Main, E. Door Shoe Rack | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218848 | Description / Location: | White/Tan Plaster | |
| Client No.: | A34 | | (1) Bsmt East Stairwell | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | Trace | Hair | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218849 | Description / Location: | White Joint Compound | |
| Client No.: | A35 | | (1) Bsmt Office Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4218850 | Description / Location: | Lt. Grey/Blue/Green Vinyl Sheet Flooring | |
| Client No.: | A36 | | (1) Bsmt Office At Floor Drain | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Cellulose | 80 |
| | | 10 | Synthetic | |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4218851 | Description / Location: | White Joint Compound | |
| Client No.: | A37 | | (1) Bsmt Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.4 | Chrysotile | None Detected | None Detected | PC 97.6 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4218852 | Description / Location: | Tan Pipe Wrap | |
| Client No.: | A38 | | (1) Bsmt Library | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 90 | Cellulose | 10 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218853 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A39 | | (1) Bsmt Library North Strip | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: M. Mirza

Date: 2/21/2011

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| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218854 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A40 | | (1) Bsmt Library | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4218856 | Description / Location: | Grey Floor Tile; 9x9 | |
| Client No.: | A41 | | (1) Bsmt Hallway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

| | | | | |
|--------------------|-------------|--|------------------------|-------------------------------|
| Lab No.: | 4218856 | Description / Location: | Lt. Tan Joint Compound | |
| Client No.: | A42 | | (1) Bsmt Furance Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.8 | Chrysotile | None Detected | None Detected | PC 98.2 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218857 | Description / Location: | Yellow/Tan/Black Insulation | |
| Client No.: | A43 | | (1) Make-Up Air Duct, Bsmt | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Cellulose | 88 |
| | | 2 | Mineral Wool | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

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| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218858 | Description / Location: | Silver/Lt.Tan Insulation | |
| Client No.: | A44 | | (1) Bsmt, Furnace Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218859 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A45 | | (1) Bsmt, Storage Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218860 | Description / Location: | Silver/Black Sink Insulation | |
| Client No.: | A46 | | (1) Bsmt, Dark Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218861 | Description / Location: | Black/Tan Fiber Board | |
| Client No.: | A47 | | (1) Bsmt, Dark Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218862 | Description / Location: | Lt.Grey/Blue Vinyl Sheet Flooring | |
| Client No.: | A48 | | (1) Bsmt, Storage Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Cellulose | 80 |
| | | 10 | Synthetic | |

| | | | | |
|--------------------|-------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218864 | Description / Location: | White/Tan Vinyl Sheet Flooring | |
| Client No.: | A49 | | (1) Bsmt, Conference Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218864 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A50 | | (1) Bsmt, Conference Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4218865 | Description / Location: | White Joint Compound | |
| Client No.: | A51 | | (1) Bsmt, SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218866 | Description / Location: | White Joint Compound | |
| Client No.: | A52 | | (1) Bsmt, Kitchen SE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218867 | Description / Location: | Silver/Black Insulation | |
| Client No.: | A53 | | (1) Bsmt, Kitchen Sink | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218868 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A55 | | (1) Main Hall (Middle) | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218869 | Description / Location: | White/Tan Vinyl Sheet Flooring | |
| Client No.: | A56 | | (1) Main Storage East | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|--|
| Lab No.: | 4218870 | Description / Location: | Tan Ceiling Tile; 12x12 | | |
| Client No.: | A57 | | (1) Main Office SE Corner | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 100 | Cellulose | None Detected | |

| | | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|--|
| Lab No.: | 4218871 | Description / Location: | White Plaster | | |
| Client No.: | A58 | | (1) Main Reception Closet | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|--|
| Lab No.: | 4218872 | Description / Location: | Lt.Green/White Texture Plaster | | |
| Client No.: | A59 | | (1) Main Office 1 SW Corner | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|--|
| Lab No.: | 4218873 | Description / Location: | White/Brown Ceiling Texture | | |
| Client No.: | A60 | | (1) Main Hall In Front Of Reception | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 3.5 | Chrysotile | None Detected | None Detected | PC 96.5 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218874 | Description / Location: | White/Brown Ceiling Texture | |
| Client No.: | A61 | | (1) Main Hall At East Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.3 | Chrysotile | None Detected | None Detected | PC 96.7 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218876 | Description / Location: | White/Brown Ceiling Texture | |
| Client No.: | A62 | | (1) Main Office 3 SW Area | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.8 | Chrysotile | None Detected | None Detected | PC 96.2 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218877 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A63 | | (1) Main Office 5 SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218877 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A64 | | (1) Main Reception North | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218878 | Description / Location: | Lt. Pink/White Texture Plaster | |
| Client No.: | A65 | | (1) Main Office 3 SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------------------|-------------------------------|
| Lab No.: | 4218879 | Description / Location: | White Plaster | |
| Client No.: | A66 | | (1) 2nd Attic Access, Walls & Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | Trace | Hair | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218880 | Description / Location: | White Plaster | |
| Client No.: | A67 | | (1) 2nd Office 25 S. Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218881 | Description / Location: | White Joint Compound | |
| Client No.: | A68 | | (1) 2nd Office 20 NW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218882 | Description / Location: | Tan Insulation | |
| Client No.: | A69 | | (1) 2nd Fl. Attic Access | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218884 | Description / Location: | Lt.Grey Stucco | |
| Client No.: | A70 | | (1) Exterior Main Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218884 | Description / Location: | Lt.Grey Stucco | |
| Client No.: | A71 | | (1) Exterior Main Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218885 | Description / Location: | Lt.Grey Stucco | |
| Client No.: | A72 | | (1) Exterior Main Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218886 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A73 | | (1) Bsmt, Library West | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218887 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A74 | | (1) Bsmt, Library NE | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218888 | Description / Location: | Grey/Brown Floor Tile; 9x9 | |
| Client No.: | A75 | | (1) Bsmt, Hallway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

| | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4218889 | Description / Location: | White/Grey Cementitious | |
| Client No.: | A76 | | (1) Exterior Under Stucco NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.3 | Chrysotile | None Detected | None Detected | PC 99.7 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4218890 | Description / Location: | Grey Cementitious | |
| Client No.: | A77 | | (1) Exterior Under Stucco N Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218891 | Description / Location: | Grey Cementitious | |
| Client No.: | A78 | | (18) Bsmt, Cooler #7 Outside Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218892 | Description / Location: | Lt. Grey Putty | |
| Client No.: | A79 | | (18) Bsmt, Cooler #2 Inside | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 10 | Chrysotile | None Detected | None Detected | 90 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218893 | Description / Location: | Grey Cementitious | |
| Client No.: | A80 | | (18) Bsmt, Cooler #2 Inside | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218894 | Description / Location: | Grey Cementitious | |
| Client No.: | A81 | | (18) Bsmt, Cooler #4 Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218896 | Description / Location: | Black/Tan Foam | |
| Client No.: | A82 | | (18) Bsmt, Cooler Door #2 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218896 | Description / Location: | Grey Cementitious | |
| Client No.: | A83 | | (18) Stairwell On South Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218897 | Description / Location: | Tan/Brown Vinyl Sheet Flooring | |
| Client No.: | A84 | | (18) South Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 25 | Cellulose | 70 |
| | | 5 | Fibrous Glass | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218898 | Description / Location: | White Insulation | |
| Client No.: | A85 | | (18) South Lab, Sink | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218899 | Description / Location: | Grey Cement Board | |
| Client No.: | A86 | | (18) North Lab, Fume Hood | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 93 |
| | | 2 | Fibrous Glass | |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218900 | Description / Location: | Grey Cementitious | |
| Client No.: | A87 | | (18) Exterior On Concrete | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218901 | Description / Location: | Black Tar Paper | |
| Client No.: | A88 | | (18) Exterior SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 20 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------|--------------------------------|----------------------------|--|
| Lab No.: | 4218902 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A89 | | (18) Attic North | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------|--------------------------------|----------------------------|--|
| Lab No.: | 4218903 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A90 | | (18) Attic South | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218904 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A91 | | (18) Attic East | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gage, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4218905 | Description / Location: | Tan Plaster | |
| Client No.: | A92 | | (18) Chimney On North Side Of Building | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218906 | Description / Location: | Tan Fiber Board | |
| Client No.: | A93 | | (10) Office 1 Bulletin Board | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218907 | Description / Location: | Tan Vinyl Sheet Flooring | |
| Client No.: | A94 | | (10) Office 10 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 20 | Cellulose | 80 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218908 | Description / Location: | Tan Vinyl Sheet Flooring | |
| Client No.: | A95 | | (10) E. Storage 8 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 20 | Cellulose | 80 |

| | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4218909 | Description / Location: | Silver/Tan Insulation | |
| Client No.: | A96 | | (10) Office 4 Light Fixture Backing | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 95 | Chrysotile | None Detected | None Detected | 5 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218910 | Description / Location: | White Vinyl Sheet Flooring | |
| Client No.: | A97 | | (10) 2nd Fl. Washrooms | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |
| | | Trace | Fibrous Glass | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218911 | Description / Location: | Tan Floor Tile; 12x12 | |
| Client No.: | A98 | | (10) 2nd Fl. Office 5 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|---|
| Lab No.: | 4218911 | Description / Location: | Yellow Mastic | Layer No.: | 2 |
| Client No.: | A98 | | (10) 2nd Fl. Office 5 | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|---|
| Lab No.: | 4218911 | Description / Location: | Tan Fibrous | Layer No.: | 3 |
| Client No.: | A98 | | (10) 2nd Fl. Office 5 | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 100 | Cellulose | None Detected | |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218912 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A99 | | (10) 2nd Fl. Hallway Middle | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218913 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A100 | | (10) 2nd Fl. Hallway NE | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218915 | Description / Location: | White/Tan Ceiling Tile; 12x12 | |
| Client No.: | A101 | | (10) Main Fl. At Breaker Box | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218915 | Description / Location: | Brown Wall Tile | |
| Client No.: | A103 | | (10) Main Entrance Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

| | | | | |
|--------------------|---------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218916 | Description / Location: | White/Tan Fiberboard | |
| Client No.: | A104 | | (10) Main Fl. Hall Bulletin Board | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4218917 | Description / Location: | White/Tan Ceiling Tile | |
| Client No.: | A105 | | (10) Main Fl. SW Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218918 | Description / Location: | White/Tan Ceiling Tile | |
| Client No.: | A106 | | (10) Main Fl. SE Lab East Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218919 | Description / Location: | Grey/Tan Wall Tile | |
| Client No.: | A107 | | (10) Main Fl. SW Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218920 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A108 | | (10) Main Fl. Btwn SW/NW Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 25 | Cellulose | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218921 | Description / Location: | Lt. Grey Fibrous | |
| Client No.: | A109 | | (10) Main Fl. NW Lab Fume Hood | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 60 | Cellulose | 40 |

| | | | | |
|--------------------|---------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 4218922 | Description / Location: | Grey Cementitious | |
| Client No.: | A110 | | (10) Main Fl. NW Lab Sink Back Spash | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4218923 | Description / Location: | Brown Fiberboard | |
| Client No.: | A111 | | (10) Main Fl. N. Entry Stairwell | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218924 | Description / Location: | White/Grey Stucco | |
| Client No.: | A131 | | (10) Exterior N. Wall Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218925 | Description / Location: | White/Grey Stucco | |
| Client No.: | A132 | | (10) Exterior S. Main Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218926 | Description / Location: | White/Grey Stucco | |
| Client No.: | A133 | | (10) Exterior NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218927 | Description / Location: | Grey Fibrous | |
| Client No.: | A134 | | (10) Exterior N. Wall Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218928 | Description / Location: | Lt. Tan Floor Tile; 12x12 | |
| Client No.: | A135 | | (14) Entry Tile Under Lino. | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 |

| | | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|---|
| Lab No.: | 4218928 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A135 | | (14) Entry Tile Under Lino. | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218929 | Description / Location: | Tan Ceiling Tile; 12x12 | |
| Client No.: | A136 | | (14) Entry | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218930 | Description / Location: | Lt. Tan Floor Tile; 9x9 | |
| Client No.: | A137 | | (14) Porch | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC Trace | Chrysotile | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|--------------|-------------------------------|---|
| Lab No.: | 4218930 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A137 | | (14) Porch | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 3 | Cellulose | 97 | |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4218931 | Description / Location: | Grey Stucco | |
| Client No.: | A138 | | (14) Porch, West Building Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|---------------------------------|-------------------------------|
| Lab No.: | 4218932 | Description / Location: | Grey Transite | |
| Client No.: | A139 | | (14) SW Lab, Leaning On Wall X2 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4218933 | Description / Location: | White Non Fibrous | |
| Client No.: | A140 | | (14) SW Lab, SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|--------------------|-------------------------------|
| Lab No.: | 4218934 | Description / Location: | Brown Insulation | |
| Client No.: | A141 | | (14) SW Lab, Sinks | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.3 | Chrysotile | None Detected | None Detected | PC 97.7 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218935 | Description / Location: | Tan Ceiling Tile; 12x12 | |
| Client No.: | A142 | | (14) SW Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218936 | Description / Location: | Lt. Tan Floor Tile; 9x9 | |
| Client No.: | A143 | | (14) SW Lab | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC Trace | Chrysotile | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|-------------|--|--------------|-------------------------------|---|
| Lab No.: | 4218936 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A143 | | (14) SW Lab | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 1.3 | Chrysotile | 1 | Cellulose | PC 97.7 | |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218937 | Description / Location: | Lt. Grey Non Fibrous | |
| Client No.: | A144 | | (14) Furnace Room N. Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218938 | Description / Location: | Off-White Floor Tile; 12x12 | |
| Client No.: | A145 | | (14) Furnace Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|---|
| Lab No.: | 4218938 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A145 | | (14) Furnace Room | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 2 | Cellulose | 98 | |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218939 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A146 | | (14) Furnace Room, Walls | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.1 | Chrysotile | None Detected | None Detected | PC 97.9 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218940 | Description / Location: | Off-White Insulation | |
| Client No.: | A147 | | (14) Washroom, Sink | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4218941 | Description / Location: | Tan Ceiling Tile | |
| Client No.: | A148 | | (14) Washroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 35 | Cellulose | 45 |
| | | 20 | Fibrous Glass | |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218942 | Description / Location: | White/Black Fibrous | |
| Client No.: | A149 | | (14) Storage Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 75 | Cellulose | 25 |

| | | | | |
|--------------------|-------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4218943 | Description / Location: | Off-White Fibrous | |
| Client No.: | A150 | | (14) Growth Chamber Room Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.1 | Chrysotile | None Detected | None Detected | PC 97.9 |

| | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|
| Lab No.: | 4218944 | Description / Location: | Tan Ceiling Tile | |
| Client No.: | A151 | | (14) Main Fl. Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 35 | Cellulose | 45 |
| | | 20 | Fibrous Glass | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4218945 | Description / Location: | Dk.Tan Ceiling Tile |
| Client No.: | A152 | | (14) Growth Chamber Room |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | 99 | Cellulose |
| | | | 1 |

| | | | |
|--------------------|-------------|--|------------------------|
| Lab No.: | 4218946 | Description / Location: | Dk.Tan Floor Tile; 9x9 |
| Client No.: | A153 | | (14) Under Stairs |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 3.5 | Chrysotile | None Detected | None Detected |
| | | | PC 99.5 |

| | | | | | |
|--------------------|-------------|--|-------------------|-------------------------------|---|
| Lab No.: | 4218946 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A153 | | (14) Under Stairs | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 1.2 | Chrysotile | 1 | Cellulose | PC 97.8 | |

| | | | |
|--------------------|-------------|--|------------------------|
| Lab No.: | 4218947 | Description / Location: | Dk.Tan Floor Tile; 9x9 |
| Client No.: | A154 | | (14) Under Stairs |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 4.7 | Chrysotile | None Detected | None Detected |
| | | | PC 95.3 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|-------------|--|------------------------|
| Lab No.: | 4218948 | Description / Location: | Dk.Tan Floor Tile; 9x9 |
| Client No.: | A155 | | (14) NW Lab |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected |
| | | | PC 98.5 |

| | | | | | |
|--------------------|-------------|--|--------------|-------------------------------|---|
| Lab No.: | 4218948 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A155 | | (14) NW Lab | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC Trace | Chrysotile | 3 | Cellulose | 97 | |

| | | | |
|--------------------|-------------|--|------------------------|
| Lab No.: | 4218949 | Description / Location: | Dk.Tan Floor Tile; 9x9 |
| Client No.: | A156 | | (14) NW Lab |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 4.8 | Chrysotile | None Detected | None Detected |
| | | | PC 95.2 |

| | | | | | |
|--------------------|-------------|--|--------------|-------------------------------|---|
| Lab No.: | 4218949 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A156 | | (14) NW Lab | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 1.2 | Chrysotile | 1 | Cellulose | PC 97.8 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|-----------------------|
| Lab No.: | 4218950 | Description / Location: | Grey Cement |
| Client No.: | A157 | | (14) NW Lab Fume Hood |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | 10 | Cellulose |
| | | 5 | Fibrous Glass |
| | | | 85 |

| | | | |
|--------------------|-------------|--|---------------------|
| Lab No.: | 4218951 | Description / Location: | Off-White Fibrous |
| Client No.: | A158 | | (14) NW Lab Ceiling |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 1.8 | Chrysotile | None Detected | None Detected |
| | | | PC 98.2 |

| | | | |
|--------------------|---------------|--|------------------------|
| Lab No.: | 4218952 | Description / Location: | Lt. Grey Non Fibrous |
| Client No.: | A159 | | (14) NW Lab North Wall |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|-------------|--|-------------------|
| Lab No.: | 4218953 | Description / Location: | Brown Insulation |
| Client No.: | A160 | | (14) NE Lab Sinks |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected |
| | | | PC 98.3 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011



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Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4218954 **Description / Location:** Tan Ceiling Tile
Client No.: A161 (14) NE Lab

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 99 | Cellulose | 1 |

Lab No.: 4218955 **Description / Location:** Off-White Vinyl Sheet Flooring
Client No.: A162 (14) NE Lab West Corner

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|-------------|-------------------------------|
| 20 | Chrysotile | 10 | Cellulose | 70 |

Lab No.: 4218956 **Description / Location:** Dk. Tan Ceiling Tile
Client No.: A163 (14) NE Lab East

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 99 | Cellulose | 1 |

Lab No.: 4218957 **Description / Location:** Dk. Tan Ceiling Tile
Client No.: A164 (14) NE Lab South

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 99 | Cellulose | 1 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|---------------------|-------------|--|---------------------|-------------------------------|
| Lab No.: | 4218958 | Description / Location: | Sample Not Received | |
| Client No.: | A165 | | (14) NE Lab South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| Sample Not Received | | Sample Not Received | | |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218959 | Description / Location: | Grey Transite | |
| Client No.: | A166 | | (14) Up Power Panel Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218960 | Description / Location: | Grey Floor Tile; 9x9 | |
| Client No.: | A167 | | (14) Up Power Panel Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 4.8 | Chrysotile | None Detected | None Detected | PC 95.2 |

| | | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|---|
| Lab No.: | 4218960 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A167 | | (14) Up Power Panel Room | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 1 | Cellulose | 99 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218961 | Description / Location: | Grey Floor Tile; 9x9 | |
| Client No.: | A168 | | (14) Up Power Panel Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 |

| | | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|---|
| Lab No.: | 4218961 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A168 | | (14) Up Power Panel Room | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 1 | Cellulose | 99 | |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218962 | Description / Location: | Tan/White Ceiling Tile; 12x12 | |
| Client No.: | A169 | | (14) Lab 1 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218963 | Description / Location: | Off-White Insulation | |
| Client No.: | A170 | | (14) Lab 1, Sinks | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218964 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A171 | | (14) Lab 1, N. Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|---|
| Lab No.: | 4218964 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A171 | | (14) Lab 1, N. Wall | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4218965 | Description / Location: | Off-White Insulation | |
| Client No.: | A172 | | (14) Lab 2, N. Sink | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4218966 | Description / Location: | Tan/White Insulation | |
| Client No.: | A173 | | (14) Lab 2, N. Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218967 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A174 | | (14) Lab 2, NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.75 | Chrysotile | None Detected | None Detected | PC 99.25 |

| | | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|---|
| Lab No.: | 4218967 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A174 | | (14) Lab 2, NE Corner | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218968 | Description / Location: | Tan/White Ceiling Tile; 12x12 | |
| Client No.: | A175 | | (14) Upstairs, Hall S. Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218969 | Description / Location: | Grey Transite | |
| Client No.: | A176 | | (14) Upstairs, Hall SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4218970 | Description / Location: | Grey Transite | |
| Client No.: | A177 | | (14) Office 1 Ceiling, Above Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218971 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A178 | | (14) Office 2, NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218972 | Description / Location: | Grey Stucco | |
| Client No.: | A179 | | (14) Exterior, North Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218973 | Description / Location: | Grey Stucco | |
| Client No.: | A180 | | (14) Exterior, SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|--|
| Lab No.: | 4218974 | Description / Location: | Tan Vermiculite Insulation | | |
| Client No.: | A181 | | (17) Attic, SE Access | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 0.25 | Actinolite | None Detected | None Detected | PC 99.75 | |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|--|
| Lab No.: | 4218975 | Description / Location: | Tan Vermiculite Insulation | | |
| Client No.: | A182 | | (17) Attic, SE Access | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| PC 0.25 | Actinolite | None Detected | None Detected | PC 99.75 | |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218976 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A183 | | (17) Attic, SE Access | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC Trace | Actinolite | None Detected | None Detected | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218977 | Description / Location: | Tan Joint Compound | |
| Client No.: | A184 | | (17) Garage, Ceiling SE | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.4 | Chrysotile | None Detected | None Detected | PC 97.6 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4218978 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A185 | | (17) Attic SW Access | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Actinolite | None Detected | None Detected | PC 99.75 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218979 | Description / Location: | White Joint Compound | |
| Client No.: | A186 | | (17) Office SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218980 | Description / Location: | Tan Floor Tile; 12x12 | |
| Client No.: | A187 | | (17) Office Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 |

| | | | | | |
|--------------------|---------------|--|------------------|-------------------------------|---|
| Lab No.: | 4218980 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A187 | | (17) Office Door | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218981 | Description / Location: | Tan Floor Tile; 12x12 | |
| Client No.: | A188 | | (17) Office Middle | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|---|
| Lab No.: | 4218981 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A188 | | (17) Office Middle | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218982 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A189 | | (17) Bathroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

| | | | | | |
|--------------------|---------------|--|---------------|-------------------------------|---|
| Lab No.: | 4218982 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A189 | | (17) Bathroom | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4218983 | Description / Location: | Tan Joint Compound | |
| Client No.: | A190 | | (17) Bathroom, NE Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.7 | Chrysotile | None Detected | None Detected | PC 97.3 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218984 | Description / Location: | Off-White/White Caulk | |
| Client No.: | A191 | | (17) SE Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218985 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A192 | | (35) Office 1 Floor, NE | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Chrysotile | None Detected | None Detected | PC 99.75 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4218986 | Description / Location: | Off-White Floor Tile; 12x12 | |
| Client No.: | A193 | | (35) Office 1 Floor, NE | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.75 | Chrysotile | None Detected | None Detected | PC 99.25 |

| | | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|---|
| Lab No.: | 4218986 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A193 | | (35) Office 1 Floor, NE | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218987 | Description / Location: | Tan/White Ceiling Tile; 12x12 | |
| Client No.: | A194 | | (35) Office 1, SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box87073 RPO DouglasSq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | |
|--|--|
| Lab No.: 4218988 | Description / Location: Tan/White Ceiling Tile; 12x12 |
| Client No.: A195 | (35) Washroom |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| 95 | Cellulose |
| <u>% Non-Fibrous Material</u> | |
| | 5 |

| | |
|--|--|
| Lab No.: 4218989 | Description / Location: Tan/White Ceiling Tile; 12x12 |
| Client No.: A196 | (35) Main Entry West Wall |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| 95 | Cellulose |
| <u>% Non-Fibrous Material</u> | |
| | 5 |

| | |
|--|---|
| Lab No.: 4218990 | Description / Location: White Joint Compound |
| Client No.: A197 | (35) Office 2 |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | |
| | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------------|-------------------------------|
| Lab No.: | 4218991 | Description / Location: | Brown Vermiculite Insulation | |
| Client No.: | A198 | | (35) Cinderblock Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|-------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218992 | Description / Location: | White Joint Compound | |
| Client No.: | A199 | | (26) Thrushing Room, NW Enclosure | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.3 | Chrysotile | None Detected | None Detected | PC 96.7 |

| | | | | |
|--------------------|-------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4218993 | Description / Location: | Grey Transite | |
| Client No.: | A200 | | (26) Thrushing Room, NW Enclosure | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4218994 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A201 | | (26) Lab 1, South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Chrysotile | None Detected | None Detected | PC 99.75 |

| | | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|---|
| Lab No.: | 4218994 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A201 | | (26) Lab 1, South | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4218995 | Description / Location: | Grey/Off-White Tape | |
| Client No.: | A202 | | (26) Lab 1, NE Pipe | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 25 | Synthetic | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4218996 | Description / Location: | White Floor Tile; 12x12 | |
| Client No.: | A203 | | (26) Office 1 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|---------------|-------------------------------|---|
| Lab No.: | 4218996 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A203 | | (26) Office 1 | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4218997 | Description / Location: | White Joint Compound | |
| Client No.: | A204 | | (26) Seed Storage | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.2 | Chrysotile | None Detected | None Detected | PC 96.8 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4218998 | Description / Location: | Tan/Black Non Fibrous | |
| Client No.: | A205 | | (26) Cooler Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4218999 | Description / Location: | Grey Transite | |
| Client No.: | A206 | | (26) Furnace Room, South Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4219000 | Description / Location: | White Joint Compound | |
| Client No.: | A207 | | (26) Furnace Room, East Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.7 | Chrysotile | None Detected | None Detected | PC 96.3 |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4219001 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A208 | | (26) Air Drying Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.5 | Chrysotile | None Detected | None Detected | PC 97.5 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4219002 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A209 | | (26) Office 2 SW Corner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.5 | Chrysotile | None Detected | None Detected | PC 99.5 |

| | | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|---|
| Lab No.: | 4219002 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A209 | | (26) Office 2 SW Corner | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4219003 | Description / Location: | Off-White Floor Tile; 9x9 | |
| Client No.: | A210 | | (26) Lab 3, South Side | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.75 | Chrysotile | None Detected | None Detected | PC 99.25 |

| | | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|---|
| Lab No.: | 4219003 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A210 | | (26) Lab 3, South Side | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011



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Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4219004 **Description / Location:** Off-White Floor Tile; 9x9
Client No.: A211 (26) Office 3

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC Trace | Chrysotile | None Detected | None Detected | 100 |

Lab No.: 4219004 **Description / Location:** Tan Mastic **Layer No.:** 2
Client No.: A211 (26) Office 3

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Lab No.: 4219005 **Description / Location:** Grey Transite
Client No.: A212 (26) Office 3, South & East Walls

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|-------------|--|---------------------------|
| Lab No.: | 4219006 | Description / Location: | Green Floor Tile; 9x9 |
| Client No.: | A213 | | (20) Bathroom, Hall North |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 0.5 | Chrysotile | None Detected | None Detected |
| | | | PC 99.5 |

| | | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|---|
| Lab No.: | 4219006 | Description / Location: | Tan Mastic | Layer No.: | 2 |
| Client No.: | A213 | | (20) Bathroom, Hall North | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | |
|--------------------|-------------|--|---------------------------|
| Lab No.: | 4219007 | Description / Location: | Green Floor Tile; 9x9 |
| Client No.: | A214 | | (26) Bathroom, Hall South |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected |
| | | | PC 98.7 |

| | | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|---|
| Lab No.: | 4219007 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A214 | | (26) Bathroom, Hall South | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4219008 | Description / Location: | Green Floor Tile; 9x9 | |
| Client No.: | A215 | | (26) Women's, Bathroom West | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Chrysotile | None Detected | None Detected | PC 99.75 |

| | | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|---|
| Lab No.: | 4219008 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A215 | | (26) Women's, Bathroom West | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4219009 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A216 | | (26) Women's, Bathroom West | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.1 | Chrysotile | None Detected | None Detected | PC 96.9 |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4219010 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A217 | | (26) Office 4, East Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.9 | Chrysotile | None Detected | None Detected | PC 97.1 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 4219011 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A218 | | (26) Main Hall, South (Center) Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.7 | Chrysotile | None Detected | None Detected | PC 97.3 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4219012 | Description / Location: | White Caulk | |
| Client No.: | A219 | | (14) Exterior, South Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4219013 | Description / Location: | Off-White Glazing | |
| Client No.: | A220 | | (14) Exterior, South Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4219014 | Description / Location: | Grey Cementitious | |
| Client No.: | A221 | | (14) Exterior, Bsmt Wall West | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 2/21/2011



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CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 4219015 **Description / Location:** Grey Cementitious
Client No.: A222 (14) Exterior, Bsmt Wall South

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Lab No.: 4219016 **Description / Location:** Grey Cementitious
Client No.: A222 (14) Exterior, Bsmt Wall East

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|---------------|-------------------------------|
| None Detected | None Detected | None Detected | None Detected | 100 |

Lab No.: 4219017 **Description / Location:** Tan Joint Compound
Client No.: A224 (26) Main Hall At Attic Stairs

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 2.0 | Chrysotile | None Detected | None Detected | 98 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------|--------------------------------|----------------------------|--|
| Lab No.: | 4219018 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A225 | | Attic NW | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 0.75 | Actinolite | None Detected | None Detected | PC 99.25 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------|--------------------------------|----------------------------|--|
| Lab No.: | 4219019 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A226 | | Attic Middle East | |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|-------------|--|---------------|-------------------------------|
| PC 1.25 | Actinolite | None Detected | None Detected | PC 98.75 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Fisher

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4219020 | Description / Location: | Tan Vermiculite Insulation | |
| Client No.: | A227 | | Attic South East | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Actinolite | None Detected | None Detected | PC 98.5 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4219021 | Description / Location: | Tan Wire Insulation | |
| Client No.: | A228 | | Attic Centre | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4219022 | Description / Location: | Grey Cementitious | |
| Client No.: | Dupl | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Fibrous Glass | 98 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4219023 | Description / Location: | Tan Ceiling Tile | |
| Client No.: | Dup2 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 98 | Cellulose | 2 |

| | | | | |
|--------------------|-------------|--|------------------------|-------------------------------|
| Lab No.: | 4219024 | Description / Location: | Off-White Cementitious | |
| Client No.: | Dup3 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4219025 | Description / Location: | Off-White Floor Tile | |
| Client No.: | Dup4 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4219025 | Description / Location: | Tan Mastic | Layer No.: 2 |
| Client No.: | Dup4 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4219026 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | Dup5 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 10 | Cellulose | 90 |

| | | | | |
|--------------------|-------------|--|-----------------|-------------------------------|
| Lab No.: | 4219027 | Description / Location: | Grey Insulation | |
| Client No.: | Dup6 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 85 | Chrysotile | 5 | Cellulose | 10 |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4219028 | Description / Location: | Off-White Floor Tile | |
| Client No.: | Dup7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4219028 | Description / Location: | Black Mastic | Layer No.: 2 |
| Client No.: | Dup7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------|-------------------------------|
| Lab No.: | 4219029 | Description / Location: | Grey Transite | |
| Client No.: | Dup8 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|--------------------|-------------------------------|
| Lab No.: | 4219031 | Description / Location: | Tan Joint Compound | |
| Client No.: | Dup9 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.9 | Chrysotile | None Detected | None Detected | PC 98.1 |

| | | | | |
|--------------------|-------------|--|-------------------------------|-------------------------------|
| Lab No.: | 4219031 | Description / Location: | Pink/White/Tan Joint Compound | |
| Client No.: | Dup10 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | |
|--------------------|-------------|--|----------------------|-------------------------------|
| Lab No.: | 4219032 | Description / Location: | Off-White Floor Tile | |
| Client No.: | Dup11 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.1 | Chrysotile | None Detected | None Detected | PC 98.9 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011



9000 Commerce Parkway, Ste B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------|-------------------------------|
| Lab No.: | 4219033 | Description / Location: | Grey Transite | |
| Client No.: | Dup12 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: B. Hargrove

Date: 2/21/2011

NOTICE OF ANALYTICAL CAPABILITIES

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Notice Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

This notice is not intended to replace the Certificate of Analysis or other data associated with the analysis of bulk materials. Instead, IATL has observed that the samples may not fit standard methods usually prescribed for the analysis of asbestos. We hope to communicate these observations so that more appropriate means of analysis may be considered. Please call the Laboratory Director for specific alternatives or further explanation of this notice.

Discussion:

The above referenced sample(s) were submitted for asbestos analysis via the EPA Method 600/R-93.116 "Method for the Determination of Asbestos in Bulk Building Materials". This method specifies the use of Polarized Light Microscopy (PLM) as the instrumental technique of choice to differentiate the fibrous components of a bulk sample and to quantify these components into percent by volume categories. This analytical method has appendent procedures that encompass other related asbestos techniques. These include procedures for the quantitative regimen of point counting and the gravimetric reduction of certain materials for analysis by PLM and Transmission Electron Microscopy (TEM) for results in weight percentages. Though an excellent method for building materials, it may not be adequate or the results may be limited by the following factors:

- Sample submitted on matrix material (soil, dust, debris, etc.) that may interfere with the detection of suspect asbestos fibers.
- Optical techniques (PLM) have limited resolution and may miss fine or small fibers inherent in many building products or that may have been released from building products into the atmosphere and on to surfaces.
- The method is limited to bulk building materials.
- The method requires minimum sampling 15 cc of material for verifiable quantitative results.
- The method may not produce detection levels now required for certain health and safety recommendations.
- Other established matrix specific methods may be more applicable.

Recommendations:

IATL recommends the following alternative to either the sampling protocol and/or analytical methodology to improve both qualitative and quantitative results:

- ☐ ASTM D5755-02 "Standard Method for Microvacuum Sampling and Indirect Analysis of Surface Dust by TEM for Asbestos Structure Concentrations on Surfaces".
- ☐ ASTM D5756-02 "Standard Method for Microvacuum Sampling and Indirect Analysis of Surface Dust by TEM for Asbestos Mass Concentrations".
- ☐ ASTM D6480-99 "Standard Method for Wipe Sampling of Surfaces, Indirect Preparation, and Analysis for Asbestos Structure Concentrations".
- ☐ EPA Region I Proprietary Method for the Determination of Asbestos in Soils, Sludges, and Sediments by PLM.
- ☐ Modified EPA Region I Proprietary Method for the Determination of Asbestos in Soils, Sludges, and Sediments by TEM.
- ☒ CARB 435 Method Determination of Asbestos Content in Serpentine Aggregate.
- ☒ EPA 600/R-04/004 Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation. [SEE PAGE 2 OF THIS DOCUMENT FOR FURTHER INFORMATION]

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlined in the EPA 600/R-04/004 Method:

| <u>Analytical Step/Method</u> | <u>Requirements/Comments</u> | <u>Pricing/TurnAroundTimes</u> |
|---|--|--|
| 1. Initial Screening by PLM EPA 600R-93/116 | Minimum 0.1g of sample ~0.25% LOQ for most samples | \$35.00 - \$50.00 3-5 Day to Same Day* |
| 2. Wet Separation by PLM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Sinks' only | \$ 60.00 3-5 Day 0.25% LOQ \$120.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |
| 3. Wet Separation by PLM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Floats' only | \$ 60.00 3-5 Day 0.25% LOQ \$120.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |
| 4. Wet Separation by TEM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Sinks' only | \$150.00 3-5 Day ~0.25% LOQ \$200.00 3-5 Day ~0.1% LOQ \$360.00 3-5 Day ~0.01% LOQ |
| 5. Wet Separation by TEM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Suspension' only | \$150.00 3-5 Day 0.25% LOQ \$200.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |

1 thru 5 above represents worst case scenario for negative confirmation at <0.01% = \$1475.00

LOQ, Limit of Quantitation estimates for mass and volume analyses.

* With advance notice and confirmation by the laboratory.

** Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample)

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: _____
Project No.: 11166B

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions: _____

Type:

| <u>Asbestos</u> | | <u>Lead</u> | | <u>Other</u> | |
|--|--------------------------------|--------------------------------|--------------------------------|--------------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other _____ | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead in Drinking Water | | <input type="checkbox"/> TEM : Other _____ |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> Total Dust : NIOSH 0500 |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | |
| <input type="checkbox"/> AAS : Other Metals / Soil _____ | | |

Turnaround

Time: elvie

email results elvie@ballastenvironmental.com

FAX: _____ **Verbals:** _____

date / time date / time

| | | | | | | |
|--|---|--------------------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------|
| <input type="checkbox"/> 10 Day | <input checked="" type="checkbox"/> 5 Day | <input type="checkbox"/> 3 Day | <input type="checkbox"/> 2 Day | <input type="checkbox"/> 1 Day | <input type="checkbox"/> 6 hour | <input type="checkbox"/> RUSH |
| Preliminary FAX/Verbal Results Requested by: _____ | | | | | | |

Sample

Numbers:

Client #(s): A1-A11, A131-A229 IATL#(s): _____ Total: _____
(start) (end) (start) (end)

Chain of Custody:

Dupl - Dup12
(see attached)

Relinquished: Elvie Reinson
Received: _____
Sample Log-in: 211714
Sample Prep: _____
Analyzed: 2-21-11 2:04 PM
QA/QC Review: [Signature]

| RECEIVED | |
|-----------------------|-------------|
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| Date: _____ | Time: _____ |
| IATL - By [Signature] | |

Archived/Released: _____ QA/QC InterLAB Use: _____ Date: _____ Time: _____

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: _____
Project No.: 11166B

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions: _____

Type:

| Asbestos | | Lead | | Other | |
|--|--------------------------------|--------------------------------|--------------------------------|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other _____ | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** (**call to confirm TAT!) | <input type="checkbox"/> TEM : Microvac / Wipe |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | | <input type="checkbox"/> TEM : Asbestos in Water |
| <input type="checkbox"/> AAS : Lead in Drinking Water | | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | <input type="checkbox"/> TEM : Other _____ |
| <input type="checkbox"/> AAS : Other Metals / Soil _____ | | <input type="checkbox"/> Total Dust : NIOSH 0500 |

Turnaround

email results

FAX: _____ **Verbals:** _____

Time: elvied

date / time

date / time

| | | | | | | |
|--|---|--------------------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------|
| <input type="checkbox"/> 10 Day | <input checked="" type="checkbox"/> 5 Day | <input type="checkbox"/> 3 Day | <input type="checkbox"/> 2 Day | <input type="checkbox"/> 1 Day | <input type="checkbox"/> 6 hour | <input type="checkbox"/> RUSH |
| Preliminary FAX/Verbal Results Requested by: _____ | | | | | | |

Sample

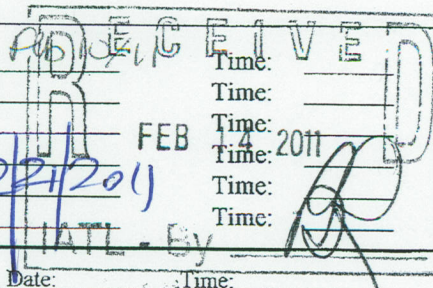
Numbers:

Client #(s): A1-A11, A131-A222 IATL#(s): _____ - _____ Total: _____
(start) + (end) (start) (end)

Chain of Custody:

Dupl - Dupl2
(see attached)

| | | |
|-----------------------------|---------------|-------------|
| Relinquished: Elvie Reinson | Date: _____ | Time: _____ |
| Received: _____ | Date: _____ | Time: _____ |
| Sample Log-in: 211714 | Date: _____ | Time: _____ |
| Sample Prep: _____ | Date: _____ | Time: _____ |
| Analyzed: _____ | Date: 22/2/01 | Time: 2011 |
| QA/QC Review: _____ | Date: _____ | Time: _____ |
| Archived/Released: _____ | Date: _____ | Time: _____ |
| QA/QC InterLAB Use: _____ | Date: _____ | Time: _____ |



BULK MATERIAL SAMPLING LOG

 Worksite: Beaverlodge Date: Feb 4/11

 Client: PLGSC Job No.: 11066B

 Date Results Required: _____ No. Samples: _____ Page 1 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------|-----------------------|--|--------------|---------------------------|------------|
| A1 | white/silver | white sink insulation | (15) South lab sinks | good 4218815 | 2 sinks | 109-0637 |
| A2 | white | ceiling tile | (15) growth cabinet ceiling | good 4218816 | entire main floor ceiling | 109-0638 |
| A3 | white w/ gray | 9x9 floor tile | (15) South lab floor tile - E wall | good 4218817 | South lab area's storage | 109-0641 |
| A4 | " | " | (15) " west doorway | fair 4218818 | " | 109-0649 |
| A5 | " | " | (15) South storage | fair 4218819 | " | 109-650 |
| A6 | white | ceiling tile | (15) South storage ceiling | good 4218820 | entire main floor | 109-648 |
| A7 | white/blue | 12x12 floor tile | (15) west door way | poor 4218821 | 3/4 main floor | 109-0652 |
| A8 | " | " | (15) main floor office | poor 4218822 | " | 109-0660 |
| A9 | " | " | (15) middle of north lab | " 4218823 | " | 109-0662 |
| A10 | white | ceiling tile | (15) north lab ceiling | " 4218824 | entire main floor | 109-0664 |
| A11 | grey | counter top | (15) north lab counter on north wall | fair 4218825 | 2' x 11.5' | 109-0667 |
| A12 | grey | " | (15) north lab counter on east wall | fair 4218826 | 6.5' x 2' x 4" thick | 109-0668 |
| A13 | grey | board fume hood | (15) north lab fume hood | good 4218827 | 5' x 2' all sides | 109-0669 |
| A14 | grey | insulating board | (15) north lab inside acid cabinet under fume hood | good 4218828 | 3' x 2' cabinet size | 109-0671 |

ASB

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 4/11
 Client: PhageSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 2 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------|---------------------|--|--------------|------------------------|------------|
| A15 | yellow | drywall puddy | (15) utility room NW corner | good 4218829 | utility room | 109-0677 |
| A16 | " | " | (15) utility room SW corner | " 4218830 | " | 109-0676 |
| A17 | white | insulat fibre board | (15) hallway bulletin board | " 4218831 | hallway 4'x2' | 109-0678 |
| A18 | white & blue | 12x12 floor tile | (15) hallway / utility room | fair 4218832 | 3/4 main floor | 109-0679 |
| A19 | white | ceiling tile | (15) main floor east entrance | good 4218833 | entire main floor | 109-0680 |
| A20 | grey | counter top | (15) 2nd FL table adjacent stairs | poor 4218834 | 5'1/2' x 2'1/2' | 109-0686 |
| A21 | green | " | (15) " (east) | fair 4218835 | 2'1/2' x 4' | 109-0688 |
| A22 | brown | " | (15) cabinet counter on east wall 2nd FL | fair 4218836 | 13' x 2' | 109-0689 |
| A23 | black | " | (15) table on south wall 2nd FL | poor 4218837 | 2'1/2' x 4'1/2' | 109-0696 |
| A24 | white | insulating board | (15) door b/t 1st & 2nd floor | poor 4218838 | 3' x 7' door & ceiling | 109-0697 |
| A25 | " | " | (15) ceiling south of 3rd FL stairs | good 4218839 | 10' x 10' | 109-0698 |
| A26 | white / brown | fibre board | (15) 2nd FL walls SE corner | fair 4218840 | east & west walls | 109-0699 |
| A27 | " | " | " NE corner | " 4218841 | 3/4 | 109-0700 |
| A28 | " | " | " NW side | " 4218842 | (lost 1/4 wood) | 109-0701 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 4/11
 Client: PLWGS Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 3 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|------------------------------|--|--------------------|-----------------------------|------------|
| A29 | black | tar paper | (S) 2nd FL South east end | good 4218843 | 1015 end of built 2nd FL | 109-0710 |
| A30 | black | " | (S) main FL South storage ceiling | " 4218844 | entire ceiling built | 109-0648 |
| A31 | green | Cino | (S) main FL office | 4218845 4218846 | main office floor #4 | 109-0660 |
| A32 | " | leveling compound | (S) middle of north lab | " | office only | 109-0662 |
| A33 | brown | lino | (1) main; east door shoe rack | fair 4218847 | 5' x 3' + shelves | 109-0761 |
| A34 | white | drywall joint compound | (1) Bsm + east stairwell | good 4218848 | all | 109-0768 |
| A35 | blue | drywall puddy | (1) Bsm + office ceiling | 4218849 good | " | 109-0769 |
| A36 | blue speckle | sheet lino | (1) Bsm + office at floor drain | " 4218850 | bsmt office + computer room | 109-0771 |
| A37 | white | drywall puddy | (1) bsmt hall | poor 4218851 | entire | 109-0772 |
| A38 | white | pipe wrap | (1) bsmt library tape on Fiberglass insulation | good 4218852 | 7m | 109-0777 |
| A39 | white | 12"x12" holes ceiling | (1) bsmt library north strip | good 4218853 | 3' wide | 109-0778 |
| A40 | white | 12"x12" grid | (1) bsmt library rear ceiling | good 4218854 | remaining library | 109-0779 |
| A41 | brown white | 9"x9" brown/white floor tile | (1) bsmt hallway floor | Fair 4218855 | 1/2 hallway (4m) | 109-0783 |
| A42 | white | drywall puddy | (1) bsmt furnace room | good 4218856 | all | 0784 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 5/11
 Client: PWCSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 4 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------|----------------------------|-----------------------------|--------------|---------------------------|------------|
| A43 | yellow | insulating board | ① make-up air duct - bsmt | good 4218857 | 2'x7' | 109-0787 |
| A44 | silver | sink insulation | ① bsmt utility furnace room | fair 4218858 | 1 sink | 109-0788 |
| A45 | white | 12"x12" holes ceiling tile | ① bsmt storage room | good 4218859 | room | 109-0792 |
| A46 | silver | sink insulation | ① bsmt dark room | good 4218860 | 1 sink | 109-0793 |
| A47 | black | fiber board | ① bsmt " | good 4218861 | ceiling & 2 walls | 109-0794 |
| A48 | blue | blue speckle Sheet Lin | ① bsmt storage room | good 4218862 | floor | 109-0795 |
| A49 | brown | squares Lin | ① bsmt Conference room | good 4218863 | conference, hall, kitchen | 109-0800 |
| A50 | white | 12x12 holes ceiling tile | ① bsmt conference room | good 4218864 | room | 109-0808 |
| A51 | white | drywall puddy | ① bsmt sw corner | good 4218865 | new part of building | 109-0809 |
| A52 | " | " | ① bsmt kitchen SE corner | " 4218866 | " | 109-0810 |
| A53 | bronze | sink insulation | ① bsmt kitchen sink | " 4218867 | 2 sinks | 109-0811 |
| A55 | white | 12x12 holes ceiling tile | ① main hall (middle) | " 4218868 | entire except entry | 109-817 |
| A56 | brown | squares Lin | ① main storage east | poor 4218869 | - | 109-816 |
| A57 | white | 12x12 holes ceiling tile | ① main office SE corner | Good 4218870 | entire except entry | 109-815 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 5/11
 Client: ARLSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 5 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-------------|--|-----------------------------------|--------------|-------------------|------------|
| AS8 | green | joint material dry local plaster | ① main reception closet | good 4218871 | entire | 109-0820 |
| AS9 | green | " | ① main office 1 sw corner | good 4218872 | " | 109-0819 |
| A60 | white | ceiling texture | ① main hall in front of reception | " 4218873 | " ceiling | 0821 |
| A61 | " | " | ① main hall at east stairs | " 4218874 | " + 1' down | 0822 |
| A62 | " | " | ① main office 3 SW area | " 4218875 | " wall | 0823 |
| A63 | " | 12x12 holes ceiling tile | ① main office 5 sw corner | " 4218876 | entire ceiling | 0824 |
| A64 | " | " | ① main reception North | " 4218877 | " | 0825 |
| A65 | pink | joint compound | ① main office 4 3 SW corner | " 4218878 | walls | 109-0826 |
| A66 | white | " | ① 2nd attic access | " 4218879 | walls + ceiling | 0842 |
| A67 | " | " | ① 2nd fl office 25 South wall | " 4218880 | " | 0843 |
| A68 | " | " | ① 2nd fl office 20 NW corner | " 4218881 | all walls ceiling | 109-0851 |
| A69 | brown | insulating paper | ① 2nd fl attic access | " 4218882 | building | 109-0857 |
| A70 | rough white | stucco | ① exterior main entrance | " 4218883 | " | 109-0861 |
| A71 | " | " | ① exterior " | 4218884 | " | |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 5/11
 Client: PLGSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 6 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------------|----------------------|--------------------------------|---|-------------------|--------------------|----------------------------|
| A72 | grey/ stucco | stucco | ① " | good | 4218885 | entire exterior building |
| A73 | white | 12x12 grid w/ins | ① bsmt Library west | " | 4218886 | Library Culhr |
| A74 | " | " | ① bsmt Library NE | " | 4218887 | " |
| A75 | brown/ white | 9'x9" brown/white floor tile | ① bsmt hallway | fair | 4218888 | 1/2 hallway |
| A76 | gray | Cement | ① exterior under stucco NE corner | good | 4218889 | entire building |
| A77 | " | " | ① exterior under stucco NW wall | good | 4218890 | " |
| A78 | gray | Cement board | ⑱ bsmt Cooler #7 outside wall | good | 4218891 | 4 Coolers |
| A79 | gray | Caulking | ⑱ bsmt Cooler #2 inside | " | 4218892 | " |
| A80 | gray | Cement board | ⑱ bsmt cooler #2 inside wall | " | 4218893 | " |
| A81 | " | " | ⑱ bsmt cooler #4 ceiling | " | 4218894 | " |
| A82 | black | door seal | ⑱ bsmt cooler door #2 | " | 4218895 | " |
| A83 | gray | perchment | ⑱ stairwell on south wall | " | 4218896 | 1/2 wall |
| A84 | dark grey | insulation caulking | ⑱ cooler 4 ⑱ door exterior windows | " poor | 4218897 | off all windows |
| A84 | brown | brown stucco | ⑱ south lab | good | 4218897 | south lab |

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 5/11
 Client: ProGSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 7 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-----------------|------------------|--|--------------|----------------------|------------|
| A85 | white | insulation | (18) South lab Sink insulation | good 4218898 | 2 sinks | 109-0895 |
| A86 | gray | cement board | (18) North lab fume hood | good 4218899 | 2'x4' cut sides | 109-0896 |
| A87 | gray | planchment | (18) exterior on concrete | " 4218900 | att perimeter | 109-0898 |
| A88 | black | ten paper | (18) exterior SW corner | " 4218901 | exterior building | 109-0902 |
| A89 | brown | vermiculite | (18) attic North | " 4218902 | attic space | 109-0904 |
| A90 | " | " | (18) attic South | " 4218903 | " | " |
| A91 | " | " | (18) attic east | " 4218904 | " | " |
| A92 | gray | mortar | (18) chimney on north side of building | Fair 4218905 | whole chimney | 109-0906 |
| A93 | brown | fiber board | (10) office 4 bulletin board | good 4218906 | all the bulletin | 109-0935 |
| A94 | brown streak | tile | (10) office 10 floor | good 4218907 | entire building | 109-0943 |
| A95 | " | tile | (10) storage 8 floor | good 4218908 | " | 109-0953 |
| A96 | black/silver | light insulation | (10) office 4 light fixture backing | good 4218909 | 1000 1 | 109-0959 |
| A97 | white/rose | lino | (10) 2nd floor washrooms | Fair 4218910 | Bedroom 5 | 109-0965 |
| A98 | brown | 12x12 floor tile | (10) 2nd fl office 5 | good 4218911 | entire building | 109-0968 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 6/11
 Client: Phog SC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 8 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|-----------------|-------------------------|---------------------------|---------------------------------------|--------------------|-----------------------------------|---------------------|
| A99 | white | 12'x12' grid ceiling tile | 2nd FL hallway middle | good 4218912 | 2nd floor building | 109-0976 |
| A100 | " | 12'x12' grid ceiling tile | 10 2nd FL hallway NE | " 4218913 | building | 109-0977 |
| A101 | " | " | 10 Main FL cut breaker box | " 4218914 | " | 109-0987 |
| A102 | silver/black | insulation | 10 Main FL storage light | " | all in. light fixtures | 109-0990 |
| A103 | brown/black | wall tile | 10 Main entrance hall | " 4218915 | 30' long x 5' high | 110-0001 |
| A104 | white | Fibre board | 10 Main FL hall bulletin board | " 4218916 | 2'x3' (all bulletin) | 110-0003 |
| A105 | white | 12x12 grid ceiling tile | 10 Main FL SW Lab | " 4218917 | all. | 109-0999 |
| A106 | " | " | 10 Main FL SE lab east wall | good 4218918 | " | 110-0009 |
| A107 | gray | wall tile | 10 Main FL SW Lab | " 4218919 | " SW Lab | 110-0015 |
| A108 | brown green | Floor tile | 10 Main FL W/E SW & NW lab | " 4218920 covered. | SW Lab / Storage all | 110-0017 |
| A109 | gray | Cement board | 10 Main FL NW Lab frame hood | " 4218921 | all in frame hood. | 110-0021 |
| A110 | gray | " | 10 Main FL NW Lab sink backsplash | Fair 4218922 | 2 1/2 m x 2" | 110-0025 |
| A111 | brown | Fibre board | 10 Main FL 2nd Entry stairwell | good 4218923 | Entry stairwell | 110-0029 |
| A112 | yellow | floor tile | 10 NW Entry - upper stairs | Fair | 6 runners | 110-0034 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 6/11
 Client: PWQSC Job No.: 111668
 Date Results Required: _____ No. Samples: _____ Page 10 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|-----------|------------|-------------------------|------------------------------------|--------------|-------------------|------------|
| → A127 | white | drywall Puddy | (10) janitor closet 2nd FL | good | all | 110-0108 |
| → A128 | | | (10) 2nd FL storage closet | good | | 110-0109 |
| → A129 | | | (10) Main FL enclos electrical box | " | | 110-0110 |
| → A130 | | | (10) Main FL NW entrance | " | | 110-0111 |
| A131 | white/grey | stucco/cement | (10) exterior N wall entrance | good 4218924 | all exterior | 110-112 |
| mm A132 | " | " | (10) exterior S main entrance | " 4218925 | " | 110-113 |
| 2/11 A133 | " | " | (10) exterior NW corner | " 4218926 | " | 110-118 |
| A134 | black | tar paper | (10) exterior N wall entrance | " 4218927 | " | 110-0112 |
| ↓ A135 | grey | 12"x12" floor tile | (14) entry tile under Lino | Fair 4218928 | room | 110-0128 |
| A136 | white | 12x12 flat ceiling tile | (14) entry ceiling tile | good 4218929 | " | 110-0130 |
| A137 | white/grey | 9x9 floor tile | (14) porch floor | Poor 4218930 | " | 110-0136 |
| A138 | white | stucco | (14) porch-west building wall | good 4218931 | exterior building | 110-0137 |
| A139 | grey | cement board | (14) SW Lab leaning on wall x2 | good 4218932 | 2'x8' & 2 1/2'x5' | 110-0139 |
| A140 | white | drywall Puddy | (14) SW Lab SW corner | good 4218933 | all drywall | 110-0140 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 7/11
 Client: PWS SC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 1 of 1

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|------------------|--------------------------|----------------------------------|--------------|------------------|------------|
| A141 | bronze | sink insulation | (14) SW Lab sinks | good 4218934 | 2 sinks | 110-0143 |
| A142 | white | 12x12 holes ceiling tile | (14) SW Lab ceiling | " 4218935 | room | 110-0144 |
| A143 | white/gray/brown | 9x9 floor tile | (14) SW Lab floor | fair 4218936 | " | 110-0145 |
| A144 | gray | pluchment | (14) furnace room N wall | good 4218937 | wall | 110-0153 |
| A145 | gray/blue | 12x12 floor tile | (14) " floor | fair 4218938 | room | 110-0152 |
| A146 | white | drywall puddy | (14) " walls | fair 4218939 | all drywall | 110-0147 |
| A147 | white | sink insulation | (14) washroom sink | poor 4218940 | sink | 110-0155 |
| A148 | white | spackle ceiling tile | (14) " ceiling | good 4218941 | room | 110-0157 |
| A149 | black/white | fabric | (14) storage ceiling | fair 4218942 | ceiling | 110-0164 |
| A150 | white | puddy | (14) growth chamber room ceiling | fair 4218943 | " | 110-0169 |
| A151 | " | spackle ceiling tile | (14) main PL hall | good 4218944 | " | 110-0165 |
| A152 | brown | fibre board | (14) growth chamber room ceiling | fair 4218945 | " | 110-0170 |
| A153 | light brown | 9x9 floor tile | (14) understairs floor | poor 4218946 | room | 110-0174 |
| A154 | dark brown | " | (14) understairs floor | poor 4218947 | room | 110-0174 |

ASb

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 7/11
 Client: PLGASC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 12 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-----------------|----------------------|--------------------------|--------------|--|------------|
| A155 | light brown | 9x9 Floor tile | (14) NW Lab floor | Fair 4218948 | room | 110-0178 |
| A156 | dark brown grey | 9x9 Floor tile | " | " 4218949 | " | 110-" |
| A157 | grey | cement board | (14) NW Lab fume hood | good 4218950 | 4'x3'x4' Fume hood. | 110-0179 |
| A158 | white | puddly. | (14) NW Lab ceiling | fair 4218951 | all | 110-0180 |
| A159 | white / grey | perchment | (14) NW Lab north wall | good 4218952 | North wall & fume hood | 110-0181 |
| A160 | gray | sink insulation | (14) NE lab Sinks | good 4218953 | 2 sinks | 110-0197 |
| A161 | white | Flat Ceiling tile | (14) NE lab Ceiling N | poor 4218954 | ceiling | 110-0187 |
| A162 | brown | squares sheet leno | (14) NE lab west corner | poor 4218955 | room + entry to room | 110-0190 |
| A163 | white | Flat ceiling tile | (14) NE Lab East | " 4218956 | ceiling | 110-0187 |
| A164 | white | " | (14) NE Lab South. | " 4218957 | " | " |
| A165 | white | spackle ceiling tile | (14) Hall - South end | good 4218958 | <input checked="" type="checkbox"/> IATL 4218958 sample not taken | |
| A166 | gray | cement board | (14) up power panel room | good 4218959 | wall & ceiling | 110-0211 |
| A167 | dark gray | 9x9 Floor tile | (14) " | fair 4218960 | Floor | 110-0210 |
| A168 | " | " | (14) " | " 4218961 | " | " |

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 7/11
 Client: PWGSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 3 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|--------------------------|--------------------------------------|------------------------|------------------|------------|
| A169 | white | 12x12 holes ceiling tile | (14) Lab 1 | Fair 4218962 | 2nd FL ceiling | 110-0218 |
| A170 | white | sink insulation | (14) Lab 1 sinks | good 4218963 | 2 sinks | 110-0215 |
| A171 | white/gray | 9x9 floor tile | (14) Lab 1 North wall | poor 4218964 | all 2nd FL. | 110-0216 |
| A172 | white | sink insulation | (14) Lab 2 N Sink | " 4218965 | 3 sinks | 110-0233 |
| A173 | white | 12x12 holes ceiling tile | (14) Lab 2 North ceiling | " 4218966 | all. | 110-0232 |
| A174 | white/gray | 9x9 floor tile | (14) Lab 2 NE corner | " 4218967 | " | 110-0237 |
| A175 | white | 12x12 holes ceiling tile | (14) up stairs hall S wall | Fair 4218968 | " | 110-0245 |
| A176 | white/gray | Cement board | (14) upstairs hall south west corner | poor 4218969 (damaged) | 6' x 3' | 110-0242 |
| A177 | " | " | (14) office 1 ceiling above stairs | good 4218970 | all | 110-0250 |
| A178 | white/gray | 9x9 floor tile | (14) office 2 floor NE corner | good 4218971 | " | 110-0254 |
| A179 | white | Stucco | (14) exterior North door | " 4218972 | all - exterior | |
| A180 | white | Stucco | (14) exterior South west corner | " 4218973 | " | 110-0260 |
| A181 | brown/silver | Vermiculite | (17) attic SE acces | good 4218974 | entire attic | 110-0291 |
| A182 | " | " | (17) attic " | " 4218975 | " 6 inches deep | 110-0293 |

BULK MATERIAL SAMPLING LOG

 Worksite: Beaver Lodge Date: Feb 8 / 2011

 Client: PWGSC Job No.: 11166 B

 Date Results Required: _____ No. Samples: _____ Page 14 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|----------------|-----------------------------------|---------------------------------|--------------|------------------------------|------------|
| A183 | brown / silver | vermiculite | (17) Attic " | good 4218976 | entire attic (6 inches deep) | 110-0303 |
| A184 | white | putty | (17) GARAGE CEILING SE | good 4218977 | entire ceiling | 110-0296 |
| A185 | brown / silver | vermiculite | (17) Attic SW access | " 4218978 | entire attic | 110-0303 |
| A186 | white / grey | putty board | (17) Office SW corner | " 4218979 | | 110-0348 |
| A187 | grey | 12x12 floor tile | (17) office door | " 4218980 | Bathroom & office | 110-0349 |
| A188 | light grey | " | (17) office middle | " 4218981 | 9 tiles | 110-0350 |
| A189 | grey | 4x9 floor tile | (17) Bathroom | " 4218982 | | 110-0352 |
| A190 | white | putty | (17) Bathroom NE corner | " 4218983 | Bathroom floor | 110-0351 |
| A191 | white | caulking | (17) SE window | Poor 4218984 | 8 windows | 110-0363 |
| A192 | white / blue | 9x9 floor tile | (35) office 1 floor NE | Fair 4218985 | office | 110-0370 |
| A193 | grey / black | 12x12 grey/black floor tile | (35) office 1 floor NE | Fair 4218986 | 2 strips | " |
| A194 | white | 12x12 holes ceiling tile | (35) office 1 ceiling SW corner | good 4218987 | " | 110-0373 |
| A195 | " | 12x12 flat ceiling tile | (35) Bathroom ceiling | " 4218988 | room | 110-0377 |
| A196 | " | 12x12 holes ceiling tile | (35) main entry west wall | " 4218989 | room | 110-0379 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 8/11
 Client: PWASC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 5 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|-------------------------|----------------|------------------|--------------------------------------|------------------------------|----------------------------|----------------------|
| A197 A196 | white | drywall putty | (35) office 2 | good 4218990 | 8" room | 110-0385 |
| A198 | brown grey | vermiculite | (35) cinderblock wall | " 4218991 | wall. | 110-0415 |
| A199 | grey | putty | (26) thrashing room south wall | poor fair 4218992 | | 110-0450 |
| A200 | grey | cement board | (26) thrashing room NW enclosure | good 4218993 | NW enclosure walls/ceiling | 110- 0463 |
| A201 | white/ grey | 9x9 floor tile | (26) Lab 1 south floor | " 4218994 | Lab 1 floor | 110-0468 |
| A202 | white/ grey | duct tape | (26) Lab 1 NE pipe | fair 4218995 | | 110-0469 |
| A203 | white/ grey | 12x12 floor tile | (26) office 1 | good 4218996 | office 1 floor | 110-0470 |
| A204 | grey | putty | (26) seed storage | poor 4218997 | all walls | 110-0478 |
| A205 | black | door seal | (26) cooler door | " 4218998 | around door | 110-0480 |
| A206 | grey/ white | cement board | (26) furnace room south wall | good 4218999 | 8 foot x 7 ft | 110-0488 |
| A207 | grey | putty | (26) furnace room east wall | poor 4219000 | all walls | 110-0489 |
| A208 | grey | putty | (26) Drying room Air room | good 4219001 | all walls | 110-0520 |
| A209 | white/ grey | 9x9 floor tile | (26) office 2 southwest corner | good 4219002 | office 2 floor | 110-0524 |
| A210 | white/ grey | 12x12 floor tile | (26) Lab 3 south side | good 4219003 | Lab 3 floor | 100-0022 |

BULK MATERIAL SAMPLING LOG

 Worksite: Beaver Lodge Date: Feb 8/11

 Client: PWUSC Job No.: 11166B

 Date Results Required: _____ No. Samples: _____ Page 16 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|--------------------|------------------------------------|----------------------------|--------------------------------|------------|
| A211 | white / grey | 9x9 floor tile | (26) Office 3 | good 4219004 | # tiles = 14x25 | 100-0024 |
| A212 | grey | cement counter top | (26) office 3 south + east walls | good 4219005 | 14x25 tiles 12 feet | 100-0025 |
| A213 | green | 9x9 floor tile | (26) Bathroom hall north | good 4219006 4219007 | Hall floor | 100-0027 |
| A214 | green | " | (26) Bathroom hall south | good poor | " | 100-0029 |
| A215 | green | " | (26) women's Bathroom west | good 4219008 | Women's Bathroom floor | 100-0030 |
| A216 | grey | putty | (26) " west | poor 4219009 | all walls | 100-0033 |
| A217 | grey | putty | (26) office 4 east wall | poor 4219010 | all walls | 100-0037 |
| A218 | grey | putty | (26) MAIN HALL south (center) wall | poor 4219011 | all walls | 100-0042 |
| A219 | white | putty caulking | (14) exterior south wall | " 4219012 | | 100- |
| A220 | white | caulking | (14) exterior south window | " 4219013 | all windows | 100- |
| A221 | gray | putty | (14) exterior bsmt wall west | " 4219014 | exterior bsmt | 100- |
| A222 | " | " | (14) " south | " 4219015 | " | 100- |
| A223 | " | " | (14) " east | " 4219016 | " | 100- |
| A224 | white | putty | (26) Main hall at attic stairs | poor 4219017 | all | 100-0534 |

Dup

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 4/11
 Client: PWCSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 1 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|----------------------------|------------------------|----------|-----------|------------------|------------|
| Dup1 | gray | concrete | | 4219022 | | |
| Dup2 | brown | ceiling tile | | 4219023 | | |
| Dup3 | gray | cement | | 4219024 | | |
| Dup4 | whitish | tile | | 4219025 | | |
| Dup5 | green | cement | | 4219026 | | |
| Dup6 | white | insulation | | 4219027 | | |
| Dup7 | gray | floor tile | | 4219028 | | |
| Dup8 | gray | cement board | | 4219029 | | |
| Dup9 | white | putty | | 4219030 | | |
| Dup10 | white | " | | 4219031 | | |
| Dup11 | gray white/gray | cement tile | | 4219032 | | |
| Dup12 | cement gray | cement | | 4219033 | | |
| | | | | | | |
| | | | | | | |

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/9/2011
Project: Building 10
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|-------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210430 | Description / Location: | Grey Insulation | |
| Client No.: | A102 | | 10; Main FL, Storage Light | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 50 | Chrysotile | 30 | Cellulose | 20 |

| | | | | |
|-------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210440 | Description / Location: | Yellow Floor Tile | |
| Client No.: | A112 | | 10; NW Entry, Upper Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

| | | | | |
|-------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210440 | Description / Location: | Black Tar Paper | Layer No.: 2 |
| Client No.: | A112 | | 10; NW Entry, Upper Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Snyder

Approved By:

Date: 2/9/2011

Frank E. Ehrenfeld, III
Laboratory Director



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Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/9/2011
Project: Building 10
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|-------------------------|---|--|-------------|-------------------------------|
| Lab No.: 4210441 | Description / Location: Brown Floor Tile | | | |
| Client No.: A113 | 10; NW Entry, Stair Runner Down | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

| | | | | |
|-------------------------|--|--|-------------|-------------------------------|
| Lab No.: 4210441 | Description / Location: Black Tar Paper | Layer No.: 2 | | |
| Client No.: A113 | 10; NW Entry, Stair Runner Down | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

| | | | | |
|-------------------------|---|--|---------------|-------------------------------|
| Lab No.: 4210442 | Description / Location: Grey Floor Tile; 9x9 | | | |
| Client No.: A114 | 10; Bsmt, Storage 7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.0 | Chrysotile | None Detected | None Detected | 98 |

| | | | | |
|-------------------------|---|--|---------------|-------------------------------|
| Lab No.: 4210442 | Description / Location: Black Mastic | Layer No.: 2 | | |
| Client No.: A114 | 10; Bsmt, Storage 7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Snyder

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Building 10 |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4210443 | Description / Location: | Brown Floor Tile; 9x9 | |
| Client No.: | A115 | | 10; Bsmt, Storage 7 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.25 | Chrysotile | None Detected | None Detected | PC 96.75 |

| | | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|-------------------|---|
| Lab No.: | 4210443 | Description / Location: | Black Mastic | | Layer No.: | 2 |
| Client No.: | A115 | | 10; Bsmt, Storage 7 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | | |
| None Detected | None Detected | None Detected | None Detected | 100 | | |

| | | | | |
|--------------------|-------------|--|---------------------|-------------------------------|
| Lab No.: | 4210444 | Description / Location: | Tan Floor Tile; 9x9 | |
| Client No.: | A116 | | 10; Bsmt, Storage 8 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.25 | Chrysotile | None Detected | None Detected | PC 97.75 |

| | | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|-------------------|---|
| Lab No.: | 4210444 | Description / Location: | Black Mastic | | Layer No.: | 2 |
| Client No.: | A116 | | 10; Bsmt, Storage 8 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | | |
| None Detected | None Detected | None Detected | None Detected | 100 | | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Snyder

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Building 10 |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4210445 | Description / Location: | Brown Floor Tile; 9x9 | |
| Client No.: | A117 | | 10; Bsmt, Storage 8 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.50 | Chrysotile | None Detected | None Detected | PC 97.50 |

| | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|---|
| Lab No.: | 4210445 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A117 | | 10; Bsmt, Storage 8 | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210446 | Description / Location: | Black Tar/Caulk | |
| Client No.: | A118 | | 10; Bsmt Cooler, Storage 5 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210447 | Description / Location: | Black Caulk | |
| Client No.: | A119 | | 10; Bsmt Cooler, Storage 5 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 10 | Chrysotile | None Detected | None Detected | 90 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Snyder

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Building 10 |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|------------------------------|-------------------------------|
| Lab No.: | 4210448 | Description / Location: | Grey Aircell Pipe Insulation | |
| Client No.: | A120 | | 10; Bsmt, Storage | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 50 | Chrysotile | 35 | Cellulose | 15 |

| | | | | |
|--------------------|-------------|--|-------------------|-------------------------------|
| Lab No.: | 4210449 | Description / Location: | Grey Insulation | |
| Client No.: | A121 | | 10; Bsmt, Furnace | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | None Detected | None Detected | 35 |

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4210450 | Description / Location: | Grey Cement | |
| Client No.: | A122 | | 10; Bsmt, Storage 9 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4210451 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A123 | | 10; Bsmt, Storage 6 | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: T. Snyder

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Building 10 |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210452 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A124 | | 10; Bsmt, Storage 7 Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4210453 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A125 | | 10; Bsmt, Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|-----------------------------|-------------------------------|
| Lab No.: | 4210454 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A126 | | 10; 2nd FL, Office 6 Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.50 | Chrysotile | None Detected | None Detected | PC 98.50 |

| | | | | |
|---------------------|-------------|--|---------------------|-------------------------------|
| Lab No.: | 4210455 | Description / Location: | Sample Not Analyzed | |
| Client No.: | A127 | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| Sample Not Analyzed | | Sample Not Analyzed | | |

Note: Insufficient sample.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Snyder

Date: 2/9/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/9/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Building 10 |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------------------|-------------------------------|
| Lab No.: | 4210456 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A128 | | 10; 2nd FL, Storage Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.25 | Chrysotile | None Detected | None Detected | PC 98.75 |

| | | | | |
|--------------------|-------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4210457 | Description / Location: | White Joint Compound | |
| Client No.: | A129 | | 10; Main FL, Under Electrical Box | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4210458 | Description / Location: | ff-White Joint Compound | |
| Client No.: | A130 | | 10; Main FL, NW Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: T. Snyder

Date: 2/9/2011

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: Building 10
Project No.: 11166B

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions:

Type:

| Asbestos | | Lead | | Other | |
|--|--------------------------------|--------------------------------|--------------------------------|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Microvac / Wipe |
| | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Asbestos in Water |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead in Drinking Water | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> TEM : Other |
| <input type="checkbox"/> AAS : Lead Dust/Wipe | | <input type="checkbox"/> TEM : Total Dust : NIOSH 0500 |
| <input type="checkbox"/> AAS : Other Metals / Soil | | |

Turnaround Time:

email: elvie@

ballastenvironmental.com

FAX: _____ **Verbals:** _____
date / time date / time

| | | | | | | |
|--|--------------------------------|--------------------------------|--------------------------------|---|---------------------------------|-------------------------------|
| <input type="checkbox"/> 10 Day | <input type="checkbox"/> 5 Day | <input type="checkbox"/> 3 Day | <input type="checkbox"/> 2 Day | <input checked="" type="checkbox"/> 1 Day | <input type="checkbox"/> 6 hour | <input type="checkbox"/> RUSH |
| Preliminary FAX/Verbal Results Requested by: _____ | | | | | | |

Sample

Numbers:

Client #(s): A112 - A130
(start) + (end)

IATL #(s): _____ - _____ Total: _____
(start) (end)

Chain of Custody:

| | | | | | |
|--------------------|---------------|---------------------|--------------|-------|--|
| Relinquished: | Elvie Reinson | Date: | 2/6/11 | Time: | |
| Received: | | Date: | | Time: | |
| Sample Log-in: | 2/9/11 | Date: | | Time: | |
| Sample Prep: | | Date: | | Time: | |
| Analyzed: | | Date: | 2/9/11 | Time: | |
| QA/QC Review: | | Date: | FEB - 9 2011 | Time: | |
| Archived/Released: | | QA/QC InterLAB Use: | IATL - By | Date: | |
| | | | | Time: | |

BULK MATERIAL SAMPLING LOG

Worksite: Beaver Lodge Date: Feb 6/11
 Client: PLGSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 8 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|---------------------------|------------------------------------|----------------------|------------------------|--------------|
| A99 | white | 12'x12' grid ceiling tile | 2nd FL hallway middle | 4210427 good | IATL 4210427 | |
| A100 | " | 12'x12' grid ceiling tile | 2nd FL hallway NE | " 4210428 | IATL 4210428 | |
| A101 | " | " | 1st Main FL at breaker box | " 4210429 | " IATL 4210429 | |
| A102 | silver/black | insulation | 1st Main FL storage light | " 4210430 | all light fixtures | 101-0990 |
| A103 | brown/black | wall tile | 1st Main entrance hall | " 4210431 | 30' 5' IATL 4210431 | |
| A104 | white | Fibre board | 1st Main FL hall bulletin board | " 4210432 | 2' (all bulletin) | IATL 4210432 |
| A105 | white | 12x12 grid ceiling tile | 1st Main FL SW Lab | " 4210433 | all IATL 4210433 | |
| A106 | " | " | 1st Main FL SE lab east wall | good 4210434 | " IATL 4210434 | |
| A107 | gray | wall tile | 1st Main FL SW Lab | " 4210435 | " IATL 4210435 | |
| A108 | green | Floor tile | 1st Main FL Wt SW NW lab | " 4210436 covered | " IATL 4210436 | |
| A109 | grey | Cement board | 1st Main FL NW Lab fine wood | " 4210437 | " IATL 4210437 | |
| A110 | grey | " | 1st Main FL NW Lab sink backsplash | 4210438 fair | 2 1/2' IATL 4210438 | |
| A111 | brown | Fibre board | 1st Main FL NW entry stairwell | 4210439 good | " IATL 4210439 | |
| A112 | yellow | floor tile | 1st NW entry - upper stairs | 4210440 Fair | 6 runners IATL 4210440 | 10-0034 |

- Samples NOT Received

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 6/11
 Client: PWCSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 9 of 9

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-----------------|-------------------------|------------------------------------|-----------------------------|---------------------------|------------|
| → A113 | multi brown | Floor tile | (10) NW entry stairs runner down | Fair 4210441 | 9 runners | 110-0035 |
| → A114 | 9x9 light brown | " | (10) bsmt storage 7 | Poor 4210442 | 1/4 of bsmt | 110-0044 |
| → A115 | 9x9 dark brown | " | (10) " | ↓ 4210443 | ↓ | " |
| → A116 | 9x9 light brown | " | (10) bsmt storage 8 | ↓ 4210444 | ↓ | 110-0047 |
| → A117 | 9x9 dark brown | " | (10) " | ↓ 4210445 | ↓ | " |
| → A118 | black | caulking | (10) bsmt cooler storage 5 | good 4210446 | 2 places on north wall | 110-0060 |
| → A119 | gray | " | " | " 4210447 | around light wall edge | 10-0061 |
| → A120 | white | insulation | (10) bsmt (aircell storage 6 pipe) | " 4210448 | 2 both coolers | 10-0064 |
| → A121 | white | insulation | (10) bsmt Furnance insl. | Poor (water damage) 4210449 | Furnance 1.5m w x 5' tall | 10-0071 |
| → A122 | gray/green | Floor leveling compound | (10) bsmt storage 9 | Poor 4210450 | Storage 9 '8 | 110-0094 |
| → A123 | white | drywall puddy. | (10) bsmt storage 6 | Poor 4210451 | all | 110-0103 |
| → A124 | " | " | (10) bsmt storage 7 closet | " 4210452 | all | 110-0104 |
| → A125 | " | " | (10) bsmt hall | " 4210453 | all. | 110-0106 |
| → A126 | " | " | (10) 2nd fl office closet | 4210454 good | all | 110-0107 |

BULK MATERIAL SAMPLING LOG

Worksite: Beaverlodge Date: Feb 6/11
 Client: PWQSC Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 10 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|------------|---------------|-----------------------------------|---------------|------------------|------------|
| → A127 | white | drywall Puddy | (10) janitor closet 2nd FL | good 4210455 | all | 110-0108 |
| → A128 | ↓ | ↓ | (10) 2nd FL. storage closet | good. 4210456 | | 110-0109 |
| → A129 | ↓ | ↓ | (10) Main FL under electrical box | " 4210457 | | 110-0110 |
| → A130 | ↓ | ↓ | (10) Main FL NW entrance | " 4210458 | ↓ | 110-0111 |
| A131 | white/grey | stucco/cement | (10) exterior N wall entrance | good 4210459 | IATL 4210459 | |
| A132 | " | " | (10) exterior S main entrance | " 4210460 | IATL 4210460 | |
| A133 | " | " | (10) exterior NW corner | " 4210461 | IATL 4210461 | |
| A134 | black | tar paper | (10) exterior N wall entrance | " 4210462 | IATL 4210462 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Samples Not Received

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | |
|--|--|
| Lab No.: 4218902 | Description / Location: Tan Vermiculite Insulation |
| Client No.: A89 | (18) Attic North |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | |
|--|--|
| Lab No.: 4218903 | Description / Location: Tan Vermiculite Insulation |
| Client No.: A90 | (18) Attic South |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | 100 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

Feb 22, 2011
Please perform additional sampling

Chloe Rensen

3 day

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Mirza

Date: 2/21/2011

mc
2/28/11
3/3/11

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/28/2011
Project: Beaverlodge
Project No.: 11166B

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|----------------------------|--|--|---------------|-------------------------------|
| Lab No.: 114218902F | Description / Location: Tan Vermiculite Insulation - Floats | | | |
| Client No.: A89 | (18) Attic North | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Analysis by EPA-600/R-04/004.

| | | | | |
|----------------------------|---|--|---------------|-------------------------------|
| Lab No.: 114218902S | Description / Location: Tan Vermiculite Insulation - Sinks | | | |
| Client No.: A89 | (18) Attic North | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.14 | Actinolite | None Detected | None Detected | 99.86 |

Analysis by EPA-600/R-04/004.

| | | | | |
|----------------------------|--|--|---------------|-------------------------------|
| Lab No.: 114218903F | Description / Location: Tan Vermiculite Insulation - Floats | | | |
| Client No.: A90 | (18) Attic South | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Analysis by EPA-600/R-04/004.

| | | | | |
|----------------------------|---|--|---------------|-------------------------------|
| Lab No.: 114218903S | Description / Location: Tan Vermiculite Insulation - Sinks | | | |
| Client No.: A90 | (18) Attic South | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.87 | Actinolite | None Detected | None Detected | 99.13 |

Analysis by EPA-600/R-04/004.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: M. Crackel

Approved By:

Date: 2/28/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|-------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/28/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Beaverlodge |
| | Calgary AB T2Z 3V7 | Project No.: | 11166B |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 114218904F | Description / Location: | Tan Vermiculite Insulation - Floats | |
| Client No.: | A91 | | (18) Attic East | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|------------------------------------|-------------------------------|
| Lab No.: | 114218904S | Description / Location: | Tan Vermiculite Insulation - Sinks | |
| Client No.: | A91 | | (18) Attic East | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.93 | Actinolite | None Detected | None Detected | 99.07 |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 114218991F | Description / Location: | Tan Vermiculite Insulation - Floats | |
| Client No.: | A198 | | (35) Cinderblock Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|------------------------------------|-------------------------------|
| Lab No.: | 114218991S | Description / Location: | Tan Vermiculite Insulation - Sinks | |
| Client No.: | A198 | | (35) Cinderblock Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.46 | Actinolite | None Detected | None Detected | 99.54 |

Analysis by EPA-600/R-04/004.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: M. Crackel

Date: 2/28/2011



Waltech Associates Inc
SAFETY MANAGEMENT AND ANALYTICAL SERVICES

603, Burgess Close, Edmonton, AB T6R 1Z7
Phone: (780) 434-9784 Fax: (780) 439-4434
email: waltech@shaw.ca

ANALYSIS REPORT

Analysis Requested: ASBESTOS IDENTIFICATION

| | |
|--|--|
| Requested by: Ballast Environmental Consulting Ltd PO Box 87073 Calgary, AB T2Z 3V7 Attention: Elvie Burton | Date received: February 14, 2011 Sample Type: Bulk No. of samples: 5 Worksite/ Job # 11166B Date completed: February 18, 2011 |
|--|--|

ANALYSIS RESULTS

| Our File # | Ref # | Description | Asbestos type and percent | Other fibres detected |
|------------|-------|----------------------|--|-------------------------|
| 11AI0559 | Z1 | Gray parchment | CHRYSTILE 50 – 75% AMOSITE <1% | Cellulose, glass fibres |
| 11AI0560 | Z2 | Cement board | CHRYSTILE 25 – 50% | None |
| 11AI0561 | Z3 | Ceiling tile – holes | NONE DETECTED | Cellulose |
| 11AI0562 | Z4 | Duct tape | NONE DETECTED | Cellulose |
| 11AI0563 | Z5 | Cement board | CHRYSTILE 25 – 50% | None |

COMMENTS:

ANALYTICAL PARAMETERS:

Method used: NIOSH Method 9002 (4th Edition)

Methodology: Polarized Light Microscope (PLM)

Analysis Performed by: Irene Z. Walewski, B. Sc. Chem

Ray Sankey

From: Elvie Reinson [elvie@ballastenvironmental.com]
Sent: Friday, March 18, 2011 3:31 PM
To: raysankey@iatl.com
Cc: Kassandra Cropley; chris@ballastenvironmental.com
Subject: re analyze samples

Hi Ray,

Could we please get the following 2 samples re analyzed for bulk asbestos:

Job 11166B

Sample 201 (floor tile layer only) your sample id: 4218994

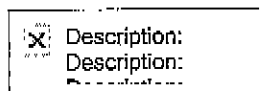
Sample Dup 11 (floor tile layer only) your sample id: 4219032

5 day turnaround time

Thanks

Have a good weekend,

Elvie



Elvie Reinson, PBiol, PRBio, EP
Ballast Environmental Consulting Ltd.
Tel 403.452.3110
Fax 403.452.3133
elvie@ballastenvironmental.com
www.ballastenvironmental.com

BH 2/21/11

original analysis

8994 0.25 Chrys

9032 1.1 Chrys

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PLM Bulk Bench Sheet

Client:

Ballast Environmental 3/21/11
Date:

Date: 3/2/11

Project: Wife's

Special Instructions: Re-analyze
QC Review / Date: FT only

RTP:

Reviewed By / Date:

QC Review / Date:

Code Key:

3-THF treatment

5-Recommend TEM analysis

C=Composite NA=not analyzed (RTP)

| Code 4 | Client # IATL # | Stereo % (VAE) | Quantity (VAE) & Asbestos Type (circle PC if Pt Count) | Point Count Data 1 | Non-Asbestos Fibers & Percent 2 | NFM % | Gross Sample Appearance | | | Optical Properties | | | | CS DS Data 3 | | |
|--------|--------------------|-------------------|--|--------------------------|------------------------------------|-------|-------------------------|-------|--------------------------|------------------------|--------|----------------|--------------------|----------------------------|-----------------------|-----|
| | | | | | | | Layer Homo (y/n) | Color | Maintal Type (or FNF) | R.I. Oil(s) Used | Morph. | Plec. (y/n) | Biref. (μm/lit) | Sign of Elong. (+/-) | Ext. Angle (n°) | ⊥ |
| | A201 4218994 | 0 | PC 0.25 Chrys 400 45678 | ND 45678 | 97.75 | 1 | OW | FT | 1.550 | N | N | L | + | 0 | 1500 | 137 |
| | Dup 11 4219032 | 0 | PC 0.2 Chrys 325 45678 | ND 45678 | 98.8 | 1 | OW | FT | 1.550 | N | N | L | + | 0 | 1500 | 150 |
| | | | PC | / | | | | | 1.550 | | | | | | | |
| | | | PC | 45678 | | | | | 1.880 | | | | | | | |
| | | | PC | / | | | | | 1.530 | | | | | | | |
| | | | PC | 45678 | | | | | 1.680 | | | | | | | |
| | | | PC | / | | | | | 1.550 | | | | | | | |
| | | | PC | 45678 | | | | | 1.680 | | | | | | | |
| | | | PC | / | | | | | 1.550 | | | | | | | |
| | | | PC | 45678 | | | | | 1.680 | | | | | | | |
| | | | PC | / | | | | | 1.550 | | | | | | | |
| | | | PC | 45678 | | | | | 1.680 | | | | | | | |

Comments:

Note 1 (°C) Point Count via ELAP 198.1 for asbestos concentrations of approximately 1% - 10% and EPA 600 Point Count for asbestos concentrations near and less than one percent. Record asbestos points (AP), non-empty (NE) points, and number of slide mounts prepared. Refer to chart and PC data calculations. **Note 2** Provide at least one optical property for each non-asbestos fiber type detected. **Note 3** Use the RI values corrected for temperature (see S.C. Su '96) **Note 4** Use Treatment Key to describe methods used on sample to determine final result. Code may be placed in the far right margin. If no treatments are documented, it is assumed that no special treatments were employed. **Note 5** Report clear observations on layered materials, including SRJC, FTA, absent layers, insufficient layers and other valuable descriptions.

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Consl'tg Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Report Number: 0211007675
Project:
Project No.: 11166B

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 4217577 | P1 | Brown Paint Cinder Block Storage, Door 1 | 0.12*** |
| 4217578 | P2 | Yellow/White Paint 25; Interior Work Room | 0.047*** |
| 4217579 | P3 | White Paint 15; Exterior | 0.022 |
| 4217580 | P4 | Pink/Brown Paint 15; Interior Kickboard | 0.34*** |
| 4217581 | P5 | White Paint 15; Office Kickboard | 0.38*** |
| 4217582 | P6 | White Paint 15; North Lab Window Frames | 0.31 |
| 4217583 | P7 | White Paint 15; North Lab Cabinets, North Wall | 0.33 |
| 4217584 | P8 | Yellow Paint 15; Utility Room | 0.25*** |
| 4217585 | P9 | Grey Paint 15; 1st-2nd Floor Stairs | 0.055*** |
| 4217586 | P10 | White Paint 15; 2nd Floor, North Wall | 5.4*** |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA No. 100188 / NYSDOH-ELLAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 2/14/2011

Date Analyzed: 2/21/2011

Analyst: C. Shaffer

Approved By: 

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box87073 RPO DouglasSq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Report Number: 0211007497
Project:
Project No.: 11166B

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 4217587 | P11 | Blue Paint 1; Bsmt. Office | 0.19*** |
| 4217588 | P12 | White Paint 1; Bsmt. Hall | <0.0078*** |
| 4217589 | P13 | Yellow Paint 1; Bsmt. Furnace Room | 0.033*** |
| 4217590 | P14 | Black Paint 1; Bsmt. Dark Room | 0.50 |
| 4217591 | P15 | Blue Paint 1; Bsmt. Under West Stairs | <0.0075*** |
| 4217592 | P16 | White Paint 1; 2nd Floor, Room 25 Window Frame | 0.13*** |
| 4217593 | P17 | White Paint 1; Exterior South Window | 0.39 |
| 4217594 | P18 | White Paint 1; Ceiling Main Floor Reception | <0.0087*** |
| 4217595 | P19 | White Paint 18; Bsmt. Under Stairs | 0.28 |
| 4217596 | P20 | White Paint 18; Exterior West Side | 2.8 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Date Received: 2/14/2011
Date Analyzed: 2/21/2011
Analyst: C. Shaffer

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Consl'tg Ltd.
PO Box87073 RPO DouglasSq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Report Number: 0211007497
Project:
Project No.: 11166B

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|--|---|
| 4217597 | P21 | Green Paint 10; 2nd floor Storage | 0.012*** |
| 4217598 | P22 | White/Yellow Paint 10; 2nd Floor Janitor's Closet | 0.07*** |
| 4217599 | P23 | White Paint 10; 2nd Floor Office 7 Closet Door | 0.014*** |
| 4217600 | P24 | Blue Paint 10; 2nd Floor Office 5 | 0.013*** |
| 4217601 | P26 | Purple Paint 10; Main Floor Storage | 0.096*** |
| 4217602 | P31 | White Paint 10; Exterior Main Entrance | 4.7 |
| 4217603 | P32 | Peach Paint 14; Interior Main Floor Frames Entry | 0.33*** |
| 4217604 | P33 | White/Yellow Paint 14; SW Lab Main | <0.008*** |
| 4217605 | P34 | White/Yellow Paint 14; Furnace Room | 0.077 |
| 4217606 | P35 | White Paint 14; NW Lab | 0.035 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Date Received: 2/14/2011
Date Analyzed: 2/21/2011
Analyst: C. Shaffer

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box87073 RPO DouglasSq.
Calgary AB T2Z 3V7

Report Date: 2/21/2011
Report Number: 0211007497
Project:
Project No.: 11166B

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|--|---|
| 4217607 | P36 | White Paint 14; Lab 2 East Window | 0.58 |
| 4217608 | P37 | White Paint 14; Exterior Frame Office 1 | 3.4 |
| 4217609 | P38 | Blue Paint 17; Exterior Main Entrance | 7.4 |
| 4217610 | P39 | Green Paint 17; Garage Interior | <0.008*** |
| 4217611 | P40 | White Paint 17; Work Bench | 0.021*** |
| 4217612 | P41 | Grey Paint 17; Counter Top Work Bench | 0.25 |
| 4217613 | P42 | Blue Paint 17; Stairway | 0.0068 |
| 4217614 | P43 | Off-White Paint 35; Office 2 Walls | <0.0048 |
| 4217615 | P44 | Grey Paint 35; 2nd Floor Shelves | 0.47 |
| 4217616 | P45 | Brown Paint 40; Frame | 0.055*** |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

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Date Received: 2/14/2011
Date Analyzed: 2/21/2011
Analyst: C. Shaffer

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|-----------------------|------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0211007497 |
| | Calgary AB T2Z 3V7 | Project: | |
| | | Project No.: | 11166B |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 4217617 | P46 | White Paint 26; Thrushing Room, South Wall | 0.056 |
| 4217618 | P47 | White Paint 26; Seed Storage | 0.094 |
| 4217619 | P48 | Blue Paint 26; Lab 2 Cupboards | 0.014*** |
| 4217620 | P49 | White Paint 26; Exterior Window | 0.19 |
| 4217621 | P50 | White Paint 26; Interior Ladies Washroom | 0.044 |
| 4217622 | PDup1 | White Paint | 0.58 |
| 4217623 | PDup2 | Green Paint | 0.16*** |
| 4217624 | PDup3 | White Paint | 4.5 |
| 4217625 | PDup4 | White/Yellow Paint | 0.099 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Date Received: 2/14/2011
Date Analyzed: 2/21/2011
Analyst: C. Shaffer

E-MAILED

2-21-11

International Asbestos Testing Laboratories
 9000 Commerce Parkway, Suite B
 Mt. Laurel, New Jersey 08054
 Attn: Ray Sankey

Tel. 856 231-9449
 Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
 PO Box 87073 RPO Douglas SQ
 Calgary, AB Canada T2Z 3V7

Project Name: _____
Project No.: 111663

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions: _____

Type:AsbestosLeadOther

| | | | | |
|--------------------------------|--------------------------------|--------------------------------|---|-------|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | _____ |
| <input type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input checked="" type="checkbox"/> Paint | _____ |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | _____ |

Analysis Method:

| | | |
|---|--|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other _____ | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| <input type="checkbox"/> AAS : Lead in Drinking Water | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Other Metals / Soil _____ | | <input type="checkbox"/> TEM : Other _____ |
| | | <input type="checkbox"/> Total Dust : NIOSH 0500 |

Turnaround email results.**FAX:** _____ **Verbals:** _____**Time:** elvie@ballastenvironmental.com

date / time

date / time

| | | | | | | |
|--|---|--------------------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------|
| <input type="checkbox"/> 10 Day | <input checked="" type="checkbox"/> 5 Day | <input type="checkbox"/> 3 Day | <input type="checkbox"/> 2 Day | <input type="checkbox"/> 1 Day | <input type="checkbox"/> 6 hour | <input type="checkbox"/> RUSH |
| Preliminary FAX/Verbal Results Requested by: _____ | | | | | | |

Sample**Numbers:**

Client #(s): P1-26, P31-50
 (start) (end)
 & PDup 1 - PDup 4.

IATL#(s): _____ - _____ Total: 54
 (start) (end)

Chain of Custody:

See attached.

| | | |
|-----------------------------|-----------------|-------------|
| Relinquished: Elvie Reinson | Date: Feb 21/11 | Time: _____ |
| Received: _____ | Date: _____ | Time: _____ |
| Sample Log-in: 211611 | Date: _____ | Time: _____ |
| Sample Prep: 2/21/11 | Date: _____ | Time: _____ |
| Analyzed: _____ | Date: _____ | Time: _____ |
| QA/QC Review: Am2/25/11 | Date: _____ | Time: _____ |

Archived/Released: _____ QA/QC InterLAB Use: _____ Date: _____ Time: _____

BULK MATERIAL SAMPLING LOG

 Worksite: Bauerlodge

 Date: Feb 4/11

 Client: PLCSC

 Job No.: 11166B

 Date Results Required: _____ No. Samples: _____ Page 1 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|-------------|---------------------------------|-------------------|--------------------------|------------|
| P1 | brown | paint | cinderblock storage door | poor 4217577 | door, frame, | 109-0591 |
| P2 | yellow/white | " | (25) interior work room | good 4217578 | room building | 109-0611 |
| P3 | white | " | (15) exterior paint | poor 4217579 | entire building | 109-0628 |
| P4 | pink/brown | " | (15) interior kick board | fair 4217580 | South storage | 109-0651 |
| P5 | white | " | (15) office kick board | " 4217581 | main floor kick board | 109-0661 |
| P6 | white | " | (15) north office window frames | good 4217582 | most main floor | 109-0665 |
| P7 | white | " | (15) north lab cabinets N. wall | good 4217583 | " | 109-0666 |
| P8 | yellow | " | (15) utility room | good/fair 4217584 | utility room | 109-0675 |
| P9 | gray | " | (15) 1st-2nd floor stairs | poor 4217585 | stairs | 109-0681 |
| P10 | white | " | (15) 2nd FL. north wall | good 4217586 | exterior walls + ceiling | 109-0702 |
| P11 | blue | " | (1) bsmt office | good 4217587 | office + computer room | 109-0710 |
| P12 | white | " | (1) bsmt hall | fair 4217588 | entire | 109-0722 |
| P13 | yellow | " | (1) bsmt furnace room | good 4217589 | room | 109-0786 |
| P14 | black | " | (1) bsmt dark room | good 4217590 | room | 109-0791 |

BULK MATERIAL SAMPLING LOG

Worksite: _____ Date: Feb 5/11
 Client: _____ Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 2 of 2

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------------|--------------------------|--------------|--------------------------------|-----------------|--------------------------------|---------------------|
| P15 | blue green | paint | ① bsmt under west stairs | good 4217591 | original colour | 109-0807 |
| P16 | white | paint | ① 2nd FL Rm 25 window frame | fair 4217592 | all frames | 109-0845 |
| P17 | white | " | ① exknor south window | fair 4217593 | all frames | 109-860 |
| P18 | " | " | ① ceiling main floor reception | good 4217594 | all white ceiling tile | 109-0859 |
| P19 | white | " | ①⑧ bsmt under stairs | good 4217595 | suspect under all | 109-0873 |
| P20 | " | " | ①⑧ exterior west side | good 4217596 | all | 109- |
| P21 | green | " | ①⑩ 2nd FL Storage | " 4217597 | room | 109-0950 |
| P22 | white/yellow | " | ①⑩ 2nd FL janitor closet | " 4217598 | - | 109-0960 |
| P23 | white | " | ①⑩ 2nd FL office 1 closet door | " 4217599 | - | 109-0975 |
| P24 | blue | " | ①⑩ 2nd FL office 5 | fair 4217600 | room + | 109-0966 |
| P25 | sample yellow | " | ①⑩ 2nd FL doors | good | all doors except #2 | 109-0976 |
| P26 | purple | " | ①⑩ Main FL storage | fair 4217601 | room | 109-0992 |
| P27 | light green | " | ①⑩ bsmt Storage 6 closet | poor | room | 109-0050 |
| P28 | light blue | " | ①⑩ bsmt Storage 7 | poor | " | 109-0052 |

BULK MATERIAL SAMPLING LOG

 Worksite: Beaver Lodge Date: Feb 6/11

 Client: PWASC Job No.: 11166B

 Date Results Required: _____ No. Samples: _____ Page of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|-------------|-------------------------------------|----------------|-------------------------------|------------------|
| P29 | white/yellow | paint | (10) Bsmr Storage 2 | poor | all storage ceilings | 110-0081 |
| P30 | white | " | (10) Bsmr hallway | poor | all | 110-0119 |
| P31 | " | " | (10) exterior main entrance trim | F fair 4217602 | all doors & trim | 110-0120 |
| P32 | peach | " | (14) interior main FL. Frames entry | good 4217603 | | 110-0132 |
| P33 | white/yellow | " | (14) SW Lab Main | " 4217604 | room | 110-0141 0138 |
| P34 | " | " | (14) Furnace Room | poor 4217605 | - | 110-0149 |
| P35 | white | " | (14) NW Lab | poor 4217606 | room | 110-0183 |
| P36 | white | " | (14) Lab 2 east window | " 4217607 | all 2nd fl trim | 110-0238 |
| P37 | white | " | (14) Exterior frame office 1 | " 4217608 | all exterior trim | 110-0248 |
| P38 | blue | " | (17) Exterior main entrance | poor 4217609 | all exterior | |
| P39 | green | " | (17) GARAGE most interior | good 4217610 | | 110-0344 |
| P40 | white | " | (17) work BENCH | fair 4217611 | Walls, ceiling and work bench | 110-0345 |
| P41 | grey | " | (17) COUNTER TOP WORK BENCH | Fair 4217612 | counter top and cupboards | 110-0346 |
| P42 | blue | " | (17) Stairway | " 4217613 | all wood & shelving | 110-0368 |

[illegible]

BATCH / SAMPLE MANAGEMENT REPORT

| | | | |
|----------------------|---|-------------------------|-------------------|
| Customer No.: | BAL082 | Batch Number: | 231390 |
| Customer: | Ballast Enviro. Conslt'g Ltd. PO Box87073 RPO DouglasSq. Calgary AB T2Z 3V7 | Project: | |
| Customer Rep: | RS | Project Number: | 11166B |
| | | TAT: | 5 Day |
| | | Date/Time Rec'd: | 2/14/2011 |
| # of Samples: | 54 | Analysis: | Lead Paint |
| | | Time/Date Due: | 2/21/2011 |

Initials Signaling
Acknowledgement ☐ RTP: _____ ☐ To PLM NOB _____ ☐ To TEM NOB _____

Special Instructions:

Admin Notes: Portal

Shipping Error:

- _____ Samples were not received in a sealed container. Bulk samples not double bagged.
- _____ Air Cassettes received open in bag... sample integrity compromised, possible contamination.
- _____ Samples received wet.
- _____ Samples received covered with dust... possible cross contamination.
- _____ Sample containers damaged, contents spilled... possible cross contamination.
- _____ Paperwork received in the same bag as samples possible contamination.
- _____ No / Incomplete Chain of Custody Received.
- _____ No / Incomplete Sample Log Received.
- _____ Sample container IDs do not match the client's sample log.
- _____ No Turnaround Time indicated.
- _____ PCM Re-prep for TEM NIOSH 7402. Cassettes previously opened and portion of filter removed.
- _____ Blank(s) not submitted as required by the requested analytical method.
- _____ Minimum shipping requirements not attained. See attached Carrier Air Bill.
- _____ Other: _____

Batch Error:

- _____ Wrong Client ID Listed:
- _____ Wrong Client Location Listed:
- _____ Wrong Project ID Listed:
- _____ Wrong TurnAround Time Listed:
- _____ Wrong Due Date Listed:
- _____ Wrong Date/Time Received Listed:
- _____ Wrong Analysis Method Listed:
- _____ Wrong Number of Samples Listed:

Login Error:

- _____ Sample Log Stamped Incorrectly:
- _____ Sample Containers Mislabelled:
- _____ Duplicate / Extra Samples Not Stamped:
- _____ Analyst Bench Sheet Error:

DAILY QUALITY CONTROL DATA**LEAD SAMPLE ANALYSIS**

(DATE: 02 / 21 / 11)

| Standard | Total Lead (mg) | Percent Recovery ** |
|-----------------------|--------------------|------------------------|
| Reagent Blank | 0.000 | < LOQ |
| Blank Spike | 0.500 | 104 |
| Lab control Std # 401 | 0.397 | 111 |
| Matrix Spike - LBP * | 1.19 | 108 |
| Matrix Spike - Wipe * | 1.11 | 98 |
| Matrix Spike - Soil * | 0.477 | 110 |
| Matrix spike - Air * | 0.050 | 106 |
| 2.5 ppm Standard | 0.25 | 103 |
| 10.0 ppm Standard | 1.0 | 103 |
| 40.0 ppm Standard | 4.0 | 99 |

ELPAT No. 100188**NIOSH PAT No. 100188****NYS-DOH No. 11021**

Analysis Method: ASTM D3335-85A
NIOSH 7082
EPA SW846 3050 7420

Comments: IATL assumes that all sampling complies with accepted methods.
All client supplied sampling data is assumed to be correct when calculating results.
Detection limit based upon 0.2 mg/L reporting limit and sample size.
* NIST Traceable.
** 80-120% acceptable limits.

Analyzed By:

R. Chad Shaffer

Date:

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/10/2011
Report Number: 0211005449
Project: Building 10
Project No.: 11166B

LEAD PAINT SAMPLE ANALYSIS SUMMARY

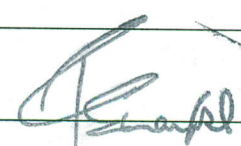
| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|--|---|
| 4210112 | P27 | Lt. Green Paint 10; Bsmt Storage 6 Closet | 0.098*** |
| 4210113 | P28 | Lt. Blue Paint 10; Bsmt Storage 7 | 0.091*** |
| 4210114 | P29 | White/Yellow Paint 10; Bsmt Storage 2 | 0.66 |
| 4210115 | P30 | White Paint 10; Bsmt Hallway | 0.28 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

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ate Received: 2/9/2011**Date Analyzed:** 2/10/2011**Analyst:** C. Shaffer**Approved By:**
Frank E. Ehrenfeld, III
Laboratory Director

MAILED
2.10.11

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: Building 10
Project No.: 11166 B

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions:

Type:

| Asbestos | | Lead | | Other | |
|--------------------------------|--------------------------------|--------------------------------|---|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input checked="" type="checkbox"/> Soil | | |
| <input type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input checked="" type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input checked="" type="checkbox"/> Other | | |

Analysis Method:

| | | |
|--|--|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| <input type="checkbox"/> AAS : Lead in Drinking Water | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| <input checked="" type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead Dust/Wipe | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Other Metals / Soil | | <input type="checkbox"/> TEM : Other |
| | | <input type="checkbox"/> Total Dust : NIOSH 0500 |

Turnaround Time:

elvie@ballastenvironmental.com

FAX: _____ **Verbals:** _____
date / time date / time

| | | | | | | |
|--|--------------------------------|--------------------------------|--------------------------------|---|---------------------------------|-------------------------------|
| <input type="checkbox"/> 10 Day | <input type="checkbox"/> 5 Day | <input type="checkbox"/> 3 Day | <input type="checkbox"/> 2 Day | <input checked="" type="checkbox"/> 1 Day | <input type="checkbox"/> 6 hour | <input type="checkbox"/> RUSH |
| Preliminary FAX/Verbal Results Requested by: _____ | | | | | | |

Sample Numbers:

Client #(s): P27 - P30
(start) (end)

IATL#(s): _____ Total: _____
(start) (end)

Chain of Custody:

| | | |
|-----------------------------|--------------------|-------------|
| Relinquished: Elvie Reinson | Date: Feb 11 | Time: _____ |
| Received: _____ | Date: _____ | Time: _____ |
| Sample Log-in: CM 2/11/11 | Date: _____ | Time: _____ |
| Sample Prep: _____ | Date: _____ | Time: _____ |
| Analyzed: _____ | Date: _____ | Time: _____ |
| QA/QC Review: _____ | Date: FEB - 9 2011 | Time: _____ |
| Archived/Released: _____ | IATL - By: _____ | Time: _____ |
| QA/QC InterLAB Use: _____ | | |

BULK MATERIAL SAMPLING LOG

Worksite: _____ Date: Feb 5/11
 Client: _____ Job No.: 11166B
 Date Results Required: _____ No. Samples: _____ Page 2 of 2

| Sample # | Colour | Description | Location | Condition | Estimated Amo | Picture |
|----------------|--------------------------|--------------|--------------------------------|-----------------|-------------------------------|-------------------------|
| P15 | blue green | Paint | ① bsmt under west stairs | good 4210101 | origen colour | IATL 4210101 |
| P16 | white | Paint | ① 2nd FL Rm 25 window frame | fair 4210102 | all frame | IATL 4210102 |
| P17 | white | " | ① exterior South window | fair 4210103 | all frame | IATL 4210103 |
| P18 | " | " | ① Ceiling main floor reception | good 4210104 | all white | IATL 4210104 |
| P19 | white | " | ① bsmt under stairs | good 4210105 | sub al. | IATL 4210105 |
| P20 | " | " | ① exterior West side | good 4210106 | a | IATL 4210106 |
| P21 | green | " | ⑩ 2nd FL Storage | " 4210107 | " | IATL 4210107 |
| P22 | white/yellow | " | ⑩ 2nd FL Jantar closet | " 4210108 | " | IATL 4210108 |
| P23 | white | " | ⑩ 2nd FL office 1 closet door | " 4210109 | " | IATL 4210109 |
| P24 | blue | " | ⑩ 2nd FL office 5 | fair 4210110 | R | IATL 4210110 |
| P25 | sample yellow | " | ⑩ 2nd FL doors | good | all doors except 2 | IATL 4210111 |
| P26 | purple | " | ⑩ Main FL Storage | fair 4210111 | R | IATL 4210111 |
| P27 | light green | " | ⑩ bsmt Storage 6 closet | poor 4210112 | room. | IATL 4210112 |
| P28 | light blue | " | ⑩ bsmt Storage 7 | poor 4210113 | " | IATL 4210113 |

NOT RECORDED

[illegible]

BATCH / SAMPLE MANAGEMENT REPORT

| | | | |
|----------------------|---|-------------------------|--------------------|
| Customer No.: | BAL082 | Batch Number: | 230975 |
| Customer: | Ballast Enviro. Conslt'g Ltd. PO Box 87073 RPO Douglas Sq. Calgary AB T2Z 3V7 | Project: | Building 10 |
| Customer Rep: | RS | Project Number: | 11166B |
| | | TAT: | 1 Day |
| | | Date/Time Rec'd: | 2/9/2011 |
| # of Samples: | 16 | Analysis: | Lead Paint |
| | | Time/Date Due: | 2/10/2011 |

Initials Signaling
Acknowledgement ☐ RTP: _____ ☐ To PLM NOB _____ ☐ To TEM NOB _____

Special Instructions:

Admin Notes: Portal

Shipping Error:

- _____ Samples were not received in a sealed container. Bulk samples not double bagged.
- _____ Air Cassettes received open in bag... sample integrity compromised, possible contamination.
- _____ Samples received wet.
- _____ Samples received covered with dust... possible cross contamination.
- _____ Sample containers damaged, contents spilled... possible cross contamination.
- _____ Paperwork received in the same bag as samples possible contamination.
- _____ No / Incomplete Chain of Custody Received.
- _____ No / Incomplete Sample Log Received.
- _____ Sample container IDs do not match the client's sample log.
- _____ No Turnaround Time indicated.
- _____ PCM Re-prep for TEM NIOSH 7402. Cassettes previously opened and portion of filter removed.
- _____ Blank(s) not submitted as required by the requested analytical method.
- _____ Minimum shipping requirements not attained. See attached Carrier Air Bill.
- _____ Other: _____

Batch Error:

- _____ Wrong Client ID Listed:
- _____ Wrong Client Location Listed:
- _____ Wrong Project ID Listed:
- _____ Wrong TurnAround Time Listed:
- _____ Wrong Due Date Listed:
- _____ Wrong Date/Time Received Listed:
- _____ Wrong Analysis Method Listed:
- _____ Wrong Number of Samples Listed:

Login Error:

- _____ Sample Log Stamped Incorrectly:
- _____ Sample Containers Mislabelled:
- _____ Duplicate / Extra Samples Not Stamped:
- _____ Analyst Bench Sheet Error:

DAILY QUALITY CONTROL DATA

LEAD SAMPLE ANALYSIS

(DATE: 02 / 10 / 11)

| Standard | Total Lead (mg) | Percent Recovery ** |
|-----------------------|--------------------|------------------------|
| Reagent Blank | 0.000 | < LOQ |
| Blank Spike | 0.500 | 102 |
| Lab control Std # 401 | 0.458 | 112 |
| Matrix Spike - LBP * | 1.11 | 104 |
| Matrix Spike - Wipe * | 0.99 | 106 |
| Matrix Spike - Soil * | 0.545 | 116 |
| Matrix spike - Air * | | |
| 2.5 ppm Standard | 0.25 | 104 |
| 10.0 ppm Standard | 1.0 | 105 |
| 40.0 ppm Standard | 4.0 | 97 |

ELPAT No. 100188

NIOSH PAT No. 100188

NYS-DOH No. 11021

Analysis Method: ASTM D3335-85A
NIOSH 7082
EPA SW846 3050 7420

Comments: IATL assumes that all sampling complies with accepted methods.
All client supplied sampling data is assumed to be correct when calculating results.
Detection limit based upon 0.2 mg/L reporting limit and sample size.
* NIST Traceable.
** 80-120% acceptable limits.

Analyzed By: R. Chad Shaffer
R. Chad Shaffer

Date: 2/10/11

Approved By: Frank E. Ehrenfeld, III
Frank E. Ehrenfeld, III
Laboratory Director

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------|-------|----------------|------------------|--------------------|-----------------|----------|---------------------|---------------|----------------|---------------------------|-------------------|-------------------------|-----------|--------------------|--------------|-----------|----------|----------|
| 2: Administration office | Bsmt | Storage Room | storage | plywood | concrete & wood | tile | - | - | white | brown | - | brown & dark brown tile | A37 | floor | - | - | - | positive |
| | | | | | | | | | | | | brown & dark brown tile | A36 | floor | - | - | - | positive |
| 2: Administration office | Bsmt | Corridor | hallway | plywood | plywood | concrete | - | - | white | - | - | brown & dark brown tile | A35 | floor under stairs | - | - | - | positive |
| 2: Administration office | Bsmt | Utility Room | utility room | transite board | transite board | concrete | - | gray | gray | - | - | airocell | A43 | pipe | - | - | - | positive |
| | | | | | | | | | | | | green transite board | A41 | wall | - | - | - | positive |
| | | | | | | | | | | | | insulation | A42 | pipe | - | - | - | positive |
| 2: Administration office | Bsmt | Vault | vault | open to wood frame | drywall | tile | - | open | beige | brown & brown with flecks | - | brown tile | A33 | floor | - | - | - | negative |
| | | | | | | | | | | | | brown with flecks tile | A34 | floor | - | - | - | negative |
| 2: Administration office | Bsmt | NE Office | office | open to wood frame | wood | concrete | - | open | white | gray | - | insulation | A38 | pipe | - | - | - | positive |
| | | | | | | | | | | | | airocell | A39 | pipe | - | - | - | positive |
| | | | | | | | | | | | | airocell | A40 | pipe | - | - | - | positive |
| 2: Administration office | Bsmt | NW Lab | office | stipple | wood & concrete | concrete | A/C unit | white | light green | gray | - | - | - | - | light green | P17 | wall | negative |
| 2: Administration office | Main | SE Office | office | plaster/drywall | plaster/drywall | linoleum | ceiling failure | white | white | green | - | plaster | A51 | wall | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | white/ green | P20 | wall | negative |
| 2: Administration office | Main | East Office | office | plaster/drywall | plaster/drywall | linoleum | - | white | white | green | - | brown insulation paper | A48 | wall | - | - | - | negative |
| 2: Administration office | Main | NE Office | office | plaster/drywall | plaster/drywall | linoleum | - | white | white | hardwood | - | - | - | - | - | - | - | - |
| 2: Administration office | Main | NW Office | office | plaster/drywall | plaster/drywall | linoleum | - | white | yellow | green | - | plaster | A52 | wall | - | - | - | negative |
| | | | | | | | | | | | | brown insulation paper | A47 | wall | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | yellow/green | P19 | wall | negative |
| 2: Administration office | Main | South Washroom | women's washroom | plaster/drywall | plaster/drywall | linoleum | - | white | white on pink | green | - | plaster | A50 | wall | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | peach/pink | P18 | wall | negative |
| 2: Administration office | Main | North Washroom | men's washroom | plaster/drywall | plaster/drywall | linoleum | - | white | blue | green | - | green flooring | A46 | floor | - | - | - | negative |
| 2: Administration office | Main | Boot Room | entrance | plaster/drywall | plaster/drywall | linoleum | - | white | white on green | green | - | caulking | A62 | window | - | - | - | negative |
| 2: Administration office | Main | Hallway | hallway | plaster/drywall | plaster/drywall | linoleum | mercury thermometer | white | white | green | - | - | - | - | - | - | - | - |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------|--------|----------------|-----------------|-----------------|-------------------------|----------|------------------|---------------|------------|---------------------|-------------------|-------------------|-----------|----------|--------------|-----------|----------|----------|
| 2: Administration office | Main | Main Desk Area | front desk area | plaster/drywall | plaster/drywall | linoleum | ceiling failure | white | white | green | - | green flooring | A45 | floor | - | - | - | negative |
| | | | | | | | | | | | | plaster | A49 | wall | - | - | - | negative |
| 2: Administration office | Second | SE Office | office | plaster/drywall | plaster/drywall/stipple | linoleum | ceiling failure | white | white | painted gray | - | gray linoleum | A58 | floor | - | - | - | negative |
| | | | | | | | | | | | | plaster & stipple | A54 | ceiling | - | - | - | negative |
| 2: Administration office | Second | E Office | office | plaster/drywall | plaster/drywall/stipple | linoleum | ceiling failure | white | white | painted gray | - | - | - | - | - | - | - | - |
| 2: Administration office | Second | NE Office | office | plaster/drywall | plaster/drywall/stipple | linoleum | ceiling failure | white | white | painted gray | - | gray linoleum | A59 | floor | - | - | - | negative |
| 2: Administration office | Second | NW Office | office | plaster/drywall | plaster/drywall | linoleum | ceiling failure | white | white | painted gray | - | plaster | A53 | ceiling | - | - | - | negative |
| 2: Administration office | Second | W Office | office | plaster/drywall | plaster/drywall | linoleum | mould & A/C unit | white | white | painted gray | - | - | - | - | - | - | - | - |
| 2: Administration office | Second | File Room | library | plaster/drywall | plaster/drywall/stipple | linoleum | PCB ballasts x2 | white | white | painted gray | - | stipple | A56 | ceiling | - | - | - | negative |
| | | | | | | | | | | | | plaster & stipple | A55 | ceiling | - | - | - | negative |
| 2: Administration office | Second | South Room | - | plaster/drywall | plaster/drywall | linoleum | - | white | white | painted gray | - | - | - | - | - | - | - | - |
| 2: Administration office | Second | Hallway | hallway | plaster/drywall | plaster/drywall | linoleum | - | white | white | painted gray | - | gray linoleum | A57 | floor | - | - | - | negative |
| 2: Administration office | - | Stairwell | stairwell | plaster/drywall | plaster/drywall | linoleum | - | white | white | green | - | green flooring | A44 | floor | - | - | - | negative |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------|----------|----------------|----------------|-------------|------------------------|-------------------|---|-------------------|-------------------|---------------------|-------------------|------------------|-----------|---------------|--------------|-----------|----------|----------|
| 2: Administration office | Exterior | Exterior | - | shingles | wood & concrete stucco | - | - | white | brown & yellow | - | - | gray parchement | A67 | north wall | - | - | - | negative |
| | | | | | | | | | | | | gray parchement | A66 | west wall | - | - | - | negative |
| | | | | | | | | | | | | off-white stucco | A65 | exterior | - | - | - | negative |
| | | | | | | | | | | | | gray mortar | A64 | chimney | - | - | - | negative |
| | | | | | | | | | | | | yellow stucco | A63 | north wall | - | - | - | negative |
| | | | | | | | | | | | | caulking | A61 | east window | - | - | - | negative |
| | | | | | | | | | | | | yellow stucco | A60 | main entrance | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | yellow | P22 | wall | negative |
| 2: Administration office | Attic | attic | - | - | fiberglass | linoleum | - | white | off-white | - | - | - | - | - | brown | P21 | trim | negative |
| 6: Car Garage | Main | Exterior | exterior | metal roof | wood siding | - | - | - | white | - | - | - | - | - | - | - | - | - |
| 6: Car Garage | Main | Interior | interior | tile | wood | gravel & concrete | animal scat | white | bare | bare | - | - | - | - | - | - | - | - |
| 14: Storage Bldg and Lab | Main | East Room | office | wood panels | wood panels | concrete | mould on ceiling in 3 areas | white | white | gray | - | caulking | A14 | window | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | white | P6 | wall | negative |
| 14: Storage Bldg and Lab | Main | Probe Room | probe room | wood panels | wood panels | concrete | - | white | white | bare | - | - | - | - | - | - | - | - |
| 14: Storage Bldg and Lab | Main | Threshing Room | threshing room | wood panels | wood | concrete | - | silver | bare | bare | - | - | - | - | - | - | - | - |
| 14: Storage Bldg and Lab | Main | Back Room | office | wood panels | wood | concrete | - | white | white | bare | - | - | - | - | - | - | - | - |
| 14: Storage Bldg and Lab | Main | West Room | office | wood panels | wood panels | concrete | mercury thermometer | white | white | gray | - | insulation | A13 | wire | - | - | - | negative |
| 14: Storage Bldg and Lab | Main | Furnace Room | furnace room | wood panels | wood panels | concrete | - | white | white | gray | - | - | - | - | - | - | - | - |
| 14: Storage Bldg and Lab | Exterior | Exterior | - | stipple | plaster | rock/concrete | emergency light, possible mercury switch & hose cabinet | white | beige | rocks | - | - | - | - | white/red | P7 | wall | negative |
| 23: Workshop & Office | Main | Shop | shop | wood panels | panels | concrete | 2 mercury switches | white over silver | white over silver | gray | - | mortar | A12 | chimney | - | - | - | negative |
| | | | | | | | | | | | | green board | A11 | north wall | - | - | - | positive |
| | | | | | | | | | | | | tar paper | A10 | north wall | - | - | - | negative |
| 23: Workshop & Office | Main | Office | office | wood | wood | concrete | - | white | white | gray | - | - | - | - | silver/white | P5 | wall | negative |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------------------|----------|--------------|----------------------|----------------------|----------------------|----------------|----------------|---------------|--------------|---------------------|-------------------|-------------------------|-----------|------------------|--------------|-----------|----------|----------|
| 23: Workshop & Office | Main | Washroom | washroom | wood | wood | concrete | - | white | white | gray | - | - | - | - | - | - | - | - |
| 23: Workshop & Office | Main | Storage Area | storage | - | - | - | - | - | - | - | - | welding blanket | A7 | floor | - | - | - | negative |
| 23: Workshop & Office | Exterior | Exterior | - | metal roof | wood siding | - | - | - | white | - | - | caulking | A8 | window | - | - | - | negative |
| 23: Workshop & Office | Exterior | Exterior | - | metal roof | wood siding | - | - | - | white | - | - | - | - | - | white/red | P4 | wall | negative |
| 23: Workshop & Office | Attic | Attic | - | wood | wood | wood | - | - | - | - | - | insulation | A9 | wire | - | - | - | negative |
| 33:Processing & Carpenter Shop | Main | West Room | - | wood panels | wood panels | concrete | mercury switch | white | white | gray | - | - | - | - | white | P3 | wall | negative |
| 33:Processing & Carpenter Shop | Main | East Room | work area | wood panels | wood panels | concrete | freezer | silver | silver | gray | - | duct insulation | A1 | duct | - | - | - | positive |
| 33:Processing & Carpenter Shop | Main | East Room | work area | wood panels | wood panels | concrete | freezer | silver | silver | gray | - | - | - | - | silver | P2 | wall | negative |
| 33:Processing & Carpenter Shop | Main | Seed Storage | storage | wood | wood | concrete | mercury switch | silver | silver | gray | - | - | - | - | - | - | - | - |
| 33:Processing & Carpenter Shop | Main | Furnace Room | furnace room | drywall | drywall | concrete | - | - | bare | gray | - | mortar | A6 | chimney | - | - | - | negative |
| 33:Processing & Carpenter | Exterior | Exterior | wood chip insulation | wood chip insulation | wood siding | - | - | - | red on white | - | - | caulking | A2 | window | - | - | - | negative |
| 33:Processing & Carpenter | Exterior | Exterior | wood chip insulation | wood chip insulation | wood siding | - | - | - | red on white | - | - | - | - | - | white/red | P1 | wall | negative |
| 33:Processing & Carpenter Shop | Attic | Attic | - | fibre board | fibre board | wood planks | - | bare | bare | bare | - | insulation | A3 | wall | - | - | - | negative |
| 33:Processing & Carpenter Shop | Attic | Attic | - | fibre board | fibre board | wood planks | - | bare | bare | bare | - | insulation | A4 | wall | - | - | - | negative |
| 33:Processing & Carpenter Shop | Attic | Attic | - | fibre board | fibre board | wood planks | - | bare | bare | bare | - | insulation | A5 | wall | - | - | - | negative |
| 37: Drying Shed | Main | Dryers | dryers | - | asbestos board | asbestos board | - | - | - | - | - | gasket | A74 | in dryer door | - | - | - | negative |
| 37: Drying Shed | Main | Dryers | dryers | - | asbestos board | asbestos board | - | - | - | - | - | gasket | A75 | in dryer door | - | - | - | negative |
| 37: Drying Shed | Main | Dryers | dryers | - | asbestos board | asbestos board | - | - | - | - | - | white insulation board | A76 | south dryer door | - | - | - | positive |
| 37: Drying Shed | Main | Dryers | dryers | - | asbestos board | asbestos board | - | - | - | - | - | yellow insulation board | A73 | dryer doors | - | - | - | positive |
| 37: Drying Shed | Main | Interior | interior | asbestos board | asbestos board | concrete | - | gray | gray | bare | - | wall board | A72 | south wall | - | - | - | positive |
| 37:Drying Shed | Exterior | Exterior | - | metal | tin siding over wood | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 57: Sewege Lift Pump House | Main | Interior | interior | tile | wood | concrete | - | white | white | black & white | - | - | - | - | white | P16 | wall | negative |
| 57: Sewege Lift Pump House | Exterior | Exterior | - | tin roof | wood | - | - | - | white | - | - | black tar paper | A31 | wall | - | - | - | negative |
| 57: Sewege Lift Pump House | Exterior | Exterior | - | tin roof | wood | - | - | - | white | - | - | caulking | A32 | door | - | - | - | negative |
| 57: Sewege Lift Pump House | Exterior | Exterior | - | tin roof | wood | - | - | - | white | - | - | - | - | - | white | P15 | wall | positive |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|----------------------|----------|--------------------------|---------------------|------------------|--------------------|-----------------------------|--|---------------|-------------------|---------------------|-------------------|-----------------|-----------|-------------------|--------------|-----------|--------------|----------|
| 59: Tin Barn Storage | Main | Interior | interior | tin/treated wood | tin/treated wood | dirt/gravel | - | - | - | - | - | - | - | - | - | - | - | - |
| 59: Tin Barn Storage | Exterior | Exterior | - | tin roof | tin/treated wood | - | - | - | - | - | - | - | - | - | white | P25 | door | negative |
| 60: Duplex House | Bsmt | Stairwell | stairwell | drywall | drywall | wood & tile | - | yellow | yellow | gray & multi | - | stair runner | A19 | stair | - | - | - | negative |
| | | | | | | | | | | | | tile | A16 | floor | - | - | - | negative |
| | | | | | | | | | | | | drywall putty | A15 | under stairs | - | - | - | positive |
| | | | | | | | | | | | | - | - | - | light green | P8 | door & frame | negative |
| | | | | | | | | | | | | - | - | - | light gray | P9 | stairs | negative |
| | | | | | | | | | | | | - | - | - | yellow | P10 | wall | positive |
| 60: Duplex House | Bsmt | Cold Room | cold room | tile | cement | cement | blue & green shelving | white | - | blue marble (new) | - | - | - | - | - | - | - | - |
| 60: Duplex House | Bsmt | Main Room | main room | tile | cement | cement | - | white | - | blue marble (new) | - | pipe wrap | A27 | pipe | - | - | - | negative |
| | | | | | | | | | | | | off-white tile | A17 | floor of entryway | - | - | - | positive |
| | | | | | | | | | | | | drywall putty | A18 | entryway | - | - | - | positive |
| 60: Duplex House | Main | Office | office | tile | drywall | hardwood | - | white | white | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Entry Way | Boot room | tile | drywall & linoleum | tile | water intrusion | white | yellow | gray | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Kitchen | kitchen | drywall | tile | linoleum | - | white | white | beige | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Main Hall & Stairwell | hallway & stairwell | tile | drywall | fabric lining over linoleum | - | white | white | blue/gray lines | - | drywall putty | A23 | stairwell | - | - | - | positive |
| 60: Duplex House | Main | Boot Room #2 | boot room | - | drywall | linoleum | - | - | white | white squares | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Kitchen #2 | kitchen | - | drywall & tile | linoleum | - | - | white | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Living Room #2 | living room | - | drywall | hardwood | mercury thermometer | - | white | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Main | Main Hall & Stairwell #2 | stairwell | - | drywall | hardwood | - | - | white | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Second | Upstairs Hall | hall | tile | drywall | hardwood | closet: pink paint | white | white over yellow | - | - | - | - | - | pink | P11 | closet | negative |
| 60: Duplex House | Second | Conference Room | conference room | tile | drywall | hardwood | closet: green paint & mould & water damage | white | white over green | - | - | drywall putty | A20 | south closet | - | - | - | positive |
| 60: Duplex House | Second | Upstairs East Room | office | textured | drywall | hardwood | - | white | white | - | - | - | - | - | - | - | - | - |

* no access ** limited visibility of area ***Sample not analyzed

| Building | Floor | Room | Description | Ceiling | Walls | Floor | Misc. | Ceiling Color | Wall Color | Floor Color/Pattern | Ceiling Tile Size | Asbestos Sample | Sample ID | Location | Paint Sample | Sample ID | Location | Result |
|--------------------|----------|-----------------|-------------|----------|----------------------------|----------------|--|---------------|------------------|---------------------|-------------------|-------------------------------|-----------|----------------------|--------------|-----------|----------|----------|
| 60: Duplex House | Second | Washroom | washroom | drywall | drywall & tiles | linoleum | closet: Green paint & brown floor tile., closet 2: yellow paint & green linoleum | white | white & gray | gray | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | orange & purple drywall putty | A21 | closet | - | - | - | negative |
| | | | | | | | | | | | | - | A22 | wall | - | - | - | negative |
| 60: Duplex House | Second | Washroom #2 | washroom | stipple | drywall & tile | tile | water damage | - | white on blue | gray | - | white & blue | A30 | floor tile | - | - | - | negative |
| 60: Duplex House | Second | NW Bedroom #2 | bedroom | - | drywall | hardwood | closet: water damage on ceiling | - | white on blue | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Second | SW Bedroom #2 | bedroom | - | drywall | hardwood | - | - | white on pink | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Second | East Bedroom #2 | bedroom | - | drywall | hardwood | - | - | white on blue | - | - | - | - | - | - | - | - | - |
| 60: Duplex House | Exterior | Exterior | - | drywall | plaster | rock/ concrete | - | white | red & black | rocks | - | black tar paper | A29 | exterior | - | - | - | negative |
| | | | | | | | | | | | | shingle | A28 | dog house under deck | - | - | - | negative |
| | | | | | | | | | | | | stucco | A24 | northwest | - | - | - | negative |
| | | | | | | | | | | | | stucco | A25 | southwest | - | - | - | negative |
| | | | | | | | | | | | | stucco | A26 | east | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | white | P13 | trim | positive |
| | | | | | | | | | | | | - | - | - | red | P12 | trim | negative |
| 60: Duplex House | Attic | Attic | - | stipple | plaster | rock/ concrete | - | - | - | - | - | - | - | - | - | - | - | - |
| 60A: Double Garage | Main | Interior | interior | stipple | wood | concrete | - | white | white & red trim | rocks | - | - | - | - | - | - | - | - |
| 60A: Double Garage | Exterior | Exterior | - | shingles | metal & brick | old roof (tar) | - | white | white | black | - | - | - | - | white | P14 | wall | positive |
| 62: Shed | - | - | shed | - | treated wood & wood siding | dirt | - | - | - | - | - | - | - | - | white | P26 | wall | positive |
| Pump House | Main | East Room | - | wood | cement & wood | concrete | water damage & 40kg of Cl | white | white & gray | gray | - | - | - | - | - | - | - | - |
| Pump House | Main | West Room | - | wood | cement & wood | concrete | mercury thermometer | white | white & gray | gray | - | vermiculite | A70 | attic | - | - | - | positive |
| | | | | | | | | | | | | vermiculite | A71 | attic | - | - | - | positive |
| | | | | | | | | | | | | - | - | - | white | P24 | wall | negative |
| Pump House | Exterior | Exterior | - | tin roof | wood | - | - | - | white | - | - | gray caulking | A69 | south window | - | - | - | negative |
| | | | | | | | | | | | | shingle | A68 | lean-to roof | - | - | - | negative |
| | | | | | | | | | | | | - | - | - | white | P23 | wall | positive |

* no access ** limited visibility of area ***Sample not analyzed



VICINITY MAP



Date: Feb, 2011

Edited: -

Drawn by: MSN

Edited by: -

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermilion Research Centre

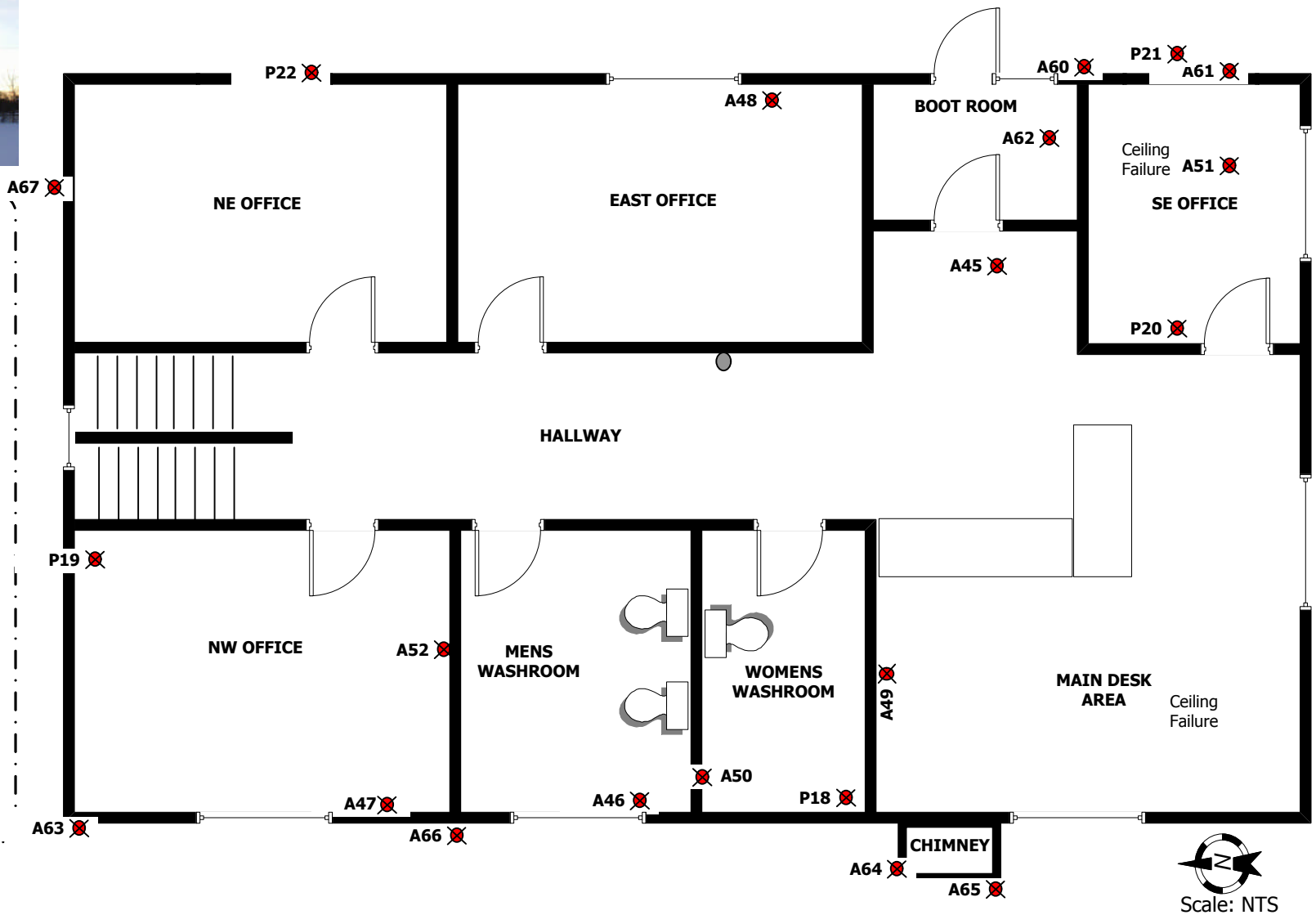
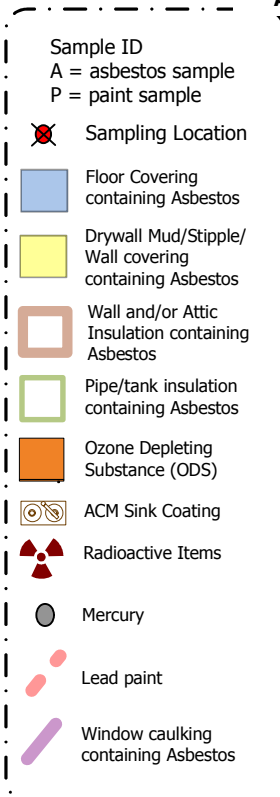
Project No.: 11166

**Appendix
3b-1**

Building Assessed
Building Number



SITE DIAGRAM: BUILDINGS ASSESSED



SITE SAMPLING DIAGRAM: #2 ADMINISTRATION OFFICE Main Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

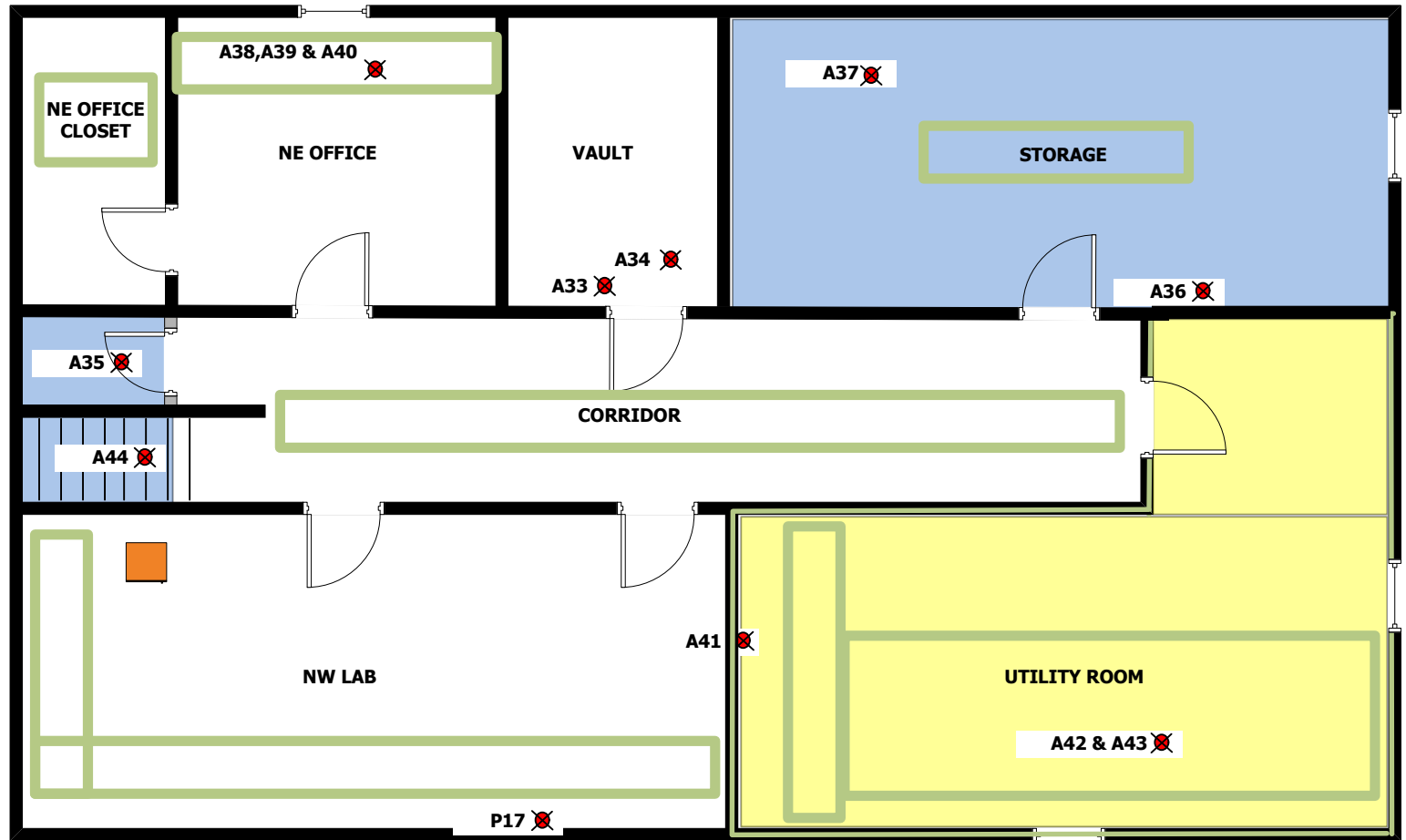
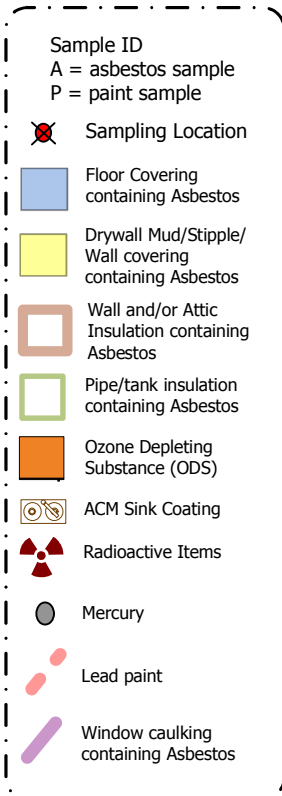
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-3**



SITE SAMPLING DIAGRAM: #2 ADMINISTRATION OFFICE Basement



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-4**



Sample ID
A = asbestos sample
P = paint sample

✗ Sampling Location

■ Floor Covering containing Asbestos

■ Drywall Mud/Stipple/ Wall covering containing Asbestos

■ Wall and/or Attic Insulation containing Asbestos

■ Pipe/tank insulation containing Asbestos

■ Ozone Depleting Substance (ODS)

■ ACM Sink Coating

☢ Radioactive Items

● Mercury

● Lead paint

● Window caulking containing Asbestos



SCALE: NTS

SITE SAMPLING DIAGRAM: #2 ADMINISTRATION OFFICE Second Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-5**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

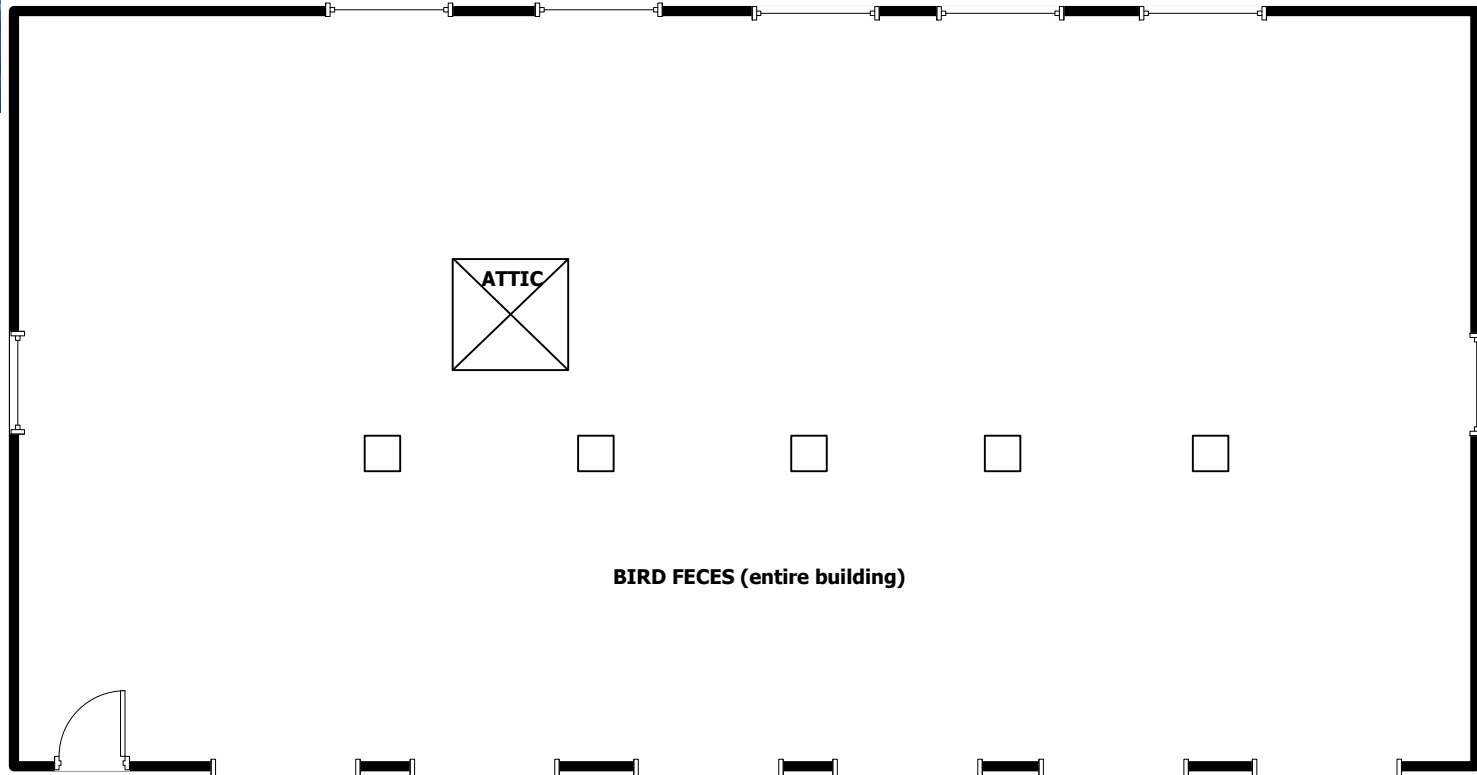
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #6 GARAGE AND STORAGE

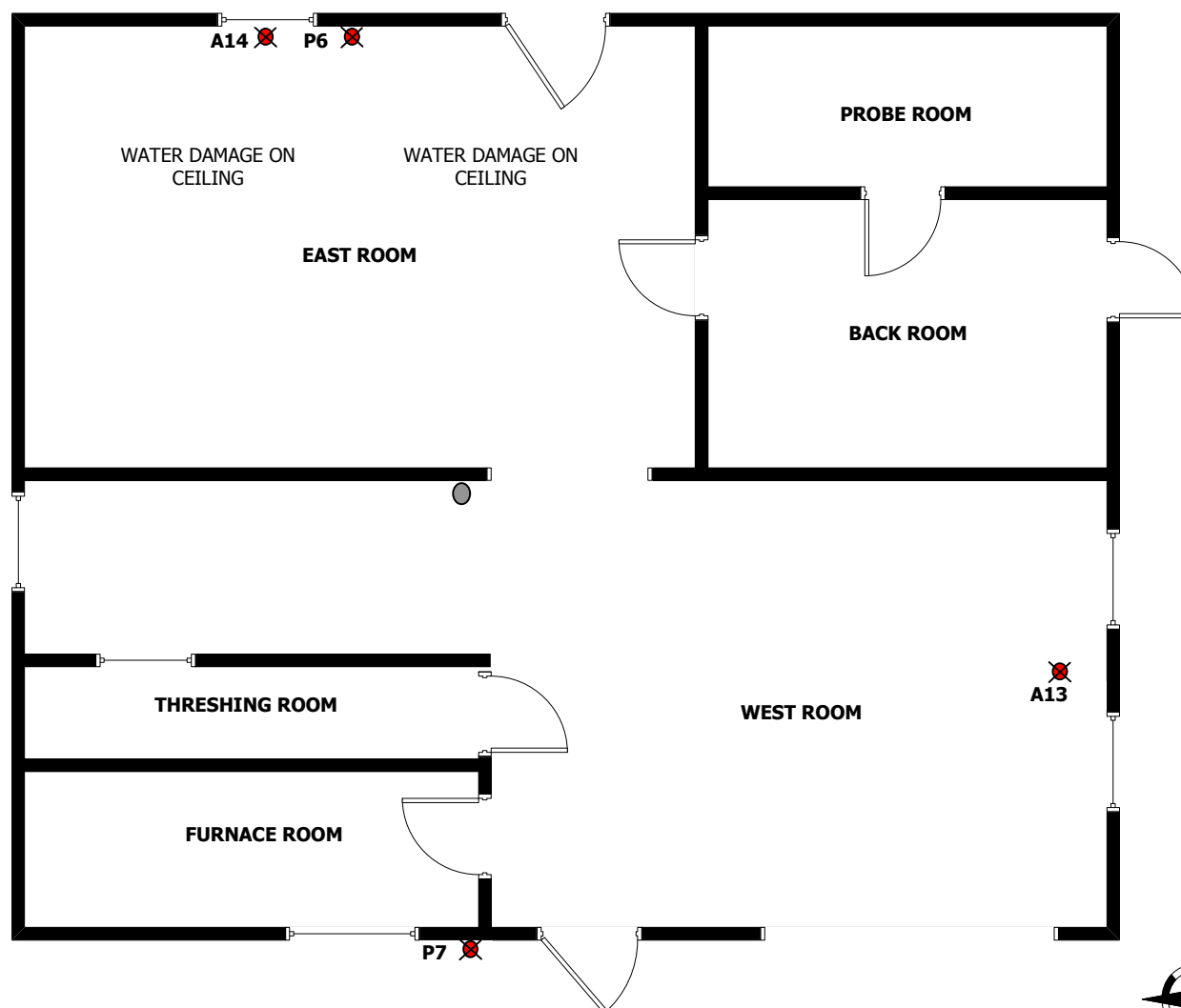
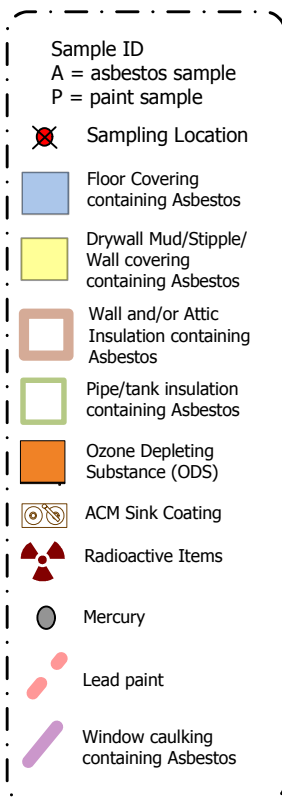


Date: Feb, 2011
 Edited: Feb, 2011

Drawn by: CL
 Edited by: ER

Project Name: Hazardous Materials Assessment Project No.: 11166
 Project Location: Fort Vermillion Research Centre

**Appendix
 3b-6**



SITE SAMPLING DIAGRAM: #14 Drying & Threshing Shed



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-7**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

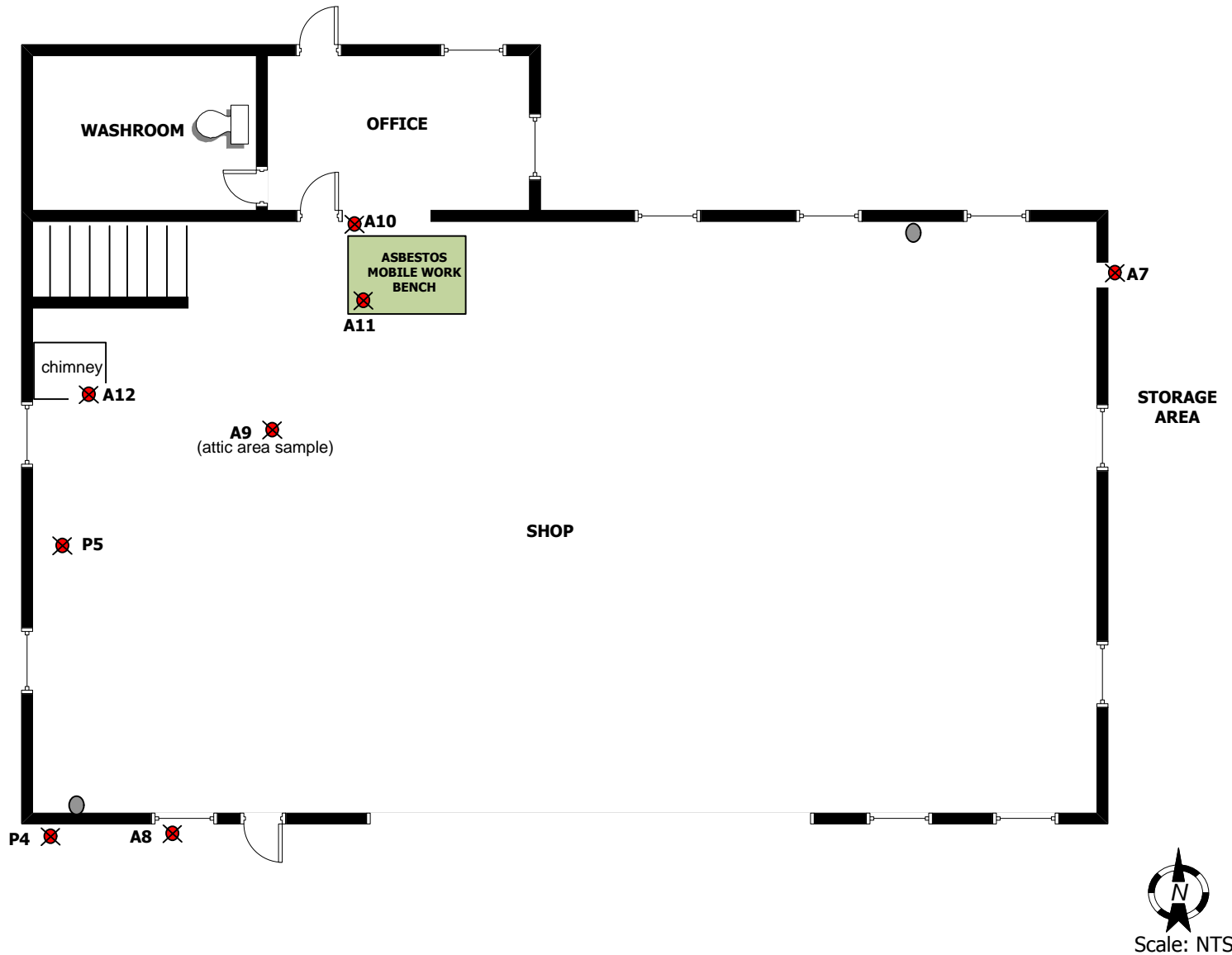
ACM Sink Coating

Radioactive Items

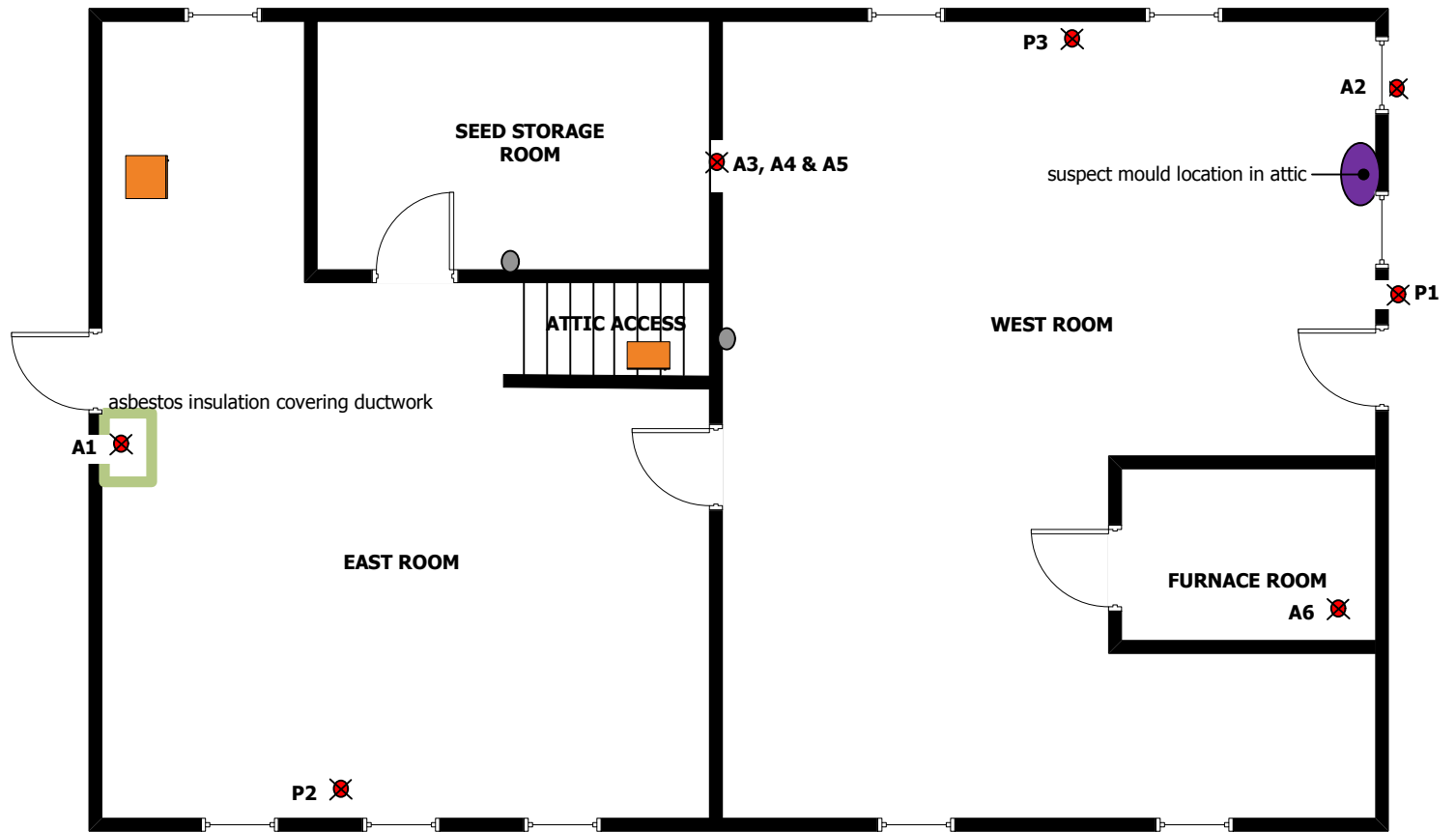
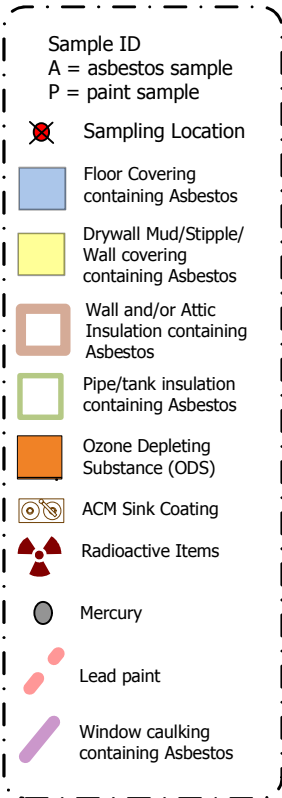
Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #23 WORKSHOP AND OFFICE



Scale: NTS

SITE SAMPLING DIAGRAM: #33 PROCESSING & CARPENTER SHOP



Date: Feb, 2011

Edited: Mar, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-9**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

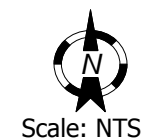
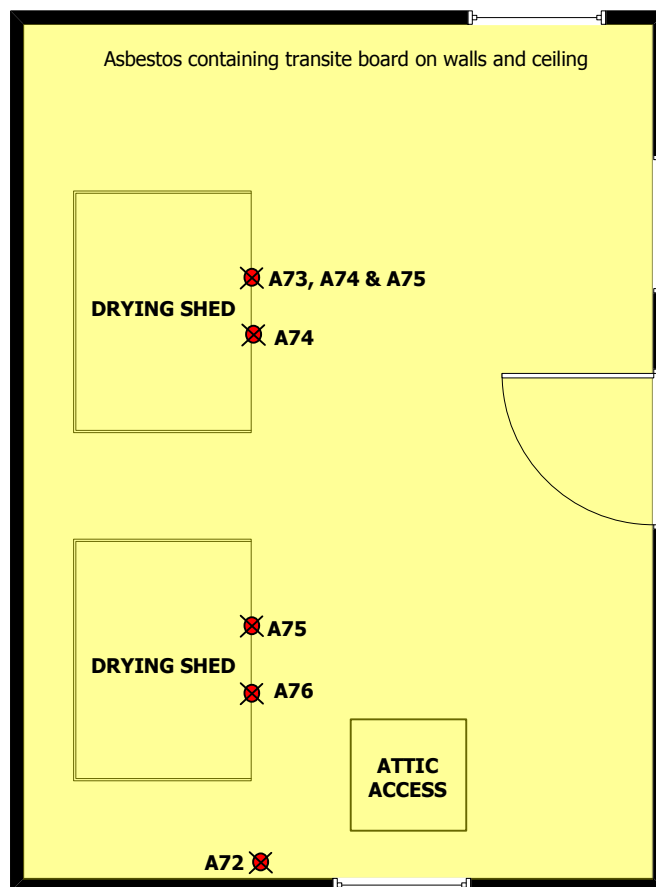
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #37 DRYING SHED



Date: Feb, 2011

Drawn by: CL

Project Name: Hazardous Materials Assessment

Project No.: 11166

Appendix

Edited: Feb, 2011

Edited by: ER

Project Location: Fort Vermillion Research Centre

3b-10



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

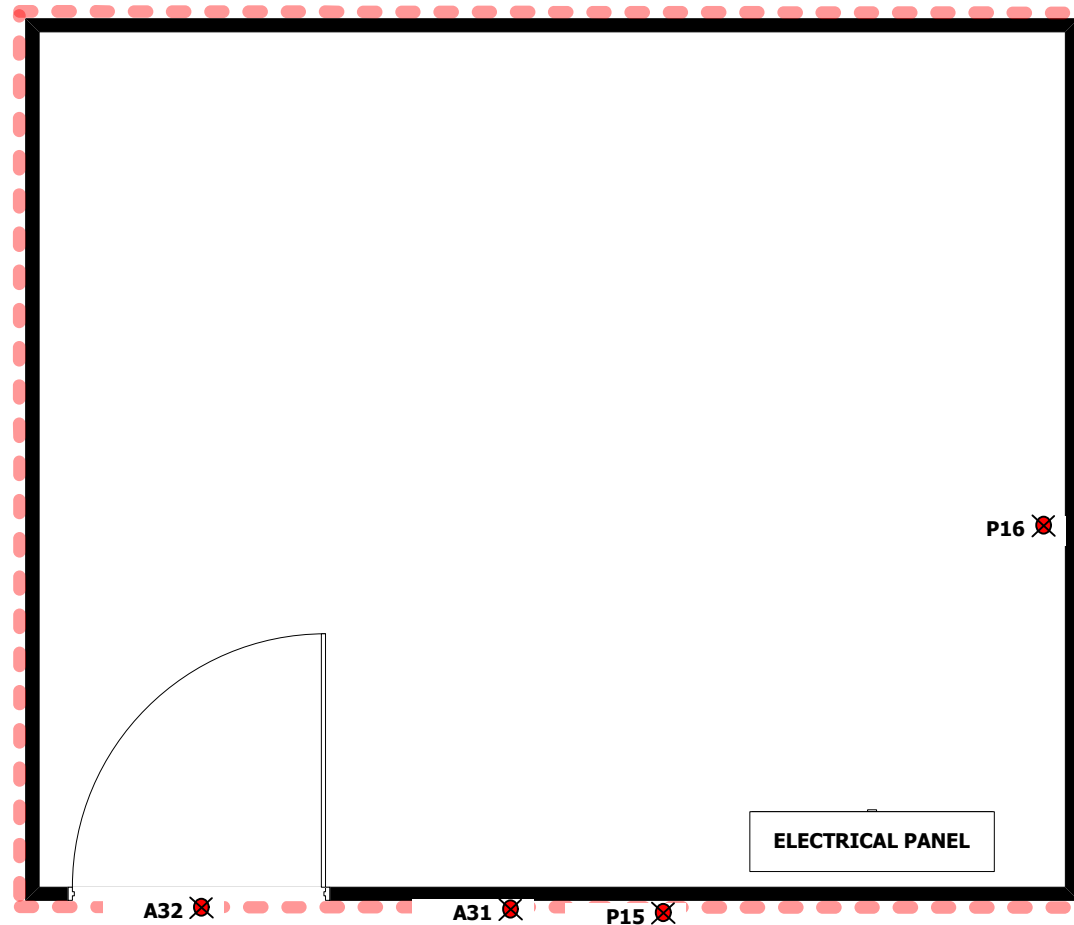
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #57 SEWAGE LIFT PUMP HOUSE



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-11**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

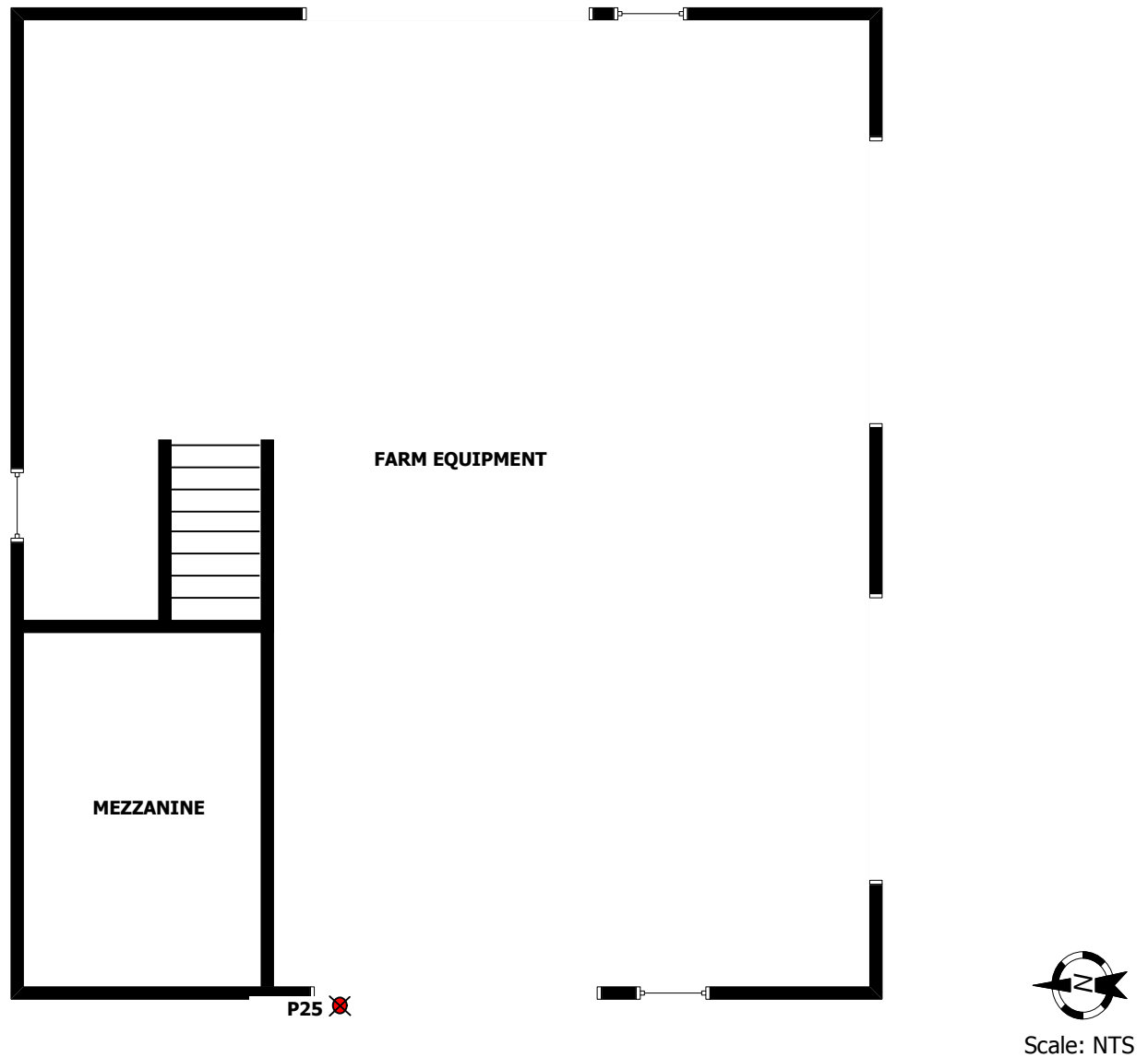
ACM Sink Coating

Radioactive Items

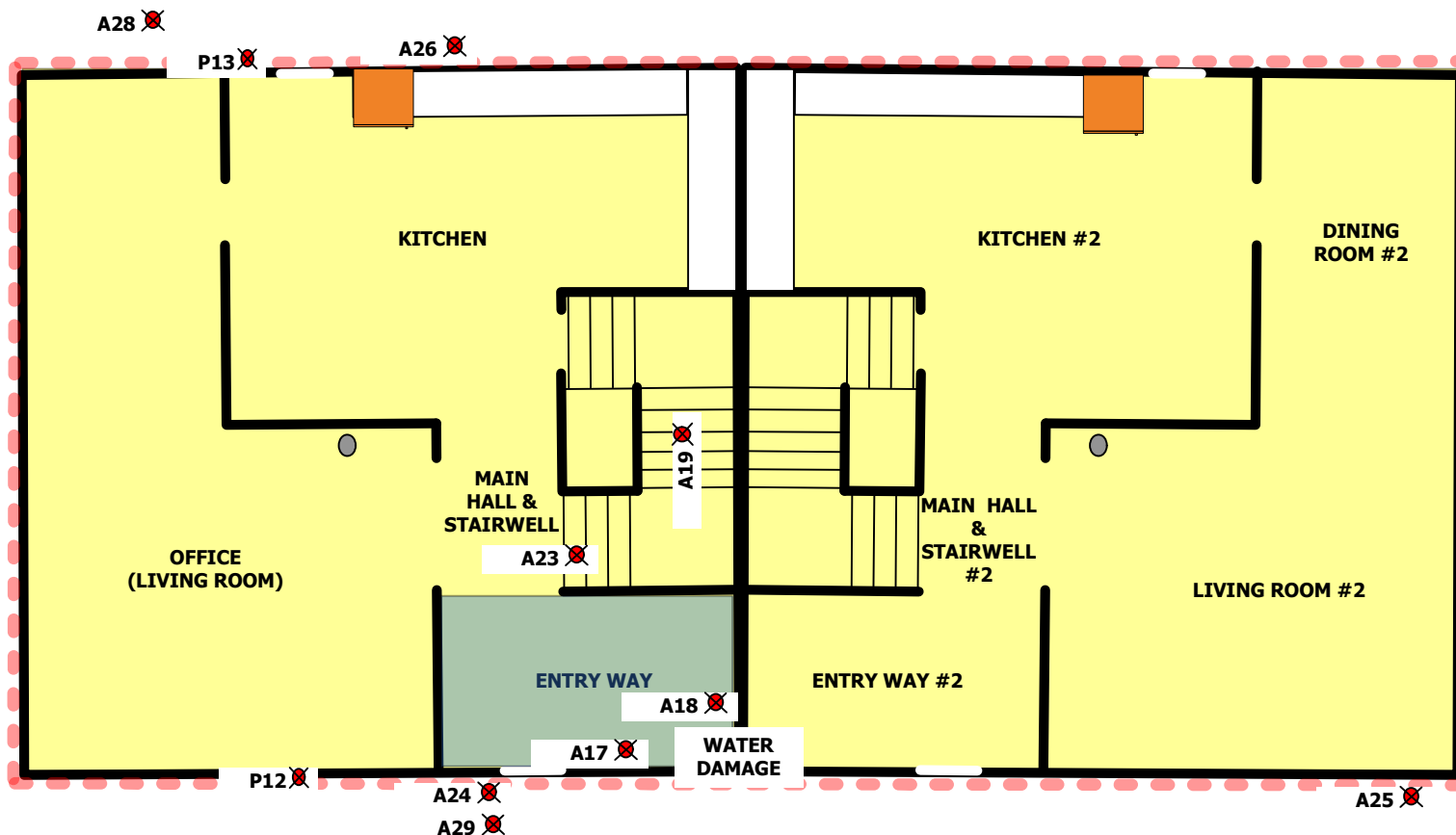
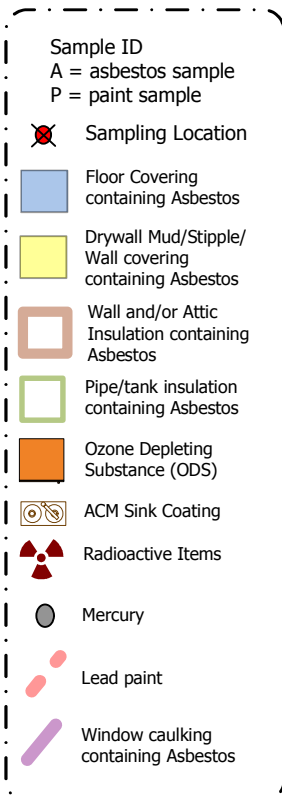
Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #59 TIN BARN STORAGE



Scale: NTS

SITE SAMPLING DIAGRAM: #60 DUPLEX HOUSE Main Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-13**



Sample ID
A = asbestos sample
P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

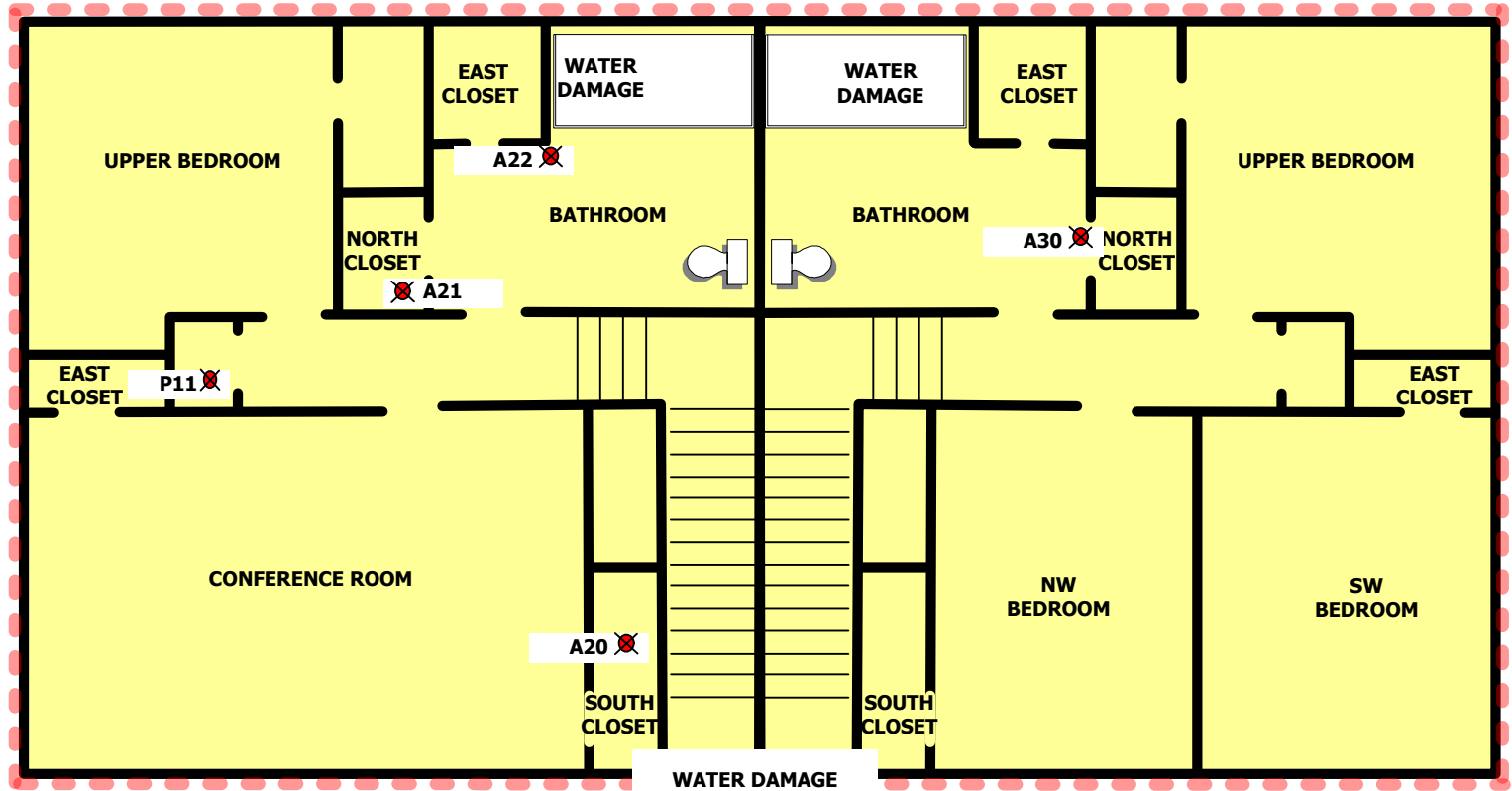
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #60 DUPLEX HOUSE Second Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-14**



Sample ID
A = asbestos sample
P = paint sample

✗ Sampling Location

Blue square: Floor Covering containing Asbestos

Yellow square: Drywall Mud/Stipple/ Wall covering containing Asbestos

Orange square: Wall and/or Attic Insulation containing Asbestos

Green square: Pipe/tank insulation containing Asbestos

Orange square: Ozone Depleting Substance (ODS)

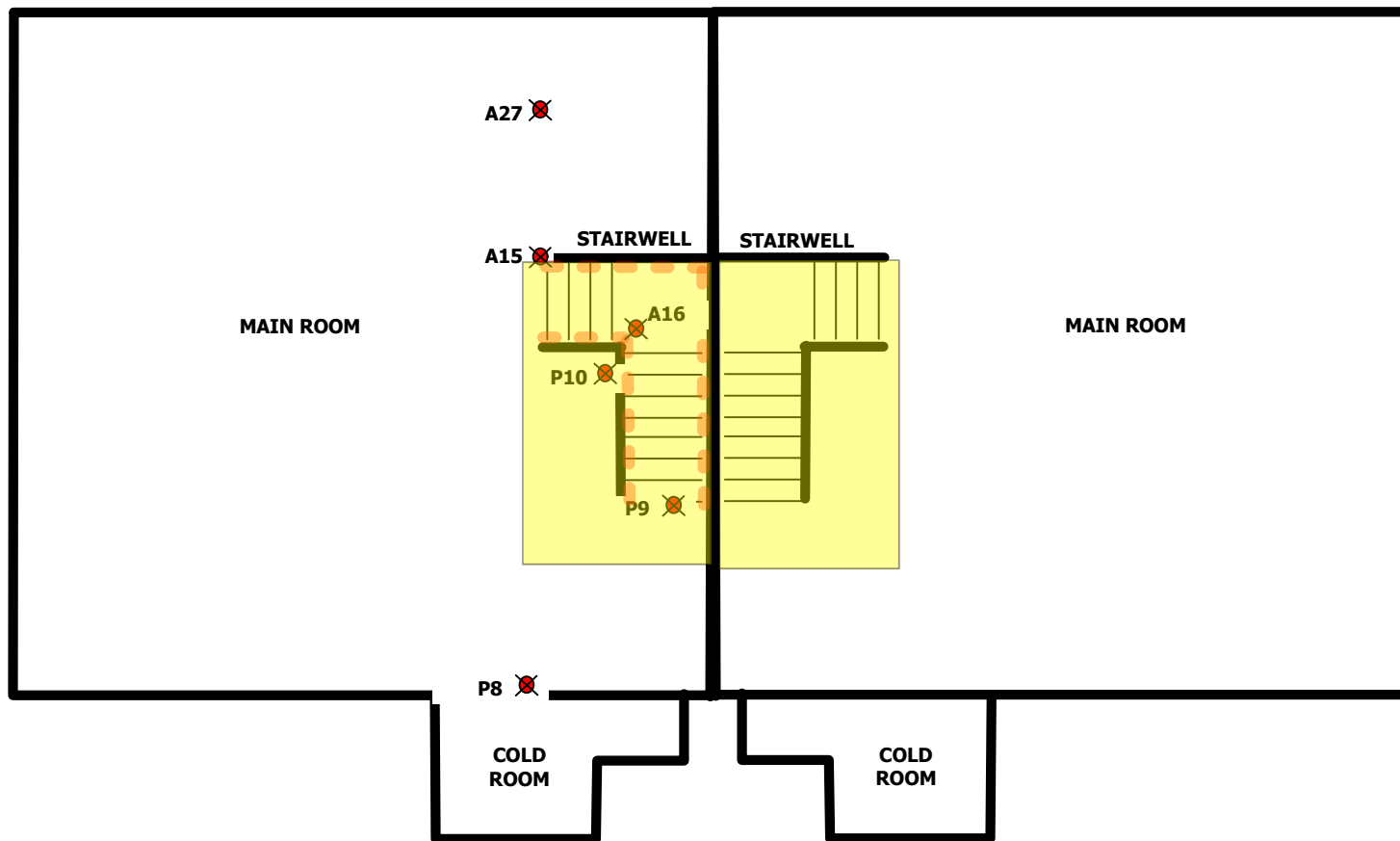
Circle with X: ACM Sink Coating

Red radiation symbol: Radioactive Items

Grey circle: Mercury

Red dot: Lead paint

Purple line: Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #60 DUPLEX HOUSE Second Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: KC

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-15**



Sample ID
 A = asbestos sample
 P = paint sample

Sampling Location

Floor Covering containing Asbestos

Drywall Mud/Stipple/ Wall covering containing Asbestos

Wall and/or Attic Insulation containing Asbestos

Pipe/tank insulation containing Asbestos

Ozone Depleting Substance (ODS)

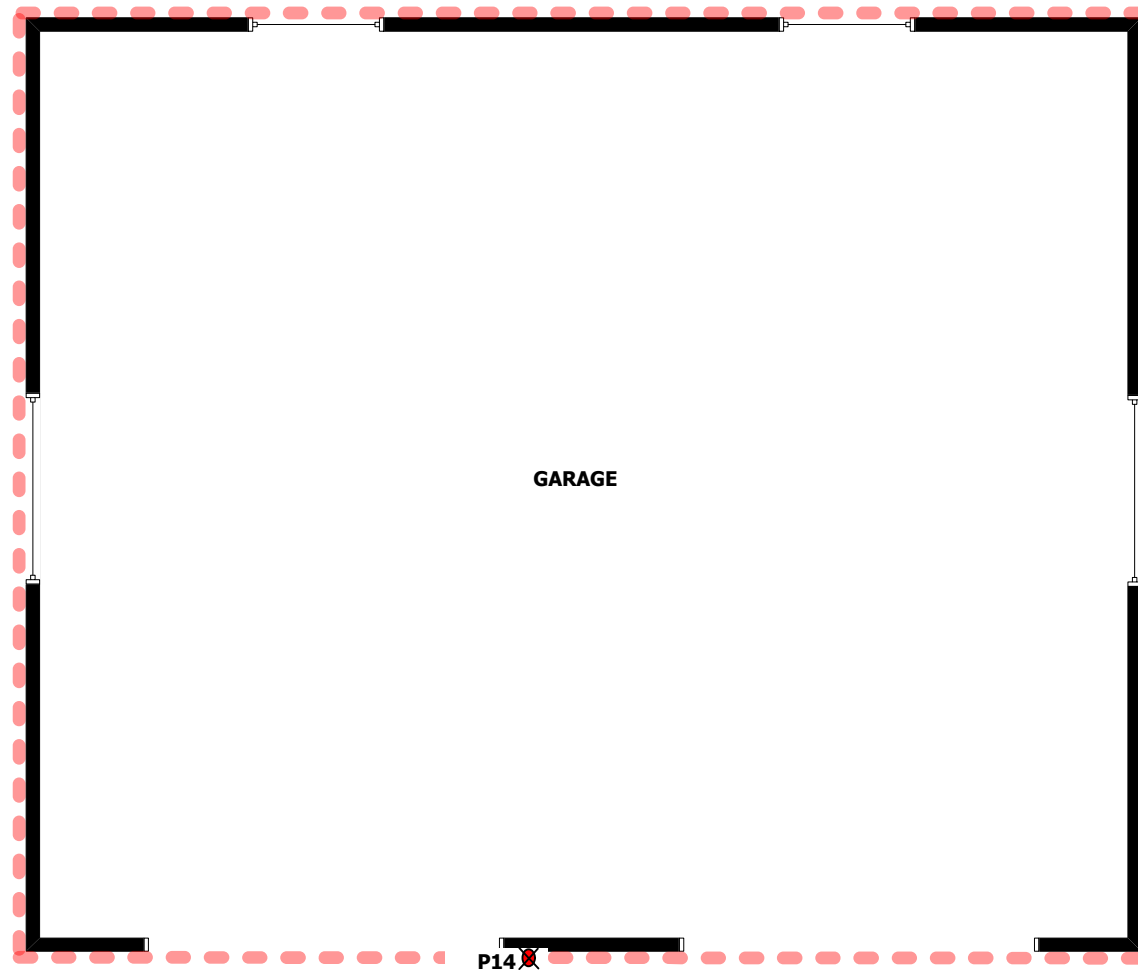
ACM Sink Coating

Radioactive Items

Mercury

Lead paint

Window caulking containing Asbestos



SITE SAMPLING DIAGRAM: #60A DOUBLE GARAGE



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

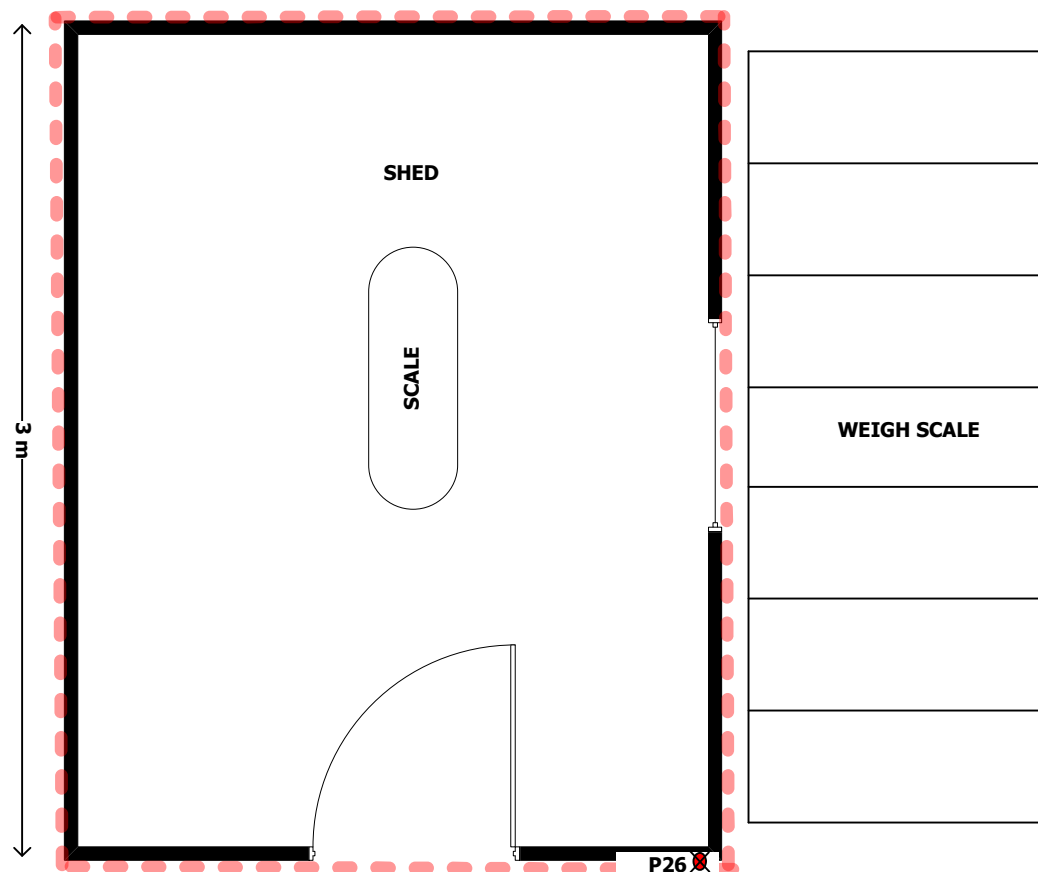
Project No.: 11166

**Appendix
3b-16**



Sample ID
A = asbestos sample
P = paint sample

- Sampling Location
- Floor Covering containing Asbestos
- Drywall Mud/Stipple/Wall covering containing Asbestos
- Wall and/or Attic Insulation containing Asbestos
- Pipe/tank insulation containing Asbestos
- Ozone Depleting Substance (ODS)
- ACM Sink Coating
- Radioactive Items
- Mercury
- Lead paint
- Window caulking containing Asbestos



Scale: NTS

SITE SAMPLING DIAGRAM: #62 WEIGH SCALE



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

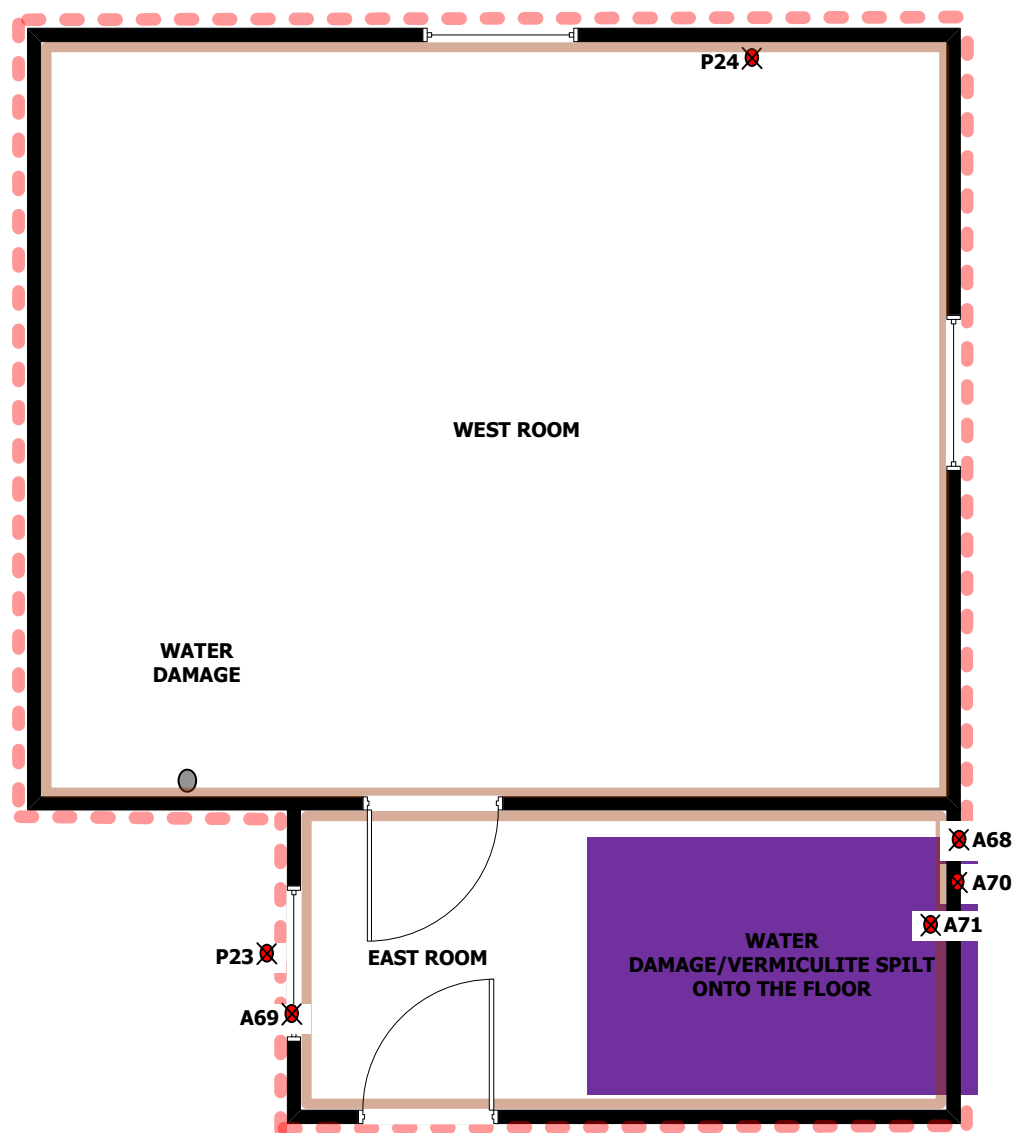
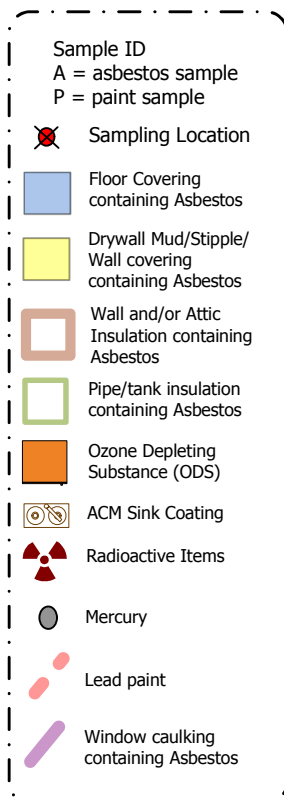
Edited by: ER

Project Name: Hazardous Materials Assessment

Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
3b-17**



Scale: NTS

SITE SAMPLING DIAGRAM: PUMP HOUSE Main Floor



Date: Feb, 2011

Edited: Feb, 2011

Drawn by: CL

Edited by: ER

Project Name: Hazardous Materials Assessment

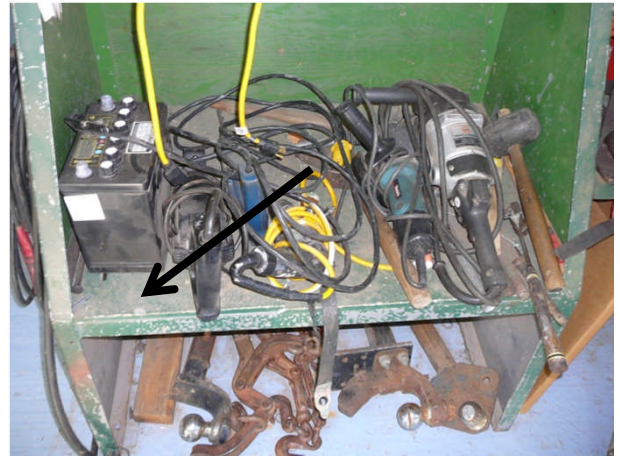
Project Location: Fort Vermillion Research Centre

Project No.: 11166

**Appendix
1b-18**



#33 Processing and Carpenter Shop
Sample A1 : Duct insulation containing asbestos



#23 Workshop and Office
Sample A11 : Green board containing asbestos

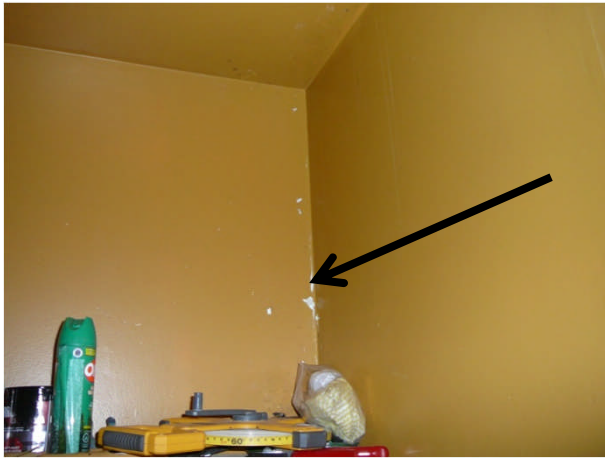


#60 Duplex House
Sample A15 : Drywall mud containing asbestos



#60 Duplex House
Sample A17 : Floor tile containing asbestos

PHOTOGRAPHIC LOG



#60 Duplex House

Sample A18: Drywall mud containing asbestos



#60 Duplex House

Sample A20 : Drywall mud containing asbestos



#60 Duplex House

Sample A23 : Drywall mud containing asbestos



#2 Administration Office

Sample A35 : Floor tile containing asbestos

PHOTOGRAPHIC LOG



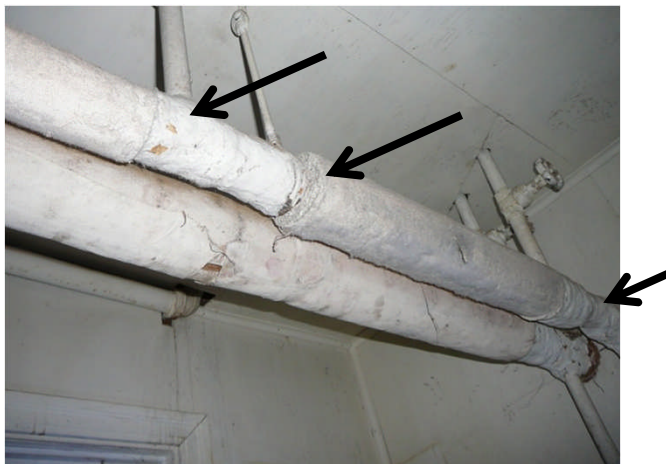
#2 Administration Office

Sample A36 : Floor tile containing asbestos



#2 Administration Office

Sample A37 : Floor tile containing asbestos



#2 Administration Office

Sample A38, A39 & A40 : Pipe insulation containing asbestos



#2 Administration Office

Sample A41 : Transite board containing asbestos

PHOTOGRAPHIC LOG



#2 Administration Office

Sample A42 & A43 : Pipe insulation containing asbestos



Pump House

Sample A70 & A71: Vermiculite insulation containing asbestos



#37 Drying Shed

Sample A72 : Transite board containing asbestos



#37 Drying Shed

Sample A73 : Insulation board containing asbestos

PHOTOGRAPHIC LOG



#37 Drying Shed

Sample A76: Insulation board containing
asbestos

PHOTOGRAPHIC LOG



#60 Duplex House

Sample P10 : Yellow paint containing lead



#60 Duplex House

Sample P13 : White paint containing lead



#60A Garage

Sample P14: White paint containing lead



#57 Sewage Lift Pump House

Sample P15: White paint containing lead

PHOTOGRAPHIC LOG



Pump House

Sample P23: White paint containing lead



#62 Weigh Scale

Sample P26 : White paint containing lead

PHOTOGRAPHIC LOG



#2 Administration Office - Basement
Suspected high water mark from flooding



#2 Administration Office - Basement
Suspected mould growth on asbestos pipe insulation



#2 Administration Office – Main Floor
Water damage and failure of the main floor
ceiling



#2 Administration Office – 2nd Floor
Water Damage and debris from failure of the
2nd floor ceiling

PHOTOGRAPHIC LOG



#2 Administration Office – 2nd Floor
Ceiling material on the floor with biological growth



#14 Drying and Threshing Shed
Water damaged ceiling



#33 Processing & Carpenter Shop
Attic with some suspect mould growth



#60 Duplex House – North Unit
Water damage in the conference room closet

PHOTOGRAPHIC LOG



#60 Duplex House – North Unit
Water damage in the washroom



#60 Duplex House – South Unit
Water damage in the northwest bedroom closet

PHOTOGRAPHIC LOG

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|-------------------------|--|--|-------------|-------------------------------|
| Lab No.: 4213351 | Description / Location: Off-White/Silver Insulation | | | |
| Client No.: A1 | (33) Restroom, Duct | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | 25 | Cellulose | 10 |

| | | | | |
|-------------------------|--|--|---------------|-------------------------------|
| Lab No.: 4213352 | Description / Location: White Putty | | | |
| Client No.: A2 | (33) Exterior Windows | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|-------------------------|---|--|-------------|-------------------------------|
| Lab No.: 4213353 | Description / Location: Tan Vermiculite Insulation | | | |
| Client No.: A3 | (33) Walls | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gangue, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Approved By: 

Date: 2/15/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | |
|-------------------------|---|
| Lab No.: 4213354 | Description / Location: Tan Vermiculite Insulation |
| Client No.: A4 | (33) Walls |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 5 | Cellulose | 95 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | |
|-------------------------|---|
| Lab No.: 4213355 | Description / Location: Tan Vermiculite Insulation |
| Client No.: A5 | (33) Walls |

| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
|-------------------|---------------|--|-------------|-------------------------------|
| None Detected | None Detected | 5 | Cellulose | 95 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4213356 | Description / Location: | Lt. Tan Mortar | |
| Client No.: | A6 | | (33) Furnace Room Attic, Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------------------|-------------------------------|
| Lab No.: | 4213357 | Description / Location: | Brown Wrap | |
| Client No.: | A7 | | (23) Storage Area, Welding Blanket | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213358 | Description / Location: | Grey Putty | |
| Client No.: | A8 | | (23) Exterior Window South | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213359 | Description / Location: | Black Insulation | |
| Client No.: | A9 | | (23) Attic Loose Wire | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 3 |
| | | 17 | Fibrous Glass | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4213360 | Description / Location: | Brown Tar Paper | |
| Client No.: | A10 | | (23) Shop North Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 99 | Cellulose | 1 |

| | | | | |
|--------------------|-------------|--|---------------|-------------------------------|
| Lab No.: | 4213361 | Description / Location: | Grey Transite | |
| Client No.: | A11 | | (23) Shop | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4213362 | Description / Location: | Tan Mortar | |
| Client No.: | A12 | | (23) Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------|-------------------------------|
| Lab No.: | 4213363 | Description / Location: | Black Insulation | |
| Client No.: | A13 | | (14) Wire Attic | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 90 | Cellulose | 10 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|------------------|-------------------------------|
| Lab No.: | 4213364 | Description / Location: | Tan Caulk | |
| Client No.: | A14 | | (14) East Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Chrysotile | None Detected | None Detected | PC 99.75 |

| | | | | |
|--------------------|-------------|--|------------------------|-------------------------------|
| Lab No.: | 4213365 | Description / Location: | Off-White Fibrous | |
| Client No.: | A15 | | (60) Bsmt Under Stairs | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.3 | Chrysotile | None Detected | None Detected | PC 97.7 |

| | | | | |
|--------------------|---------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4213366 | Description / Location: | Lt.Tan/Brown Vinyl Shet Flooring | |
| Client No.: | A16 | | (60) Bsmt Stair Landing | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 35 | Cellulose | 65 |

| | | | | |
|--------------------|-------------|--|-------------------|-------------------------------|
| Lab No.: | 4213367 | Description / Location: | Lt.Tan Floor Tile | |
| Client No.: | A17 | | (60) Entryway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|----------------|-------------------------------|
| Lab No.: | 4213368 | Description / Location: | Lt.Tan Fibrous | |
| Client No.: | A18 | | (60) Entryway | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.1 | Chrysotile | None Detected | None Detected | PC 96.9 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4213369 | Description / Location: | Tan Vinyl Sheet Flooring | |
| Client No.: | A19 | | (60) Stair Runner | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 30 | Cellulose | 70 |

| | | | | |
|--------------------|-------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4213370 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A20 | | (60) Conference Room South Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 2.0 | Chrysotile | None Detected | None Detected | 98 |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4213371 | Description / Location: | Tan/Brown Vinyl Sheet Flooring | |
| Client No.: | A21 | | (60) Bathroom Closet | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 65 | Cellulose | 35 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4213372 | Description / Location: | White Joint Compound | |
| Client No.: | A22 | | (60) Bathroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4213373 | Description / Location: | Off-White Joint Compound | |
| Client No.: | A23 | | (60) Stairwell | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213374 | Description / Location: | Tan Plaster | |
| Client No.: | A24 | | (60) Exterior Northwest | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213375 | Description / Location: | Tan Plaster | |
| Client No.: | A25 | | (60) Exterior Southeast | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | |
|--|--|
| Lab No.: 4213376 | Description / Location: Tan Plaster |
| Client No.: A26 | (60) Exterior East |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | |
| | 100 |

| | |
|--|---|
| Lab No.: 4213377 | Description / Location: Off-White Wrap |
| Client No.: A27 | (60) Bsmt |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| 100 | Cellulose |
| <u>% Non-Fibrous Material</u> | |
| | None Detected |

| | |
|--|--|
| Lab No.: 4213378 | Description / Location: Black/Red Shingle |
| Client No.: A28 | (60) Under Deck Dog House |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| 30 | Cellulose |
| <u>% Non-Fibrous Material</u> | |
| | 70 |

| | |
|--|--|
| Lab No.: 4213379 | Description / Location: Brown Tar Paper |
| Client No.: A29 | (60) Exterior |
| <u>% Asbestos</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| 99 | Cellulose |
| <u>% Non-Fibrous Material</u> | |
| | 1 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|
| Lab No.: | 4213380 | Description / Location: | White Floor Tile | |
| Client No.: | A30 | | (60) South Bathroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|---------------------|-------------------------------|---|
| Lab No.: | 4213380 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | A30 | | (60) South Bathroom | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213381 | Description / Location: | Black/White Tar Paper | |
| Client No.: | A31 | | (57) Exterior Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 20 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4213382 | Description / Location: | White Caulk | |
| Client No.: | A32 | | (57) Door | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | |
|-------------------------|---|
| Lab No.: 4213383 | Description / Location: Tan/Brown Vinyl Sheet Flooring |
| Client No.: A33 | (2) Bsmt Vault |
| <u>% Asbestos</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | 35 |
| <u>Type</u> | <u>Type</u> |
| None Detected | Cellulose |
| | <u>% Non-Fibrous Material</u> |
| | 65 |

| | |
|-------------------------|---|
| Lab No.: 4213384 | Description / Location: Tan/Brown Vinyl Sheet Flooring |
| Client No.: A34 | (2) Bsmt Vault |
| <u>% Asbestos</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | 35 |
| <u>Type</u> | <u>Type</u> |
| None Detected | Cellulose |
| | <u>% Non-Fibrous Material</u> |
| | 65 |

| | |
|-------------------------|---|
| Lab No.: 4213385 | Description / Location: Tan Floor Tile |
| Client No.: A35 | (2) Bsmt Under Stairs |
| <u>% Asbestos</u> | <u>% Non-Asbestos Fibrous Material</u> |
| PC 4.7 | None Detected |
| <u>Type</u> | <u>Type</u> |
| Chrysotile | None Detected |
| | <u>% Non-Fibrous Material</u> |
| | PC 95.3 |

| | | |
|-------------------------|---|-------------------------------|
| Lab No.: 4213385 | Description / Location: Tan Mastic | Layer No.: 2 |
| Client No.: A35 | (2) Bsmt Under Stairs | |
| <u>% Asbestos</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 |
| <u>Type</u> | <u>Type</u> | |
| None Detected | None Detected | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | |
|--|---|
| Lab No.: 4213386 | Description / Location: Tan Floor Tile |
| Client No.: A36 | (2) Bsmt SE Storage Room |
| <u>% Asbestos</u> | <u>Type</u> |
| PC 5.3 | Chrysotile |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | PC 94.7 |

| | | |
|-------------------------|---|--|
| Lab No.: 4213386 | Description / Location: Brown Mastic | Layer No.: 2 |
| Client No.: A36 | (2) Bsmt SE Storage Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | None Detected | 1 |
| | | Cellulose |
| | | 99 |

| | |
|--|---|
| Lab No.: 4213387 | Description / Location: Tan Floor Tile |
| Client No.: A37 | (2) Bsmt SE Storage Room |
| <u>% Asbestos</u> | <u>Type</u> |
| PC 5.1 | Chrysotile |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | PC 94.9 |

| | |
|--|--|
| Lab No.: 4213388 | Description / Location: Grey Insulation |
| Client No.: A38 | (2) Bsmt NE Office |
| <u>% Asbestos</u> | <u>Type</u> |
| 60 | Chrysotile |
| <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected |
| <u>% Non-Fibrous Material</u> | 40 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--------------------|-------------------------------|
| Lab No.: | 4213389 | Description / Location: | Lt. Tan Insulation | |
| Client No.: | A39 | | (2) Bsmt NE Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | 20 | Cellulose | 15 |

| | | | | |
|--------------------|-------------|--|--------------------|-------------------------------|
| Lab No.: | 4213391 | Description / Location: | Grey Insulation | |
| Client No.: | A40 | | (2) Bsmt NE Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 65 | Chrysotile | None Detected | None Detected | 35 |

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213391 | Description / Location: | Grey Transite | |
| Client No.: | A41 | | (2) Bsmt Utility Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 30 | Chrysotile | None Detected | None Detected | 70 |

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213392 | Description / Location: | Grey Insulation | |
| Client No.: | A42 | | (2) Bsmt Utility Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 55 | Chrysotile | None Detected | None Detected | 45 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213393 | Description / Location: | Off-White Insulation | |
| Client No.: | A43 | | (2) Bsmt Utility Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 80 | Chrysotile | 15 | Cellulose | 5 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213394 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A44 | | (2) North Stairwell | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213395 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A45 | | (2) Main Entrance | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213396 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A46 | | (2) Main Men's Bathroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | | |
|-------------------------|--|--|
| Lab No.: 4213397 | Description / Location: Tan Paper | |
| Client No.: A47 | (2) Main NW Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | None Detected | 100 |
| | | <u>Type</u> |
| | | Cellulose |
| | | <u>% Non-Fibrous Material</u> |
| | | None Detected |

| | | |
|-------------------------|--|--|
| Lab No.: 4213398 | Description / Location: Tan Paper | |
| Client No.: A48 | (2) Main East Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | None Detected | 100 |
| | | <u>Type</u> |
| | | Cellulose |
| | | <u>% Non-Fibrous Material</u> |
| | | None Detected |

| | | |
|-------------------------|--|--|
| Lab No.: 4213399 | Description / Location: Lt. Tan Plaster | |
| Client No.: A49 | (2) Main Reception | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> |
| None Detected | None Detected | None Detected |
| | | <u>Type</u> |
| | | None Detected |
| | | <u>% Non-Fibrous Material</u> |
| | | 100 |

| | | | |
|-------------------------|--|--|-------------------------------|
| Lab No.: 4213399 | Description / Location: White Plaster | | Layer No.: 2 |
| Client No.: A49 | (2) Main Reception | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | 100 |
| | | <u>Type</u> | |
| | | None Detected | |
| | | <u>% Non-Fibrous Material</u> | |
| | | | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213400 | Description / Location: | Lt. Tan Plaster | |
| Client No.: | A50 | | (2) Main Girls Washroom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|---|
| Lab No.: | 4213400 | Description / Location: | White Plaster | Layer No.: | 2 |
| Client No.: | A50 | | (2) Main Girls Washroom | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|
| Lab No.: | 4213401 | Description / Location: | White Plaster | |
| Client No.: | A51 | | (2) Main SE Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|--------------------|
| Lab No.: | 4213402 | Description / Location: | White Plaster |
| Client No.: | A52 | | (2) Main NW Office |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | | | |
|--------------------|---------------|--|--------------------|-------------------------------|---|
| Lab No.: | 4213402 | Description / Location: | Tan Plaster | Layer No.: | 2 |
| Client No.: | A52 | | (2) Main NW Office | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | |
|--------------------|---------------|--|---------------------------|
| Lab No.: | 4213403 | Description / Location: | Tan Plaster |
| Client No.: | A53 | | (2) 2nd NW Office Ceiling |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|---|
| Lab No.: | 4213403 | Description / Location: | White Plaster | Layer No.: | 2 |
| Client No.: | A53 | | (2) 2nd NW Office Ceiling | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213404 | Description / Location: | Tan Plaster | |
| Client No.: | A54 | | (2) 2nd South Room Ceiling | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|-------------------|---|
| Lab No.: | 4213404 | Description / Location: | White Plaster | | Layer No.: | 2 |
| Client No.: | A54 | | (2) 2nd South Room Ceiling | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | | |
| None Detected | None Detected | None Detected | None Detected | 100 | | |

| | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|
| Lab No.: | 4213405 | Description / Location: | Tan Plaster | |
| Client No.: | A55 | | (2) 2nd File Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | | |
|--------------------|---------------|--|-------------------|-------------------------------|-------------------|---|
| Lab No.: | 4213405 | Description / Location: | White Plaster | | Layer No.: | 2 |
| Client No.: | A55 | | (2) 2nd File Room | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | | |
| None Detected | None Detected | None Detected | None Detected | 100 | | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4213406 | Description / Location: | White Non Fibrous | |
| Client No.: | A56 | | (2) 2nd File File Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213407 | Description / Location: | Grey Vinyl Sheet Flooring | |
| Client No.: | A57 | | (2) 2nd Fl. Hall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213408 | Description / Location: | Green Vinyl Sheet Flooring | |
| Client No.: | A58 | | (2) 2nd Fl. S. Room | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Cellulose | 98 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213409 | Description / Location: | Grey Vinyl Sheet Flooring | |
| Client No.: | A59 | | (2) 2nd Fl. NE Office | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 97 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213410 | Description / Location: | White Plaster | |
| Client No.: | A60 | | (2) Main Entrance Exterior | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4213411 | Description / Location: | Off-White Caulk | |
| Client No.: | A61 | | (2) Main Floor East Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213412 | Description / Location: | Off-White Caulk | |
| Client No.: | A62 | | (2) Window Inside Foyer | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213413 | Description / Location: | Tan Plaster | |
| Client No.: | A63 | | (2) Exterior North Wall | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | | | |
|--------------------|---------------|--|-------------------------|-------------------------------|-------------------|---|
| Lab No.: | 4213413 | Description / Location: | White Plaster | | Layer No.: | 2 |
| Client No.: | A63 | | (2) Exterior North Wall | | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | | |
| None Detected | None Detected | None Detected | None Detected | 100 | | |

| | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|
| Lab No.: | 4213414 | Description / Location: | Tan Mortar | |
| Client No.: | A64 | | (2) Exterior Chimney | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|----------------------|
| Lab No.: | 4213415 | Description / Location: | White Plaster |
| Client No.: | A65 | | (2) Exterior Chimney |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | | | |
|--------------------|---------------|--|----------------------|-------------------------------|---|
| Lab No.: | 4213415 | Description / Location: | Tan Plaster | Layer No.: | 2 |
| Client No.: | A65 | | (2) Exterior Chimney | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4213416 | Description / Location: | Grey Non Fibrous |
| Client No.: | A66 | | (2) Exterior West Bottom |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|---|
| Lab No.: | 4213416 | Description / Location: | White Non Fibrous | Layer No.: | 2 |
| Client No.: | A66 | | (2) Exterior West Bottom | | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213417 | Description / Location: | Grey Non Fibrous | |
| Client No.: | A67 | | (2) Exterior North Bottom | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4213418 | Description / Location: | Black/Red Shingle | |
| Client No.: | A68 | | Pump House Lean 2 Roof | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 35 | Cellulose | 65 |

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4213419 | Description / Location: | Lt.Green Caulk | |
| Client No.: | A69 | | Pump House South Window | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 0.25 | Chrysotile | None Detected | None Detected | PC 99.75 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Project: Fort Vermillion Research Centre
Project No.: 11166F

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|-------------------------|---|--|-------------|-------------------------------|
| Lab No.: 4213420 | Description / Location: Tan Vermiculite Insulation | | | |
| Client No.: A70 | Pump House Lean 2 Roof | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 3 | Cellulose | 97 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

| | | | | |
|-------------------------|---|--|-------------|-------------------------------|
| Lab No.: 4213421 | Description / Location: Tan Vermiculite Insulation | | | |
| Client No.: A71 | Pump House Roof | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 3 | Cellulose | 97 |

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of the vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004). Please call for more information and pricing.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|---------------|-------------------------------|
| Lab No.: | 4213422 | Description / Location: | Grey Transite | |
| Client No.: | A72 | | (37) Walls | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 25 | Chrysotile | None Detected | None Detected | 75 |

| | | | | |
|--------------------|-------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213423 | Description / Location: | Off-White Insulation | |
| Client No.: | A73 | | (37) North On Dryer Doors | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 70 | Chrysotile | None Detected | None Detected | 30 |

| | | | | |
|--------------------|---------------|--|-----------------------|-------------------------------|
| Lab No.: | 4213424 | Description / Location: | Black Gasket | |
| Client No.: | A74 | | (37) On Doors (North) | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213425 | Description / Location: | Black Gasket | |
| Client No.: | A75 | | (37) On South Dryer Doors | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 100 | Cellulose | None Detected |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|---------------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Project: | Fort Vermillion Research Centre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4213426 | Description / Location: | White Insulation | |
| Client No.: | A76 | | (37) Dryer (South) Doors | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 10 | Amosite | None Detected | None Detected | 80 |
| 10 | Chrysotile | | | |

| | | | | |
|--------------------|-------------|--|--------------------------|-------------------------------|
| Lab No.: | 4213427 | Description / Location: | Off-White Joint Compound | |
| Client No.: | Dup1 | | Duplicate Sample | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 |

| | | | | |
|--------------------|-------------|--|------------------|-------------------------------|
| Lab No.: | 4213428 | Description / Location: | Grey Insulation | |
| Client No.: | Dup2 | | Duplicate Sample | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 70 | Chrysotile | None Detected | None Detected | 30 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4213429 | Description / Location: | Grey Vinyl Sheet Flooring | |
| Client No.: | Dup3 | | Duplicate Sample | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 5 | Cellulose | 95 |

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: E. Smith

Date: 2/15/2011

NOTICE OF ANALYTICAL CAPABILITIES

Client:

Notice Date: 2/21/2011

Project:

Project No.:

This notice is not intended to replace the Certificate of Analysis or other data associated with the analysis of bulk materials. Instead, IATL has observed that the samples may not fit standard methods usually prescribed for the analysis of asbestos. We hope to communicate these observations so that more appropriate means of analysis may be considered. Please call the Laboratory Director for specific alternatives or further explanation of this notice.

Discussion:

The above referenced sample(s) were submitted for asbestos analysis via the EPA Method 600/R-93.116 "Method for the Determination of Asbestos in Bulk Building Materials". This method specifies the use of Polarized Light Microscopy (PLM) as the instrumental technique of choice to differentiate the fibrous components of a bulk sample and to quantify these components into percent by volume categories. This analytical method has appendent procedures that encompass other related asbestos techniques. These include procedures for the quantitative regimen of point counting and the gravimetric reduction of certain materials for analysis by PLM and Transmission Electron Microscopy (TEM) for results in weight percentages. Though an excellent method for building materials, it may not be adequate or the results may be limited by the following factors:

- Sample submitted on matrix material (soil, dust, debris, etc.) that may interfere with the detection of suspect asbestos fibers.
- Optical techniques (PLM) have limited resolution and may miss fine or small fibers inherent in many building products or that may have been released from building products into the atmosphere and on to surfaces.
- The method is limited to bulk building materials.
- The method requires minimum sampling 15 cc of material for verifiable quantitative results.
- The method may not produce detection levels now required for certain health and safety recommendations.
- Other established matrix specific methods may be more applicable.

Recommendations:

IATL recommends the following alternative to either the sampling protocol and/or analytical methodology to improve both qualitative and quantitative results:

- ☐ ASTM D5755-02 "Standard Method for Microvacuum Sampling and Indirect Analysis of Surface Dust by TEM for Asbestos Structure Concentrations on Surfaces".
- ☐ ASTM D5756-02 "Standard Method for Microvacuum Sampling and Indirect Analysis of Surface Dust by TEM for Asbestos Mass Concentrations".
- ☐ ASTM D6480-99 "Standard Method for Wipe Sampling of Surfaces, Indirect Preparation, and Analysis for Asbestos Structure Concentrations".
- ☐ EPA Region I Proprietary Method for the Determination of Asbestos in Soils, Sludges, and Sediments by PLM.
- ☐ Modified EPA Region I Proprietary Method for the Determination of Asbestos in Soils, Sludges, and Sediments by TEM.
- ☒ CARB 435 Method Determination of Asbestos Content in Serpentine Aggregate.
- ☒ EPA 600/R-04/004 Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation. [SEE PAGE 2 OF THIS DOCUMENT FOR FURTHER INFORMATION]

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites).

IATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlined in the EPA 600/R-04/004 Method:

| <u>Analytical Step/Method</u> | <u>Requirements/Comments</u> | <u>Pricing/TurnAroundTimes</u> |
|---|--|--|
| 1. Initial Screening by PLM EPA 600R-93/116 | Minimum 0.1g of sample ~0.25% LOQ for most samples | \$35.00 - \$50.00 3-5 Day to Same Day* |
| 2. Wet Separation by PLM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Sinks' only | \$ 60.00 3-5 Day 0.25% LOQ \$120.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |
| 3. Wet Separation by PLM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Floats' only | \$ 60.00 3-5 Day 0.25% LOQ \$120.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |
| 4. Wet Separation by TEM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Sinks' only | \$150.00 3-5 Day ~0.25% LOQ \$200.00 3-5 Day ~0.1% LOQ \$360.00 3-5 Day ~0.01% LOQ |
| 5. Wet Separation by TEM Gravimetric Technique EPA R-04/004 | Minimum 50g** of dry sample Analysis of 'Suspension' only | \$150.00 3-5 Day 0.25% LOQ \$200.00 3-5 Day 0.1% LOQ \$360.00 3-5 Day 0.01% LOQ |

1 thru 5 above represents worst case scenario for negative confirmation at <0.01% = \$1475.00

LOQ, Limit of Quantitation estimates for mass and volume analyses.

* With advance notice and confirmation by the laboratory.

** Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample)

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: _____
Project No.: 11166 F

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions: _____

Type:

| Asbestos | | Lead | | Other | |
|--|--------------------------------|--------------------------------|--------------------------------|-------|--|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input type="checkbox"/> Soil | | |
| <input checked="" type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input type="checkbox"/> Paint | | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input type="checkbox"/> Other | | |

Analysis Method:

| | | |
|---|---|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input checked="" type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other _____ | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Lead in Drinking Water | | <input type="checkbox"/> TEM : Other _____ |
| <input type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | | <input type="checkbox"/> TEM : Total Dust : NIOSH 0500 |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | |
| <input type="checkbox"/> AAS : Other Metals / Soil _____ | | |

Turnaround email:

Time: elvie@ballastenvironmental.com **FAX:** _____ **Verbals:** _____

☐ 10 Day ☒ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ 6 hour ☐ RUSH

Preliminary FAX/Verbal Results Requested by: _____

Sample

Numbers: Client #(s): A1 → A76
(start) (end)

IATL#(s): _____ - _____
(start) (end)

Chain of Custody:

| | | | | | |
|----------------|---------------|-------|---------------|-------|--|
| Relinquished: | Elvie Reinson | Date: | Feb 3/11 | Time: | |
| Received: | | Date: | | Time: | |
| Sample Log-in: | BR 2/14/11 | Date: | FEB - 14 2011 | Time: | |
| Sample Prep: | | Date: | 2/15/2011 | Time: | |
| Analyzed: | | Date: | | Time: | |
| QA/QC Review: | | Date: | | Time: | |

Archived/Released: _____ QA/QC InterLAB Use: _____ Date: _____ Time: _____

BULK MATERIAL SAMPLING LOG

Worksite: Fort Vermilion Research Centre Date: Feb 1, 2011
 Client: AWASC Job No.: 11166F
 Date Results Required: _____ No. Samples: _____ Page 1 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------------|--------|-----------------|---|-----------|------------------|------------|
| A1 4213351 | silver | duct insulation | (33) east room | poor | 4" x 10" x 8' | 109-0316 |
| A2 4213352 | white | puddy | (33) exterior windows | poor | 9 windows | 109-0317 |
| A3 4213353 | brown | vermiculite | (33) attic walls floor | good | walls | 109-0313 |
| A4 4213354 | " | " | " | " | " | " |
| A5 4213355 | " | " | " | " | " | " |
| A6 4213356 | grey | chimney mortar | (33) furnace room attic | good | 1 chimney | 109-0318 |
| A7 4213357 | green | welding blanket | (23) storage area | fair | 6' x 20' | 109-0341 |
| A8 4213358 | white | puddy | (23) exterior window south | poor | 10 windows | 109-0340 |
| A9 4213359 | black | insulation | (23) attic base wire | poor | building | 109-0342 |
| A10 4213360 | black | tar paper | (23) shop North wall | good | " | 109-0343 |
| A11 4213361 | green | board | (23) shop | poor | 3' x 2' | 109-0344 |
| A12 4213362 | silver | mortar | (23) chimney | fair | chimney | 109-0347 |
| A13 4213363 | black | wire insulation | (14) wire attic | fair | entire building | 109-0372 |
| A14 4213364 | white | painting | (14) east window | poor | all windows | 109-0374 |

BULK MATERIAL SAMPLING LOG

 Worksite: Fort Vermillion

 Date: Feb 1/11

 Client: PWGSC

 Job No.: 11166F

 Date Results Required: _____ No. Samples: _____ Page 2 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|------------------------------------|----------------|--------------------------------|-----------|------------------|------------|
| A15 | white 4213365 | drywall mud | ⑥ bsmt under stairs | good | house | 109-0415 |
| A16 | yellow w/ blue & brown 4213366 | floor tile | ⑥ bsmt stair landing | poor | 3' x 3' | 109-0418 |
| A17 | off white w/ brown 4213367 | " | ⑥ entryway | poor | 4' x 7' | 109-420 |
| A18 | drywalluddy 4213368 | drywall w/ mud | ⑥ entryway | fair | house | 109-421 |
| A19 | brown 4213369 | lin | ⑥ stair runner | poor | 2' x 20' | 109-422 |
| A20 | green 4213370 | drywalluddy | ⑥ conference room south closet | poor | house | 109-423 |
| A21 | orange w/ blue & purple 4213371 | floor tile | ⑥ bathroom closet | good | 3' x 2' | 109-0428 |
| A22 | white 4213372 | drywalluddy | ⑥ bathroom | fair | house | 109-0430 |
| A23 | white 4213373 | " | ⑥ stairwell | fair | house | 109-0431 |
| A24 | white 4213374 | stucco | ⑥ exterior north west | good | exterior house | 109-0432 |
| A25 | white 4213375 | stucco | ⑥ exterior south west | " | exterior house | 109-0433 |
| A26 | " 4213376 | " | ⑥ exterior east | " | " | 109-0434 |
| A27 | white 4213377 | pipe wrap | ⑥ bsmt | " | ~80' | 109-0438 |
| A28 | black 4213378 | shingle | ⑥ under deck dog house | " | ~4' x 4' | 109-0440 |

BULK MATERIAL SAMPLING LOG

 Worksite: Fort Vermillion

 Date: Feb 2/11

 Client: PLGSC

 Job No.: 11166

Date Results Required: _____

No. Samples: _____

 Page 3 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------------|-----------------|-------------------------------------|-----------|------------------|------------|
| A29 | black | tar paper | (60) exterior 4213379 | good | exterior | 109-0444 |
| A30 | white w/ blue | floor tile | (60) South bathroom 4213380 | fair | 8' x 6' | 109-0480 |
| A31 | black | tar paper | (51) exterior wall 4213381 | good | exterior | 109-0483 |
| A32 | white | caulking | (51) door 4213382 | poor | 1 door window | 109-0483 |
| A33 | brown | floor tile | (2) bsmt vault 4213383 | poor | 1/4 vault | 109-0518 |
| A34 | brown/flecks | floor tile | (2) bsmt vault 4213384 | poor | 3/4 vault | 109-0518 |
| A35 | brown w/ dark brown | floor tile | (2) bsmt under stairs 4213385 | poor | room | 109-0517 |
| A36 | " | " | (2) bsmt SE Storage room 4213386 | poor | room | 109-0521 |
| A37 | " | " | " 4213387 | " | room | 109-0522 |
| A38 | white | pipe insulation | (2) bsmt NE office 4213388 | fair | . | 109-0520 |
| A39 | " | " | " 4213389 | " | | " |
| A40 | " | " | " 4213390 | " | | " |
| A41 | green | transite board | (2) bsmt utility room 4213391 | " | entire room | 109-0523 |
| A42 | white | pipe insulation | (2) bsmt utility room 4213392 | " | | 109-0524 |

Ash

BULK MATERIAL SAMPLING LOG

 Worksite: Fort Vermilion Date: Feb 2/11

 Client: PLGSC Job No.: 11166F

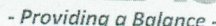
 Date Results Required: _____ No. Samples: _____ Page 4 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------|----------------------------|---------------------------------|--------------|--------------------|--------------|
| A43 | white | pipe insulation arocell | ② bsmt utility room | fair 4213393 | | 109- 0524 |
| A44 | green | flooring | ② North stairwell | poor 4213394 | mont 2nd fl | 109- 0536 |
| A45 | " | " | ② Main entrance | " 4213395 | " | 109- 0537 |
| A46 | " | " | ② main- mens bathroom | 4213396 | " | 109- 0538 |
| A47 | brown | insulation paper | ② Main- NW office | good 4213397 | entire building | 109- 0539 |
| A48 | " | " | ② main- east office | good 4213398 | " | 109- 0540 |
| A49 | white | drywall plaster mud | ② main- reception | poor 4213399 | " | 109- 0541 |
| A50 | " | " | ② main- girls washroom | " 4213400 | " | 109- 0542 |
| A51 | " | " | ② main-SE office | " 4213401 | " | 100- 0003 |
| A52 | " | " | ② main-NW office | " 4213402 | " | 100- 0004 |
| A53 | " | " | ② 2nd- NW office ceiling | " 4213403 | " | 100- 0005 |
| A54 | " | wishipple | ② 2nd- South room ceiling | " 4213404 | " | 109- 0544 |
| A55 | " | wishipple | ② 2nd- file room | " 4213405 | " | 109- 546 |
| A56 | white | shipple | ② 2nd floor- file room | " 4213406 | 1/2 2nd floor | " |

BULK MATERIAL SAMPLING LOG

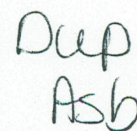
Worksite: Fort Vermillion Date: Feb 2/11
 Client: PLWASC Job No.: 11166f
 Date Results Required: _____ No. Samples: _____ Page 5 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|-------------|-------------|---|--------------|-----------------------|------------|
| A57 | gray | floor | 2nd 2nd Fl - ② Hall | poor 4213407 | entire 2nd FL | 100-0007 |
| A58 | gray | floor | ② 2nd Fl S. Room | poor 4213408 | " | 100-0008 |
| A59 | " | floor | ② 2nd FL NE office | poor 4213409 | " | 100-0009 |
| A60 | yellow | stucco | ② Main exterior entrance | good 4213410 | 3/4 building | 100-0016 |
| A61 | white/brown | caulk | ② Main floor East Windows | poor 4213411 | Windows | 100-0016 |
| A62 | " | " | ② Windows inside foyer | " 4213412 | " | 100-0015 |
| A63 | yellow | stucco | ② exterior North stucco wall | good 4213413 | 3/4 building | 100-0018 |
| A64 | gray | mortar | ② exterior chimney | Poor 4213414 | chimney | 100-0021 |
| A65 | off white | stucco | ③ " | " 4213415 | 3/4 building | 100-0022 |
| A66 | gray | parchment | ② exterior-west bottom | " 4213416 | 2' bottom of building | 100-0023 |
| A67 | " | " | ② exterior North bottom | " 4213417 | " | 100-0022 |
| A68 | black | shingle | Pump House - Lean 2 roof | poor 4213418 | 1/3 roof | 100-0028 |
| A69 | gray | caulking | Pump House - South window | " 4213419 | Windows | 100-0023 |
| A70 | brown | vermiculite | Pump House - Lean 2 roof | " 4213420 | ceiling | 100-0028 |



Worksite: Fort Vermillion Date: Feb 2/11
Client: PWGSC Job No.: 11166
Date Results Required: _____ No. Samples: _____ Page 6 of _____

[illegible]



Worksite: Fort Vermilion Research Centre Date: Feb 1, 2011
Client: WGC Job No.: 11166F
Date Results Required: _____ No. Samples: _____ Page 1 of _____

[illegible]

Login

From: "Ray Sankey" <raysankey@iatl.com>
To: "Login" <login@iatl.com>
Sent: Wednesday, February 16, 2011 1:43 PM
Subject: FW: Additional sampling for 11166F - Fort Vermillion Research Centre

From: Elvie Reinson [mailto:elvie@ballastenvironmental.com]
Sent: Wednesday, February 16, 2011 1:38 PM
To: raysankey@iatl.com
Subject: Additional sampling for 11166F - Fort Vermillion Research Centre

Hi Ray,

Could you please perform the sink/float test for the following samples:

Lab No.'s: 4213353, 4213354, 4213355 – could you mix all the samples together for one test
AND

Lab No.'s: 4213420, 4213421 – could you mix all the samples together for one test

Thanks,
Elvie



Elvie Reinson, PBiol, PRBio, EP
Ballast Environmental Consulting Ltd.
Tel 403.452.3110
Fax 403.452.3133
elvie@ballastenvironmental.com
www.ballastenvironmental.com

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CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|---------------------|----------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/21/2011 |
| | PO Box 87073 RPO Douglas Sq. | Project: | FtVermillionResearchCentre |
| | Calgary AB T2Z 3V7 | Project No.: | 11166F |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 114213353F | Description / Location: | Brown Vermiculite Insulation; Floats | |
| Client No.: | A3-A4-A5 | | (33) Walls; Composite | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 25 | Cellulose | 75 |
| | | Trace | Fibrous Glass | |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|---------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 114213353S | Description / Location: | Brown Vermiculite Insulation; Sinks | |
| Client No.: | A3-A4-A5 | | (33) Walls; Composite | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 25 | Cellulose | 75 |
| | | Trace | Fibrous Glass | |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|---------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 114213420F | Description / Location: | Brown Vermiculite Insulation; Floats | |
| Client No.: | A70-A71 | | Pump House Lean 2; Composite | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 70 | Cellulose | 30 |

Analysis by EPA-600/R-04/004.

| | | | | |
|--------------------|-------------|--|-------------------------------------|-------------------------------|
| Lab No.: | 114213420S | Description / Location: | Brown Vermiculite Insulation; Sinks | |
| Client No.: | A70-A71 | | Pump House Lean 2; Composite | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| 0.32% | Actinolite | 5 | Cellulose | 92.68% |
| | | 2 | Fibrous Glass | |

Analysis by EPA-600/R-04/004.

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

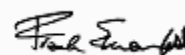
*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Approved By:



Date: 2/21/2011

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Ballast Enviro. Conslt'g Ltd.
PO Box 87073 RPO Douglas Sq.
Calgary AB T2Z 3V7

Report Date: 2/15/2011
Report Number: 0211003913
Project: Ft. Vermillion Research Center
Project No.: 11166F

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|---|---|
| 4208533 | P1 | White/Red Paint 33; Exterior | 0.28 |
| 4208534 | P2 | Silver Paint 33; Interior | 0.0088*** |
| 4208535 | P3 | White Paint 33; Interior West | 0.027*** |
| 4208536 | P4 | White/Red Paint 23; Exterior | 0.10 |
| 4208537 | P5 | Silver/White Paint 23; Interior | 0.0085*** |
| 4208538 | P6 | White Paint 14; Interior East | 0.011 |
| 4208539 | P7 | White/Red Paint 14; Exterior | 0.20 |
| 4208540 | P8 | Lt. Green Paint 60; Bsmt. Door&Frame | 0.4*** |
| 4208541 | P9 | Lt. Grey Paint 60; Bsmt. Stairs | 0.26 |
| 4208542 | P10 | Yellow Paint 60; Bsmt. Stairwell | 0.87 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP) AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 2/8/2011
Date Analyzed: 2/15/2011
Analyst: C. Shaffer

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|-----------------------|-----------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0211004287 |
| | Calgary AB T2Z 3V7 | Project: | Ft.VermillionResearchCenter |
| | | Project No.: | 11166F |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|--|---|
| 4208543 | P11 | Pink Paint 60; Upstairs Hall Closet | 0.13*** |
| 4208544 | P12 | Red Paint 60; Exterior Trim | 0.36* |
| 4208545 | P13 | White Paint 60; Exterior Trim | 1.6 |
| 4208546 | P14 | White Paint 60A; Exterior | 3.6 |
| 4208547 | P15 | White Paint 57; Exterior | 1.6 |
| 4208548 | P16 | White Paint 57; Interior | 0.011 |
| 4208549 | P17 | Lt. Green Paint 2; Interior Bsmt. | 0.0053 |
| 4208550 | P18 | Peach/Pink Paint 2; Main Women's Bathroom | 0.058 |
| 4208551 | P19 | Yellow/Green Paint 2; Main NW Office | 0.42 |
| 4208552 | P20 | White/Green Paint 2; Main Floor | 0.0099 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be

Date Received: 2/8/2011
Date Analyzed: 2/15/2011
Analyst: C. Shaffer

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-------------------------------|-----------------------|-----------------------------|
| Client: | Ballast Enviro. Conslt'g Ltd. | Report Date: | 2/15/2011 |
| | PO Box87073 RPO DouglasSq. | Report Number: | 0211004287 |
| | Calgary AB T2Z 3V7 | Project: | Ft.VermillionResearchCenter |
| | | Project No.: | 11166F |

LEAD PAINT SAMPLE ANALYSIS SUMMARY

| <u>Lab No.</u> | <u>Client No.</u> | <u>Location / Description</u> | <u>Concentration Lead By Weight (%)</u> |
|----------------|-------------------|--------------------------------------|---|
| 4208553 | P21 | Brown Paint 2; Exterior Trim East | 0.40 |
| 4208554 | P22 | Yellow Paint 2; Exterior | 0.42 |
| 4208555 | P23 | White Paint Pump House | 1.6 |
| 4208556 | P24 | White Paint Pump House Guest Room | 0.015 |
| 4208557 | P25 | White Paint 59; Tin Barn Exterior | 0.043 |
| 4208558 | P26 | White Paint 62; Exterior | 1.3 |
| 4208559 | PDup1 | White Paint | 0.012 |
| 4208560 | PDup2 | White Paint | 1.5 |

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

AIHA No. 100188 / NYSDOH-ELAP No. 11021

Analysis Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(7420/7421) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0024% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be

Date Received: 2/8/2011
Date Analyzed: 2/15/2011
Analyst: C. Shaffer

International Asbestos Testing Laboratories
9000 Commerce Parkway, Suite B
Mt. Laurel, New Jersey 08054
Attn: Ray Sankey

~~MAILED~~
2.15.11

Tel. 856 231-9449
Fax 856 231-9818

- Chain of Custody -

Client: Ballast Environmental Consulting Ltd.
PO Box 87073 RPO Douglas SQ
Calgary, AB Canada T2Z 3V7

Project Name: _____
Project No.: 11166F

Phone: 403-452-3110
FAX: 403-452-3133

Contact: Elvie Reinson
Pager: Cell: 403-860-8524

Special Instructions: _____

Type:

Asbestos

Lead

Other

| | | | | |
|--------------------------------|--------------------------------|--------------------------------|---|-------|
| <input type="checkbox"/> Air | <input type="checkbox"/> Soil | <input type="checkbox"/> Air | <input checked="" type="checkbox"/> Soil | _____ |
| <input type="checkbox"/> Bulk | <input type="checkbox"/> Dust | <input type="checkbox"/> Bulk | <input checked="" type="checkbox"/> Paint | _____ |
| <input type="checkbox"/> Water | <input type="checkbox"/> Other | <input type="checkbox"/> Water | <input checked="" type="checkbox"/> Other | _____ |

Analysis Method:

| | | |
|--|--|--|
| <input type="checkbox"/> PCM : NIOSH 7400 | <input type="checkbox"/> PLM : Bulk Asbestos EPA 600 | <input type="checkbox"/> TEM : AHERA |
| <input type="checkbox"/> PCM : OSHA | <input type="checkbox"/> PLM : Point Counting 198.1 | <input type="checkbox"/> TEM : NIOSH 7402 |
| <input type="checkbox"/> PCM : Other _____ | <input type="checkbox"/> PLM : NOB via 198.1 (PLM only) | <input type="checkbox"/> TEM : EPA Level II |
| <input type="checkbox"/> AAS : NIOSH 7082 (Air) | <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 | <input type="checkbox"/> TEM : Microvac / Wipe |
| <input type="checkbox"/> AAS : Lead in Drinking Water | to meet NYSDOH requirements ** | <input type="checkbox"/> TEM : Asbestos in Water |
| <input checked="" type="checkbox"/> AAS : Lead in Paint ASTM D3335-85a | (**call to confirm TAT!) | <input type="checkbox"/> TEM : Bulk Analysis |
| <input type="checkbox"/> AAS : Lead Dust/Wipe " | | <input type="checkbox"/> TEM : NOB 198.4 |
| <input type="checkbox"/> AAS : Other Metals / Soil _____ | | <input type="checkbox"/> TEM : Other _____ |
| | | <input type="checkbox"/> Total Dust : NIOSH 0500 |

Turnaround Time:

FAX: _____ **Verbals:** _____
date / time date / time

☐ 10 Day ☒ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ 6 hour ☐ RUSH
Preliminary FAX/Verbal Results Requested by: _____

Sample

Numbers: Client #(s): P1 - P26 IATL#(s): _____ Total: _____
(start) (end) (start) (end)

Chain of Custody:

PDup1 - PDup2
(see attached)

| | | |
|-----------------------------|--------------------|-------------|
| Relinquished: Elvie Reinson | Date: Feb 3/11 | Time: _____ |
| Received: _____ | Date: _____ | Time: _____ |
| Sample Log-in: _____ | Date: FEB - 8 2011 | Time: _____ |
| Sample Prep: _____ | Date: _____ | Time: _____ |
| Analyzed: _____ | Date: _____ | Time: _____ |
| QA/QC Review: _____ | Date: _____ | Time: _____ |

Archived/Released: _____ QA/QC InterLAB Use: _____ Date: _____ Time: _____

BULK MATERIAL SAMPLING LOG

 Worksite: Fort Vermillion Research Centre Date: Feb 1, 2011

 Client: PWAGC Job No.: 11166F

 Date Results Required: _____ No. Samples: _____ Page 1 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|---------------|-------------|--------------------------------|-------------------|---------------------------------|------------|
| P1 | white/red | Paint | (33) exterior paint | poor 4208533 | entire building | 109-0290 |
| P2 | silver | " | (33) interior | good 4208534 | interior building | 109-0314 |
| P3 | white | " | (33) interior west | good 4208535 | #2 west room | 109-0315 |
| P4 | white/red | " | (23) exterior pound | poor 4208536 | entire building | 109-0321 |
| P5 | silvery white | " | (23) interior | good 4208537 | " | 109-0339 |
| P6 | white | " | (14) interior east | poor 4208538 | " | 109-0352 |
| P7 | white/red | " | (14) exterior | poor 4208539 | " | 109-0370 |
| P8 | light green | " | (60) bsmt door & frame | good 4208540 | door x 2 door + frame + shelves | 109-416 |
| P9 | light gray | " | (60) bsmt stairs | good 4208541 | stairwell | 109-0417 |
| P10 | yellow | " | (60) bsmt stairwell | good 4208542 | house stairwell kitchen | 109-0419 |
| P11 | pink | " | (60) upstairs hall closet | good 4208543 | 2 closets. | 109-0424 |
| P12 | red | " | (60) exterior trim | fair-poor 4208544 | all trim window | 109-0437 |
| P13 | white | " | (60) exterior trim | poor 4208545 | all other door & deck | 109-0441 |
| P14 | white | " | (60A) exterior | poor 4208546 | all | 109-0481 |

BULK MATERIAL SAMPLING LOG

Paint

Worksite: Fort Vermillion

Date: Feb 2/11

Client: PLUGSC

Job No.: 11166 F

Date Results Required: _____

No. Samples: _____

Page 2 of _____

| Sample # | Colour | Description | Location | Condition | Estimated Amount | Picture ID |
|----------|--------------|-------------|--|--------------|------------------------|------------|
| P15 | white | paint | ⑤⑦ exterior | poor 4208547 | building | 109-0482 |
| P16 | " | " | ⑤⑦ interior | poor 4208548 | " | 109-0492 |
| P17 | light green | " | ② interior basement | poor 4208549 | entire basement | 109-0524 |
| P18 | peach/pink | " | ② main woman bathroom | poor 4208550 | both bathrooms (peach) | 109-0533 |
| P19 | yellow/green | " | ② main NW office | " 4208551 | 7 of file | 109-0534 |
| P20 | white/green | " | ② main floor | " 4208552 | all other rooms | 109-0535 |
| P21 | brown | " | ② exterior trim east | " 4208553 | exterior trim | 100-0002 |
| P22 | yellow | " | ② exterior pump house | " 4208554 | some trim siding | 100-0017 |
| P23 | white | " | " | poor 4208555 | exterior | 100-0024 |
| P24 | white | " | pump house west room | poor 4208556 | all interior | |
| P25 | " | " | ⑤⑦ ⑤⑦ Tin Barn exterior paint | few 4208557 | doors x 5 | |
| P26 | " | " | ⑥② exterior paint | " 4208558 | exterior | |
| | | | | | | |
| | | | | | | |



Worksite: For Mammilion Research Centre Date: Feb 1, 2011
Client: PLGSC Job No.: 11166 F
Date Results Required: _____ No. Samples: _____ Page 1 of _____

[illegible]

BATCH / SAMPLE MANAGEMENT REPORT

| | | | |
|----------------------|---|-------------------------|-------------------|
| Customer No.: | BAL082 | Batch Number: | 230865 |
| Customer: | Ballast Enviro. Conslt'g Ltd. PO Box87073 RPO DouglasSq. Calgary AB T2Z 3V7 | Project: | |
| Customer Rep: | RS | Project Number: | 11166F |
| | | TAT: | 5 Day |
| | | Date/Time Rec'd: | 2/8/2011 |
| # of Samples: | 28 | Analysis: | Lead Paint |
| | | Time/Date Due: | 2/15/2011 |

Initials Signaling
Acknowledgement

☐ RTP: _____ ☐ To PLM NOB _____ ☐ To TEM NOB _____

Special Instructions:

Admin Notes: Portal

Shipping Error:

- _____ Samples were not received in a sealed container. Bulk samples not double bagged.
- _____ Air Cassettes received open in bag... sample integrity compromised, possible contamination.
- _____ Samples received wet.
- _____ Samples received covered with dust... possible cross contamination.
- _____ Sample containers damaged, contents spilled... possible cross contamination.
- _____ Paperwork received in the same bag as samples possible contamination.
- _____ No / Incomplete Chain of Custody Received.
- _____ No / Incomplete Sample Log Received.
- _____ Sample container IDs do not match the client's sample log.
- _____ No Turnaround Time indicated.
- _____ PCM Re-prep for TEM NIOSH 7402. Cassettes previously opened and portion of filter removed.
- _____ Blank(s) not submitted as required by the requested analytical method.
- _____ Minimum shipping requirements not attained. See attached Carrier Air Bill.
- _____ Other: _____

Batch Error:

- _____ Wrong Client ID Listed:
- _____ Wrong Client Location Listed:
- _____ Wrong Project ID Listed:
- _____ Wrong TurnAround Time Listed:
- _____ Wrong Due Date Listed:
- _____ Wrong Date/Time Received Listed:
- _____ Wrong Analysis Method Listed:
- _____ Wrong Number of Samples Listed:

Login Error:

- _____ Sample Log Stamped Incorrectly:
- _____ Sample Containers Mislabelled:
- _____ Duplicate / Extra Samples Not Stamped:
- _____ Analyst Bench Sheet Error:

DAILY QUALITY CONTROL DATA

LEAD SAMPLE ANALYSIS

(DATE: 02 / 15 / 11)

| Standard | Total Lead (mg) | Percent Recovery ** |
|-----------------------|--------------------|------------------------|
| Reagent Blank | 0.000 | < LOQ |
| Blank Spike | 0.500 | 99 |
| Lab control Std # 401 | 0.501 | 106 |
| Matrix Spike - LBP * | 1.12 | 106 |
| Matrix Spike - Wipe * | 1.07 | 102 |
| Matrix Spike - Soil * | 0.500 | 105 |
| Matrix spike - Air * | 0.050 | 98 |
| 2.5 ppm Standard | 0.25 | 96 |
| 10.0 ppm Standard | 1.0 | 100 |
| 40.0 ppm Standard | 4.0 | 101 |

ELPAT No. 100188 NIOSH PAT No. 100188 NYS-DOH No. 11021

Analysis Method: ASTM D3335-85A
NIOSH 7082
EPA SW846 3050 7420

Comments: IATL assumes that all sampling complies with accepted methods.
All client supplied sampling data is assumed to be correct when calculating results.
Detection limit based upon 0.2 mg/L reporting limit and sample size.
* NIST Traceable.
** 80-120% acceptable limits.

Analyzed By: R. Chad ShafferDate: 2/15/11Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Advances in Environmental Measurement Methods for Asbestos. Micheal E. Beard and Harry L. Rook, Editors. January 2002. ASTM Stock Number: STP1342.

Alberta Asbestos Abatement Manual. Government of Alberta, Employment, Immigration and Industry. July 2009.

Alberta User Guide for Waste Managers. Alberta Environmental Protection Environmental Service. January 2008.

Asbestos Containing Materials in Buildings to be Demolished. Workplace Health and Safety Bulletin. Alberta Human Resources and Employment. Revised July 2009.

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Canada-wide Standard for Mercury-containing Lamps. CCME Council of Ministers. April 30-May 1, 2001. Winnipeg.

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Guidelines for the Disposal of Asbestos Waste. Environmental Protection Services Alberta Environment. August 1989.

Handbook on PCB's In Electrical Equipment. Environment Canada. February 2010. <http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=BCA7C003-1&offset=3&to=show&printer...>

Hazardous Material Abatement Consultant Services TERMS OF REFERENCE Reasearch Centre Buildings Hazardous Materials Investigation For: Agriculture and Agri-Food Canada, Research Centers Lacombe, Beaverlodge, Fort Vermillion, Alberta. Public Works and Government Services Canada, Real Property Services, Western Region, Engineering Services, November 22, 2010.

Hazardous Products Act. (R.S., 1985, c. H-3) Current to January 1st, 2010. Department of Justice Canada. <http://laws.justice.gc.ca/en/H-3/FullText.html>.

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Mercury and the Environment. Environment Canada. Crown Copyright. 1992.

Mercury at the Work Site. Workplace Health and Safety Bulletin. Alberta Employment, Immigration and Industry. Revised April 2007.

Mould Guidelines for the Canadian Construction Industry. Canadian Construction Association. CCA 82. 2004.

Occupational Health and Safety Act. May 24, 2006. Office Consolidation. Alberta Queen's Printer.

Occupational Health and Safety Code 2009. Government of Alberta. 2009. Office Consolidation. Alberta Queen's Printer.

Occupational Health and Safety Regulation. Alberta Regulation 62/2003.

Ozone-Depleting Substances Regulation (AR 125/93). Government of Alberta. February 2002.

Radiation Protection Act. R-2 RSA2000. Alberta Government. ISBN# 9780779724376.

Residential Indoor Air Quality Guidelines. Her Majesty the Queen in Right of Canada, represented by the Minister of Health Canada. 2007. ISBN: 978-0-662-45739-8.

Standard Guide for Limited Asbestos Screens of Buildings. ASTM International. August 2005. 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

Standard Guide for Readily Observable Mould and Conditions Conducive to Mould in Commercial Buildings: Baseline Survey Process. ASTM International. March 2006. 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

Waste Control Regulation. Government of Alberta. 192/1996.

Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials. United States Environmental Protection Agency.

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The purpose of Quality Assurance and Quality Control (QA/QC) procedures is to ensure that data used to evaluate site conditions are accurate and reliable. Quality Assurance is a complete program designed to produce results which are valid, scientifically defensible, and of known precision, bias, and accuracy and includes planning, documentation and quality control activities. Quality Control is a system of activities to ensure a quality product, including measurements made to ensure and monitor data quality and includes calibrations, duplicate, blank, and spiked measurements, inter-laboratory comparisons and audits.

DUPLICATES

Duplicate samples are analyzed to check the reproducibility of sampling and analytical results. A duplicate is any additional sample collected at the same time as another in a manner that minimizes differences. One duplicate should be collected and analyzed for approximately every twenty samples collected.

Reproducibility of duplicate samples is calculated by calculating the relative percent difference.

Relative percent difference (RPD): A measure of precision, calculated by:

$$Rd\% = [X_1 - X_2] / X_{ave} \times 100$$

where:

X_1 = concentration observed with the first detector or equipment;

X_2 = concentration observed with the second detector, equipment, or absolute value;

and

$$X_{ave} = \text{average concentration} = ((X_1 + X_2) / 2)$$

The acceptable limits of RPD vary for different constituents ranging from 40% to 50%. An RPD value within the acceptable limit indicates that the laboratory data are consistent and reliable. The following table summarizes acceptable RPD limits:

| Constituents | Acceptable RPD |
|--------------|----------------|
| Asbestos | <50% |
| Lead | <40% |

It is common for the paint samples to have interference from the substrate. This arises from the difficulty of sampling paint firmly attached to surfaces.



QA/QC Duplicate Sample Summary for Asbestos

| Sample ID | Result (%) | Duplicate ID | Duplicate Result (%) | RPD (%) | Pass/Fail |
|------------------------|---------------|----------------|----------------------|---------|-----------|
| Lacombe | | | | | |
| A1 | None detected | Dup 1 | None detected | 0 | PASS |
| A22 | None detected | Dup 2 | None detected | 0 | PASS |
| A25 | 30 | Dup 3 | 25 | 18 | PASS |
| A40 | 2.9 | Dup 4 | 2.6 | 11 | PASS |
| A49 | None detected | Dup 5 | None detected | 0 | PASS |
| A72 | 3.1 | Dup 6 | 1.8 | 53 | FAIL |
| A74 | 1.9 | Dup 7 | 1.7 | 11 | PASS |
| A84 | None detected | Dup 8 | None detected | 0 | PASS |
| A86 | None detected | Dup 9 | None detected | 0 | PASS |
| Fort Vermillion | | | | | |
| A20 | 2.0 | Dup 1 | 1.2 | 50 | PASS |
| A42 | 55 | Dup 2 | 70 | 24 | PASS |
| A57 | None detected | Dup 3 | None detected | 0 | PASS |
| Beaverlodge | | | | | |
| A7a | 1.8 | Dup 4a | 1.2 | 40 | PASS |
| A7b | None detected | Dup 4b | None detected | 0 | PASS |
| A14 | None detected | Dup 1 | None detected | 0 | PASS |
| A32 | None detected | Dup 5 | None detected | 0 | PASS |
| A39 | None detected | Dup 2 | None detected | 0 | PASS |
| A72 | 1.3 | Dup 3 | 1.2 | 8 | PASS |
| A120 | 50 | Dup 6 | 85 | 52 | FAIL |
| A145a | None detected | Dup 7a | None detected | 0 | PASS |
| A145b | None detected | Dup 7b | None detected | 0 | PASS |
| A177 | 25 | Dup 8 | 25 | 0 | PASS |
| A190 | 2.7 | Dup 9 | 1.9 | 35 | PASS |
| A200 | 25 | Dup 12 | 25 | 0 | PASS |
| A201a | 0.25 | Dup 11a | 1.1 | 126 | FAIL |
| Retest A201a | 0.25 | Retest Dup 11a | 1.2 | 131 | FAIL |
| A224 | 2 | Dup 10 | 1.2 | 50 | PASS |

A total of twenty six duplicate samples were taken for asbestos. Three of the samples failed and two of the samples which failed QA/QC did not change the outcome of the results.

Sample 201 and the associated Dup 11 had results which changed from asbestos containing to non-asbestos containing. These samples were re-tested to confirm the original findings, and the original findings were supported. This shows the variability of asbestos in certain products. The conclusion was drawn these floor tiles were asbestos containing.



QA/QC Duplicate Sample Summary for Lead

| Sample ID | Result | Duplicate ID | Duplicate Result | RPD | Pass/Fail |
|------------------------|---------|--------------|------------------|-----|-----------|
| Lacombe | | | | | |
| P9 | <0.0085 | Dup 1 | <0.0067 | 0 | PASS |
| P16 | 0.35 | Dup 3 | 0.54 | 43 | FAIL |
| P24 | 0.87 | Dup 5 | 1.2 | 32 | PASS |
| Fort Vermillion | | | | | |
| P6 | 0.011 | Dup 1 | 0.012 | 9 | PASS |
| P23 | 1.6 | Dup 2 | 1.5 | 6 | PASS |
| Beaverlodge | | | | | |
| P17 | 0.39 | Dup 1 | 0.58 | 39 | PASS |
| P27 | 0.0098 | Dup 2 | 0.16 | 177 | FAIL |
| P31 | 4.7 | Dup 3 | 4.5 | 4 | PASS |
| P34 | 0.077 | Dup 4 | 0.099 | 25 | PASS |

Nine duplicated samples were taken for analyzing lead in paint and two failed the QA/QC. Sample P27 results did not change the conclusion that this sample is not lead containing paint. The duplicated results of sample P16 did change the conclusion from not lead containing to lead containing paint. This sample was of white exterior paint, similar to all other white exterior paint located on the facility. The majority of the 'white exterior paint' samples were lead containing and therefor it is assumed the higher result is more likely and it is concluded this paint is lead containing.

QA/QC Duplicate Sample Summary for Laboratory

| Sample ID | Result | Duplicate ID | Duplicate Result | RPD | Pass/Fail |
|--------------------|---------------|--------------|------------------|-----|-----------|
| Beaverlodge | | | | | |
| A121 | 65 | Z1 | 50-75 | 0 | PASS |
| A177 | 25 | Z2 | 25-50 | 0 | PASS |
| A175 | None detected | Z3 | None detected | 0 | PASS |
| A202 | None detected | Z4 | None detected | 0 | PASS |
| A200 | 25 | Z5 | 25-50 | 0 | PASS |

Five samples were sent to two different laboratories to compare the results. All passed the QA/QC.



HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #2 RESIDENCE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---|-----|-------------------------------|-----------|------------|---|----------|----------------|-----------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM drywall mud | 1 | 139 | - | 2.4 | 334 | 334 | m ² | \$62 | \$20,683 |
| removal of ACM vermiculite | 1 | 16 | 12.5 | - | 200 | 200 | m ² | \$200 | \$40,000 |
| air monitoring and consulting | 8 | day rate | | | 8 | 8 | days | \$450 | \$3,600 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Rodent Feces Remediation | | | | | | | | | |
| removal and cleaning of rodent feces in attic | 1 | 1.5 | 2 | - | would be removed with the ACM vermiculite | | | | - |
| Other Expenses | | | | | | | | | |
| travel KM's | 350 | 4 vehicles | | | 1400 | 1400 | km | \$1.24 | \$1,736 |
| hotel | 8 | 8 nights x 4 rooms | | | 32 | 32 | rooms | \$120 | \$3,840 |
| living out allowance | 8 | 8 days crew of 5 + consultant | | | 48 | 48 | allowances | \$75 | \$3,600 |
| | | | | | | | TOTAL | \$73,530 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- The rodent feces in the attic will be removed with the asbestos abatement
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel plus one air monitoring consultant
- Lead paint not included (if required)
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #2A GARAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | Extensions | Quantity | Unit | Unit Price | Cost (\$) | | | |
|---|-----|----------------------|------------|-----------|------------|------------|-----------|-------------|-------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Rodent Feces Remediation | | | | | | | | | | |
| removal and cleaning of rodent feces on floor | 1 | 3 people for 2 hours | | | 6 | 6 | hour | \$68 | \$408 | |
| disposal and transport | 1 | building | | | 1 | 1 | building | \$250 | \$250 | |
| | | | | | | | | TOTAL \$658 | | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and it is assumed the feces removal in this building is done at the same time as the adjacent house
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of three personnel
- Lead paint not included (if required)
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #21 ADMINISTRATION BUILDING

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---------------------------------|-----|-------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM pipe insulation | - | - | - | - | - | unknown | m | \$67 | \$0 |
| removal of ACM pipe elbow | - | - | - | - | - | unknown | items | \$73 | \$0 |
| removal of floor tile | 3 | 3.2 | 3.2 | - | 30 | 30 | m² | \$38 | \$1,140 |
| air monitoring and consulting | 2 | day rate | | | 2 | 2 | days | \$450 | \$900 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 3 | - | - | - | 3 | 3 | items | \$71 | \$213 |
| Other Expenses | | | | | | | | | |
| travel KM's | 350 | 3 vehicles | | | 1050 | 1050 | km | \$1.24 | \$1,302 |
| hotel | 2 | 2 nights x 4 rooms | | | 8 | 8 | rooms | \$120 | \$960 |
| living out allowance | 2 | 2 days crew of 5 + consultant | | | 12 | 12 | allowances | \$75 | \$900 |
| | | | | | | | TOTAL | \$5,415 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
 - *The costs for the pipe insulation and pipe elbow removal was not estimated due to limitations regarding the amount of pipe behind walls that were inaccessible*
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #38A BEEF UNIT GARAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---------------------------------------|-----|-------------------------------|-----------|------------|----------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM vermiculite insulation | 1 | 8.4 | 8.4 | - | 70 | 125 | m² | \$244 | \$30,500 |
| | 1 | 7.4 | 7.4 | - | 55 | | | | |
| removal of floor tile | 1 | 1 | 0.5 | - | minimum charge | | m² | \$350 | \$350 |
| air monitoring and consulting | 6 | day rate | | | 6 | 6 | days | \$450 | \$2,700 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Other Expenses | | | | | | | | | |
| travel KM's | 350 | 3 vehicles | | | 1050 | 1050 | km | \$1.24 | \$1,302 |
| hotel | 6 | 6 nights x 4 rooms | | | 24 | 24 | rooms | \$120 | \$2,880 |
| living out allowance | 6 | 6 days crew of 5 + consultant | | | 36 | 36 | allowances | \$75 | \$2,700 |
| | | | | | | | TOTAL | \$40,503 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel plus one air monitoring consultant
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #40 BEEF UNIT TEST BARN

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--------------------------------------|-----|---------------------------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) 4 (width) 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | |
| removal of ACM caulking from windows | 41 | windows | 41 | 41 | items | \$275 | \$11,275 |
| Other Expenses | | | | | | | |
| travel KM's | 300 | 2 vehicles | 600 | 600 | km | \$1.24 | \$744 |
| hotel | 2 | 2 night x 3 rooms | 6 | 6 | rooms | \$120 | \$720 |
| living out allowance | 2 | 2 days crew of 5 | 10 | 10 | allowances | \$75 | \$750 |
| | | | | | TOTAL | \$13,489 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- Budget cost may be less if the windows are removed instead of stripping the caulking
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #41 BEEF UNIT RESIDENCE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | | |
|--|-----|-------------------------------|------------|-----------|------------|----------|------------|------------|-----------|----|----------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 | |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | | |
| removal of ACM vermiculite insulation from attic | 1 | 14 | 10 | - | 140 | 140 | m² | \$200 | \$28,000 | | |
| air monitoring and consulting | 5 | day rate | | | 5 | 5 | days | \$450 | \$2,250 | | |
| Other Expenses | | | | | | | | | | | |
| travel KM's | 350 | 3 vehicles | | | 1050 | 1050 | km | \$1.24 | \$1,302 | | |
| hotel | 5 | 5 nights x 4 rooms | | | 20 | 20 | rooms | \$120 | \$2,400 | | |
| living out allowance | 5 | 5 days crew of 5 + consultant | | | 30 | 30 | allowances | \$75 | \$2,250 | | |
| | | | | | | | TOTAL | | | | \$36,202 |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel plus one air monitoring consultant
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #52 MACHINE & VEHICLE REPAIR

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|---------------------------------------|-----|-------------------------------|-----------|------------|------------|----------|----------------|------------|-----------|---------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 | |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | |
| removal of ACM floor tile | 1 | 2 | 4 | - | 8 | 8 | m ² | \$38 | \$304 | |
| removal of ACM glazing from window | 1 | window | | | 1 | 1 | item | \$275 | \$275 | |
| air monitoring and consulting | 2 | day rate | | | 2 | 2 | days | \$450 | \$900 | |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermostat | 2 | - | - | - | 2 | 2 | items | \$71 | \$142 | |
| Ozone Depleting Substance Remediation | | | | | | | | | | |
| removal of R-12 (5 oz.) fridge | 1 | - | - | - | 1 | 1 | item | \$145 | \$145 | |
| Other Expenses | | | | | | | | | | |
| travel KM's | 350 | 2 vehicles | | | 700 | 700 | km | \$1.24 | \$868 | |
| hotel | 2 | 2 nights x 3 rooms | | | 6 | 6 | rooms | \$120 | \$720 | |
| living out allowance | 2 | 2 days crew of 3 + consultant | | | 8 | 8 | allowances | \$75 | \$600 | |
| | | | | | | | TOTAL | | | \$3,954 |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of three personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #53 HEADER HOUSE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|-----|-------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM transite board | 4 | 12 | - | 2.4 | 115 | 115 | m² | \$117 | \$13,478 |
| removal of ACM floor tile | 2 | 6 | 10 | - | 120 | 120 | m² | \$38 | \$4,560 |
| removal of ACM sink insulation (remove sink) | 1 | - | - | - | 1 | 1 | item | \$250 | \$250 |
| air monitoring and consulting | 7 | day rate | | | 7 | 7 | days | \$450 | \$3,150 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Other Expenses | | | | | | | | | |
| travel KM's | 350 | 3 vehicles | | | 1050 | 1050 | km | \$1.24 | \$1,302 |
| hotel | 5 | 5 nights x 4 rooms | | | 20 | 20 | rooms | \$120 | \$2,400 |
| living out allowance | 5 | 5 days crew of 5 + consultant | | | 30 | 30 | allowances | \$75 | \$2,250 |
| | | | | | | | TOTAL | \$27,461 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel plus one air monitoring consultant
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: LACOMBE RESEARCH CENTRE - BUILDING #54 ANIMAL HOSPITAL

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|-----|--------------------------------|-----------|------------|------------------------------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM floor tile | 1 | 1 | 2 | - | 2 | 2 | m² | \$62 | \$124 |
| removal of ACM vermiculite insulation from attic | 1 | 10 | 10 | - | 100 | 100 | m² | \$200 | \$20,000 |
| removal of ACM vermiculite insulation from walls | 1 | 30 | - | 2.4 | 72 | 72 | m² | \$200 | \$14,400 |
| air monitoring and consulting | 10 | day rate | | | 10 | 10 | days | \$450 | \$4,500 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-12 | 1 | - | - | - | 1 | 1 | item | \$200 | \$200 |
| Rodent Feces Remediation | | | | | | | | | |
| removal and cleaning of bird feces in | 1 | 10 | 10 | - | would be removed with vermicullite | | | - | |
| Other Expenses | | | | | | | | | |
| travel KM's | 350 | 3 vehicles | | | 1050 | 1050 | km | \$1.24 | \$1,302 |
| hotel | 10 | 10 nights x 4 rooms | | | 40 | 40 | rooms | \$120 | \$4,800 |
| living out allowance | 10 | 10 days crew of 5 + consultant | | | 60 | 60 | allowances | \$75 | \$4,500 |
| | | | | | | | TOTAL | \$49,897 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- The rodent feces in the attic will be removed along with the asbestos abatement
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel plus one air monitoring consultant
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH FACILITY - BUILDING #1 ADMINISTRATION OFFICE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|--|------|--------------------------------|------------|-----------|------------|----------|------|------------|-----------|----------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | |
| removal of ACM linoleum | 1 | | 3.3 | 3.8 | - | 12.5 | 160 | m² | \$122 | \$19,483 |
| | 1 | | 10 | 6.5 | - | 65 | | | | |
| | 1 | | 10 | 2.25 | - | 22.5 | | | | |
| | 4 | | 5 | 3 | - | 60 | | | | |
| removal of ACM item (shoe rack) | 1 | - | - | - | - | 1 | 1 | item | \$250 | \$250 |
| removal of ACM floor tile | 1 | | 4 | 2 | - | 8 | 8 | m² | \$38 | \$301 |
| removal of ACM drywall mud | 1 | | 88 | - | 2.4 | 211 | 581 | m² | \$62 | \$36,103 |
| | 1 | | 78 | - | 2.4 | 187 | | | | |
| | 1 | | 76 | - | 2.4 | 182 | | | | |
| removal of ACM stucco | 2 | | 10 | - | 6 | 120 | 444 | m² | \$181 | \$80,364 |
| | 2 | | 27 | - | 6 | 324 | | | | |
| removal of ACM ceiling texture | 1 | | 14 | 2 | - | 28 | 84 | m² | \$165 | \$13,834 |
| | 2 | | 7 | 4 | - | 56 | | | | |
| removal of sink insulation (remove sink) | 2 | - | - | - | - | 2 | 2 | items | \$250 | \$500 |
| air monitoring and consulting | 40 | day rate | | | | 40 | 40 | days | \$450 | \$18,000 |
| Ozone Depleting Substance Remediation | | | | | | | | | | |
| removal of R-12 (1 oz.) fridge | 1 | - | - | - | - | 1 | 1 | items | \$145 | \$145 |
| Other Expenses | | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 40 | 40 nights x 4 rooms | | | | 160 | 160 | rooms | \$120 | \$19,200 |
| living out allowance | 40 | 40 days crew of 5 + consultant | | | | 240 | 240 | allowances | \$75 | \$18,000 |
| | | | | | | | | TOTAL | \$211,760 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, etc.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- Does not include abatement of lead based paint
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #10 CANOLA LABORATORY

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 2 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|------|-------------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM light fixture insulation | 12 | 0.13 diameter (measured as an item) | | | | 12 | items | \$50 | \$600 |
| removal of ACM drywall mud | 1 | 350 | - | 2.4 | 840 | 1608 | m² | \$62 | \$99,696 |
| | 1 | 19 | 32 | - | 608 | | | | |
| | 2 | 10 | 8 | - | 160 | | | | |
| removal of ACM caulking | 2 | 0.5 | - | - | 1 | 1 | m | \$51 | \$51 |
| removal of ACM pipe insulation | 2 | 4 | - | - | 8 | 8 | m | \$78 | \$624 |
| removal of ACM floor tile | 1 | 5.7 | 3.5 | - | 20 | 65 | m² | \$38 | \$2,470 |
| | 1 | 2 | 2.5 | - | 5 | | | | |
| | 2 | 4 | 5 | - | 40 | | | | |
| removal of ACM boiler insulation | 1 | measured as an item | | | | 1 | item | \$9,500 | \$9,500 |
| air monitoring and consulting | 25 | day rate | | | 25 | 25 | days | \$450 | \$11,250 |
| 02 85 00 Mould Remediation | | | | | | | | | |
| removal of wall coverings/insulation (excluding ACM) | 1 | 10 | 20 | 2.4 | 480 | 480 | m² | \$65 | \$31,200 |
| cleaning of surfaces | 1 | - | - | - | 72 | 72 | hour | \$75 | \$5,400 |
| cleaning of contents | 1 | - | - | - | 48 | 48 | hour | \$75 | \$3,600 |
| 02 84 00 Polychlorinated Biphenyl (PCBs) Remediation | | | | | | | | | |
| removal of PCB fluorescent light ballasts | 3 | - | - | - | 3 | 3 | items | \$47 | \$141 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-12 (5 oz. each) fridges | 2 | - | - | - | 2 | 2 | items | \$145 | \$290 |
| removal of R-12 (9 oz. each) incubators | 3 | - | - | - | 3 | 3 | items | \$200 | \$600 |
| Further Remediation | | | | | | | | | |
| remediation of fume hood filter system | 2 | - | - | - | 2 | 2 | items | \$1,800 | \$3,600 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 25 | 25 days x 4 rooms | | | 100 | 100 | rooms | \$120 | \$12,000 |
| living out allowance | 25 | 25 days crew of 5 + consultant | | | 150 | 150 | allowances | \$75 | \$11,250 |
| TOTAL | | | | | | | \$197,923 | | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #10 CANOLA

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 2 of 2 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- The cost of fume hood filter removal is highly dependent on the types of chemicals used in the fume hood prices may
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost estimate does not include any costs relating to failed air clearances for mould
- The extent of mould included in this cost estimate is based on visual observations at the time of the assessment
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #14 SOILS RESEARCH BUILDING

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 2 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---|------|--------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM drywall mud | 1 | 12 | - | 2.4 | 29 | 192 | m² | \$62 | \$11,904 |
| | 1 | 40 | - | 2.4 | 96 | | | | |
| | 1 | 28 | - | 2.4 | 67 | | | | |
| removal of ACM transite board | 2 | 11 | 16 | - | 352 | 599 | m² | \$117 | \$70,106 |
| | 1 | 103 | - | 2.4 | 247 | | | | |
| removal of ACM boards in basement | 2 | items | | | | 2 | items | \$250 | \$500 |
| removal of ACM sink insulation | 4 | items | | | 4 | 4 | items | \$250 | \$1,000 |
| removal of ACM linoleum | 1 | 5 | 5 | - | 25 | 84 | m² | \$122 | \$10,248 |
| | 1 | 5.5 | 6 | - | 33 | | | | |
| | 1 | 2 | 13 | - | 26 | | | | |
| removal of ACM floor tile (removal not required for machine demolition) | 1 | 2 | 4 | - | 8 | 28 | m² | - | - |
| | 1 | 4 | 5 | - | 20 | | | | |
| removal of ACM floor tile with mastic | 1 | 10 | 17 | - | 170 | 225 | m² | \$122 | \$27,450 |
| | 1 | 10 | 5 | - | 50 | | | | |
| | 1 | 2 | 2.5 | - | 5 | | | | |
| air monitoring and consulting | 12 | day rate | | | 12 | 12 | days | \$450 | \$5,400 |
| 02 84 00 Polychlorinated Biphenyl Remediation | | | | | | | | | |
| removal of PCB fluorescent light ballasts | 8 | - | - | - | 8 | 8 | items | \$47 | \$376 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermometer | 4 | - | - | - | 4 | 4 | items | \$71 | \$284 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-12 (5 oz. each) fridges | 3 | - | - | - | 3 | 3 | items | \$145 | \$435 |
| removal of R-12 from growth chamber | 1 | - | - | - | 1 | 1 | items | \$200 | \$200 |
| Further Remediation | | | | | | | | | |
| remediation of fume hood filter | 1 | - | - | - | 1 | 1 | items | \$1,800 | \$1,800 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 12 | 12 days x 4 rooms | | | 48 | 48 | rooms | \$120 | \$5,760 |
| living out allowance | 12 | 12 days crew of 5 + consultant | | | 72 | 72 | allowances | \$75 | \$5,400 |
| | | | | | | | TOTAL | \$146,443 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, etc.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #14 SOILS RESEARCH BUILDING

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 2 of 2 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- The ACM floor tile (no asbestos mastic) does not need to be removed prior to a machine demolition
- The cost to remove a fume hood filter varies depending on the chemicals used in the fume hood
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #15 ECOLOGY BUILDING

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|------|-------------------------------|-----------|------------|------------|----------|----------------|-----------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM countertop | 3 | - | - | - | 3 | 3 | items | \$250 | \$750 |
| removal of ACM floor tile | 1 | 3.75 | 13.3 | - | 50 | 150 | m ² | \$38 | \$5,700 |
| | 1 | 7.5 | 2.6 | - | 20 | | | | |
| | 1 | 3.75 | 4 | - | 15 | | | | |
| | 1 | 2.5 | 2 | - | 5 | | | | |
| | 1 | 7.5 | 4 | - | 30 | | | | |
| | 1 | 3.75 | 4 | - | 15 | | | | |
| | 1 | 5 | 2 | - | 10 | | | | |
| | 1 | 2 | 2.5 | - | 5 | | | | |
| removal of ACM drywall mud | 1 | 12 | - | 2.4 | 29 | 38 | m ² | \$62 | \$2,344 |
| | 1 | 3 | 3 | - | 9 | | | | |
| removal of sink insulation (remove sink) | 2 | - | - | - | 2 | 2 | items | \$250 | \$500 |
| air monitoring and consulting | 7 | - | - | - | 7 | 7 | days | \$450 | \$3,150 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of ODS fridge | 1 | - | - | - | 1 | 1 | items | \$145 | \$145 |
| removal of ODS super freezer | 1 | - | - | - | 1 | 1 | items | \$200 | \$200 |
| Further Remediation | | | | | | | | | |
| remediation of fume hood filter system | 2 | - | - | - | 2 | 2 | items | \$1,800 | \$3,600 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 7 | 7 days x 4 rooms | | | 28 | 28 | rooms | \$120 | \$3,360 |
| living out allowance | 7 | 7 days crew of 5 + consultant | | | 42 | 42 | allowances | \$75 | \$3,150 |
| | | | | | | | TOTAL | \$28,550 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- The cost to remove a fume hood filter varies depending on the chemicals found on the filter and is subject to change
- Does not include abatement of lead based paint
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #17 CARPENTER SHOP

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---|------|--------------------------------|-----------|------------|------------|----------|----------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM vermiculite | 1 | 15 | 15 | - | 225 | 225 | m ² | \$200 | \$45,000 |
| removal of ACM floor tile | 1 | 4 | 4 | - | 16 | 22 | m ² | \$38 | \$836 |
| | 1 | 2.4 | 2.5 | - | 6 | | | | |
| removal of ACM drywall mud | 1 | 55 | - | 2.4 | 132 | 164 | m ² | \$62 | \$10,175 |
| | 1 | 3.2 | 2.6 | - | 8 | | | | |
| | 1 | 4 | 4 | - | 16 | | | | |
| | 1 | 2 | 1.3 | - | 3 | | | | |
| | 1 | 2 | 2.6 | - | 5 | | | | |
| removal of ACM light fixture | 1 | - | - | - | 1 | 1 | items | \$50 | \$50 |
| removal of ACM cement boards | 2 | 1.2 | 0.9 | - | 2 | 2 | m ² | \$117 | \$234 |
| air monitoring and consulting | 10 | day rate | | | 10 | 10 | days | \$450 | \$4,500 |
| 02 84 00 Polychlorinated Biphenyl Remediation | | | | | | | | | |
| removal of PCB fluorescent light ballasts | 1 | - | - | - | 1 | 1 | items | \$47 | \$47 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 10 | 10 days x 4 rooms | | | 40 | 40 | rooms | \$120 | \$4,800 |
| living out allowance | 10 | 10 days crew of 5 + consultant | | | 60 | 60 | allowances | \$75 | \$4,500 |
| | | | | | | | TOTAL | \$75,793 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
 - It is assumed that the average abatement crew consists of five personnel
 - Does not include abatement of lead based paint
 - This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #18 APICULTURE LABORATORY

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|--|------|-------------------------------|------------|-----------|------------|----------|------------|------------|-----------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | |
| removal of ACM caulking | 4 | 0.5 | - | - | 2 | 2 | m | \$51 | \$102 | |
| removal of ACM vermiculite | 1 | 12.2 | 9 | - | 110 | 110 | m² | \$200 | \$22,000 | |
| air monitoring and consulting | 6 | - | - | - | 6 | 6 | days | \$450 | \$2,700 | |
| Ozone Depleting Substance Remediation | | | | | | | | | | |
| removal of R-12 from chest freezer | 1 | - | - | - | 1 | 1 | items | \$200 | \$200 | |
| Further Remediation | | | | | | | | | | |
| remediation of fume hood filter system | 1 | - | - | - | 1 | 1 | items | \$1,800 | \$1,800 | |
| Other Expenses | | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 | |
| hotel | 6 | 6 days x 4 rooms | | | 24 | 24 | rooms | \$120 | \$2,880 | |
| living out allowance | 6 | 6 days crew of 5 + consultant | | | 36 | 36 | allowances | \$75 | \$2,700 | |
| | | | | | | | TOTAL | \$37,962 | | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The cost of fume hood filter removal is highly dependent on the types of chemicals used in the fume hood prices may vary
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- Does not include abatement of lead based paint
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

**HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #25 HONEY
EXTRACTION BUILDING**

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|-------------------------------|-----|------------|------------|-----------|------------|----------|-------|------------|-----------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | - | 1 | items | \$71 | \$71 | |
| | | | | | | | TOTAL | \$ | 71.00 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender with removal of all mercury on site and costs are not representative if priced individually
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #26 STORAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---|------|---|-----------|------------|------------|----------|-----------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM floor tile | 1 | 8 | 2.5 | - | 20 | 80 | m² | \$38 | \$3,040 |
| | 2 | 4 | 2.5 | - | 20 | | | | |
| | 3 | 4 | 2.5 | - | 30 | | | | |
| | 1 | 4 | 2.5 | - | 10 | | | | |
| removal of ACM vermiculite | 1 | 36 | 15 | - | 540 | 540 | m² | \$200 | \$108,000 |
| removal of ACM transite board | 2 | 2 | 2.75 | - | 11 | 11 | m² | \$117 | \$1,287 |
| removal of ACM drywall mud | 1 | 280 | - | 2.4 | 672 | 1212 | m² | \$62 | \$75,144 |
| | 1 | 36 | 15 | - | 540 | | | | |
| removal of ACM countertop | 4 | - | - | - | 4 | 4 | items | \$250 | \$1,000 |
| air monitoring and consulting | 30 | day rate | | | 30 | 30 | days | \$450 | \$13,500 |
| 02 84 00 Polychlorinated Biphenyl Remediation | | | | | | | | | |
| removal of PCB fluorescent light ballasts | 30 | - | - | - | 30 | 30 | items | \$47 | \$1,410 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermometer & thermostat | 2 | - | - | - | 2 | 2 | items | \$71 | \$142 |
| 02 85 00 Mould Remediation | | | | | | | | | |
| removal of wall coverings/insulation | 2 | mould would be removed with ACM drywall removal | | | | | | | - |
| Further Remediation | | | | | | | | | |
| Rodent feces removal | - | feces and carcasses would be removed with ACM vermiculite removal | | | | | | | - |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 30 | 30 days x 4 rooms | | | 120 | 120 | rooms | \$120 | \$14,400 |
| living out allowance | 30 | 30 days crew of 5 + consultant | | | 180 | 180 | allowances | \$75 | \$13,500 |
| | | | | | | | TOTAL \$237,003 | | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
 - Full access to the building to complete the abatement in one step
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost estimate does not include any costs relating to failed air clearances for mould
- The extent of mould included in this cost estimate is based on visual observations at the time of the assessment
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #35 GARAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|---------------------------------|------|-------------------------------|------------|-----------|------------|----------|------|------------|-----------|----------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | |
| removal of ACM vermiculite | 1 | 16 | - | | 5 | 80 | 80 | m² | \$200 | \$16,000 |
| air monitoring and consulting | 5 | - | - | - | | 5 | 5 | days | \$450 | \$2,250 |
| Other Expenses | | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 5 | 5 days x 4 rooms | | | | 20 | 20 | rooms | \$120 | \$2,400 |
| living out allowance | 5 | 5 days crew of 5 + consultant | | | | 30 | 30 | allowances | \$75 | \$2,250 |
| | | | | | | | | TOTAL | \$28,480 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH CENTRE - BUILDING #36 FORAGE BUILDING

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|--|-----|------------|------------|-----------|------------|----------|------|------------|-----------|-------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermometers | 3 | - | - | - | | 3 | 3 | items | \$71 | \$213 |
| Ozone Depleting Substance Remediation | | | | | | | | | | |
| removal of R-12 (7.1-8 oz. each) fridges | 3 | - | - | - | | 3 | 3 | items | \$145 | \$435 |
| TOTAL | | | | | | | | \$ | 648.00 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender with removal of all mercury on site and costs are not representative if priced individually
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: BEAVERLODGE RESEARCH - BUILDING #45 CHEMICAL STORAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|-------------------------------|-----|------------|------------|-----------|------------|----------|-------|------------|-----------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | - | 1 | items | \$71 | \$71 | |
| | | | | | | | TOTAL | \$ | 71.00 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender with removal of all mercury on site and costs are not representative if
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #2 ADMINISTRATION OFFICE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|------|--------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM floor tile (not required is a machine demolition) | 1 | 8 | 5 | - | 40 | 44 | m² | - | - |
| | 1 | 2 | 2 | - | 4 | | | | |
| removal of ACM pipe insulation | 1 | 120 | - | - | 120 | 120 | m | \$104 | \$12,480 |
| removal of ACM transite board | 1 | 53 | - | 2.4 | 127 | 171 | m² | \$117 | \$20,030 |
| | 1 | 2 | 2 | - | 4 | | | | |
| | 1 | 8 | 5 | - | 40 | | | | |
| air monitoring and consulting | 10 | day rate | | | 10 | 10 | days | \$450 | \$4,500 |
| 02 85 00 Mould Remediation | | | | | | | | | |
| removal of ceiling and walls | 2 | 92 | - | 2.4 | 442 | 922 | m² | \$65 | \$59,904 |
| | 2 | 24 | 10 | - | 480 | | | | |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-11 (8 oz. total) | 2 | - | - | - | 2 | 2 | items | \$145 | \$290 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 10 | 10 days x 4 rooms | | | 40 | 40 | rooms | \$120 | \$4,800 |
| living out allowance | 10 | 10 days crew of 5 + consultant | | | 60 | 60 | allowances | \$75 | \$4,500 |
| | | | | | | | TOTAL \$ | 112,155.40 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost estimate does not include any costs relating to failed air clearances for mould
- The extent of mould included in this cost estimate is based on visual observations at the time of the assessment
- The ACM floor tile does not need to be removed if the demolition is a machine demolition
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #6 GARAGE AND STORAGE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|----------------------|------|-------------------|------------|-----------|------------|----------|------------|------------|-----------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Further Remediation | | | | | | | | | | |
| Rodent feces removal | 120 | measured in hours | | | 120 | 120 | hours | \$68 | \$8,160 | |
| Other Expenses | | | | | | | | | | |
| travel KM's | 1300 | 2 vehicles | | | 3900 | 3900 | km | \$1.24 | \$4,836 | |
| hotel | 3 | 3 days x 3 rooms | | | 9 | 9 | rooms | \$120 | \$1,080 | |
| living out allowance | 3 | 3 days crew of 5 | | | 15 | 15 | allowances | \$75 | \$1,125 | |
| | | | | | | | TOTAL | | \$15,201 | |

- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the work takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #14 DRYING & THRESHING SHED

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|-------------------------------|-----|------------|------------|-----------|------------|----------|-------|------------|-----------|----|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermostat | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 | |
| | | | | | | | TOTAL | | \$71 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender of removal of all mercury on site at the same time and not representative if priced individually
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE BUILDING - #23 WORKSHOP AND OFFICE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | |
|---------------------------------|-----|------------|------------|-----------|------------|----------|------|------------|-----------|-------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | |
| removal of ACM board | 1 | | 0.9 | 0.6 | - | 1 | 1 | item | \$250 | 250 |
| Mercury Remediation | | | | | | | | | | |
| removal of mercury thermostat | 2 | - | | - | - | 2 | 2 | items | \$71 | \$142 |
| TOTAL | | | | | | | | \$392 | | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender with other abatements at the facility at the same time
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
 - Minimum cost for removal of an item
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #33 PROCESSING & CARPENTER SHOP

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---|------|-------------------------------|-----------|------------|------------|----------|----------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM duct and ACM insulation | 1 | - | - | 2.4 | 2.4 | 2.4 | m | \$290 | \$696 |
| air monitoring and consulting | 2 | - | - | - | 2 | 2 | days | \$450 | \$900 |
| 02 85 00 Mould Remediation | | | | | | | | | |
| removal of mould on ceiling in attic | 1 | - | - | - | 1 | 1 | items | \$250 | \$250 |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 2 | - | - | - | 2 | 2 | items | \$71 | \$142 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-12 from (4 oz.) freezer | 1 | - | - | - | 1 | 1 | items | \$145 | \$145 |
| removal of R-12 from (4 oz.) evaporator | 1 | - | - | - | 1 | 1 | items | \$200 | \$200 |
| Further Remediation | | | | | | | | | |
| Rodent feces removal | 1 | - | - | - | 44 | 44 | m ² | \$104 | \$4,576 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 4 | 5 days x 4 rooms | | | 16 | 16 | rooms | \$120 | \$1,920 |
| living out allowance | 4 | 5 days crew of 5 + consultant | | | 24 | 24 | allowances | \$75 | \$1,800 |
| | | | | | | | TOTAL \$ | 16,209.00 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost estimate does not include any costs relating to failed air clearances for mould
- The extent of mould included in this cost estimate is based on visual observations at the time of the assessment
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #37 DRYING SHED

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|---------------------------------|------|------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM insulation board | 2 | 1 | 1.5 | - | 3 | 3 | m² | \$117 | \$351 |
| removal of ACM transite board | 1 | 4.9 | 3.7 | - | 18 | 60 | m² | \$117 | \$7,020 |
| | 2 | 4.9 | - | 2.4 | 24 | | | | |
| | 2 | - | 3.7 | 2.4 | 18 | | | | |
| air monitoring and consulting | 3 | - | - | - | 3 | 3 | days | \$450 | \$1,350 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 3 | 3 days x 4 rooms | | | 12 | 12 | rooms | \$120 | \$1,440 |
| living out allowance | 3 | 3 days crew of 5 + cosultant | | | 18 | 18 | allowances | \$75 | \$1,350 |
| | | | | | | | TOTAL | \$17,091 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- A room height of 2.4 m was used for estimates
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - BUILDING #60 DUPLEX HOUSE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) |
|--|--|-------------------------------|-----------|------------|------------|----------|------------|------------|-----------|
| 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 |
| 02 82 00 - Asbestos Remediation | | | | | | | | | |
| removal of ACM floor tile | 1 | 2 | 1.5 | - | 3 | 3 | m² | \$38 | \$114 |
| removal of ACM drywall mud | 1 | 250 | - | 2.4 | 600 | 792 | m² | \$62 | \$49,104 |
| | 2 | 12 | 8 | - | 192 | | | | |
| air monitoring and consulting | 8 | day rate | | | 8 | 8 | days | \$450 | \$3,600 |
| 02 85 00 - Mould Remediation | | | | | | | | | |
| removal of water and mould damaged ceiling and wall | removal completed with the drywall abatement | | | | | | m² | - | - |
| Mercury Remediation | | | | | | | | | |
| removal of mercury thermostat | 2 | - | - | - | 2 | 2 | items | \$71 | \$142 |
| Ozone Depleting Substance Remediation | | | | | | | | | |
| removal of R-12 (5 oz.) fridges | 2 | - | - | - | 2 | 2 | items | \$145 | \$290 |
| Other Expenses | | | | | | | | | |
| travel KM's | 1500 | 1 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 |
| hotel | 8 | 8 days x 4 rooms | | | 32 | 32 | rooms | \$120 | \$3,840 |
| living out allowance | 8 | 8 days crew of 5 + consultant | | | 48 | 48 | allowances | \$75 | \$3,600 |
| | | | | | | | TOTAL | \$66,270 | |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- It is assumed that there is full access to the building and it is not occupied during the abatement
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Refrigerant removal assumes units are in a heated space (if units in a cold atmosphere the cost will increase) and easily accessible
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources)
- It is assumed that the average abatement crew consists of five personnel
- This cost estimate does not include any costs relating to failed air clearances for mould
- The extent of mould included in this cost estimate is based on visual observations at the time of the assessment
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content

HAZARDOUS MATERIALS ESTIMATE: FORT VERMILION RESEARCH CENTRE - PUMP HOUSE

| | | | |
|--|--------------------------|--------------------|------------------|
| Project: Hazardous Materials Abatement | Project No: R.042216.001 | Estimate No: 11166 | Page: 1 of 1 |
| Trade: Hazardous Materials Abatement | Measured: approximate | Estimate Type: C | Date: March 2011 |
| UCI Reference: 02 80 00 | Extended: - | Priced: CL | Checked: ER |

| Description | No. | Dimensions | | | Extensions | Quantity | Unit | Unit Price | Cost (\$) | | |
|---------------------------------|------|-------------------------------|------------|-----------|------------|----------|----------------|------------|-----------|----|----------|
| | 1 | 2 | 3 (length) | 4 (width) | 5 (height) | 6 | 7 | 8 | 9 | 10 | |
| 02 82 00 - Asbestos Remediation | | | | | | | | | | | |
| removal of ACM vermiculite | 1 | 10 | 6 | - | 60 | 60 | m ² | \$200 | \$12,000 | | |
| air monitoring and consulting | 5 | day rate | | | 5 | 5 | days | \$450 | \$2,250 | | |
| Mercury Remediation | | | | | | | | | | | |
| removal of mercury thermometer | 1 | - | - | - | 1 | 1 | items | \$71 | \$71 | | |
| Other Expenses | | | | | | | | | | | |
| travel KM's | 1500 | 3 vehicles | | | 4500 | 4500 | km | \$1.24 | \$5,580 | | |
| hotel | 5 | 5 days x 3 rooms | | | 15 | 15 | rooms | \$120 | \$1,800 | | |
| living out allowance | 5 | 5 days crew of 5 + consultant | | | 30 | 30 | allowances | \$75 | \$2,250 | | |
| | | | | | | | TOTAL | | | | \$23,951 |

- GST is not included
- Contracted company surcharges not included
- This cost estimate is in current dollars
- Owner administration costs and soft costs are not included
- The costs are based on a lump sum tender and costs are not representative if priced individually
- Abatement costs assume:
 - Work performed during a regular work week (Monday – Friday 8:00 to 5:00)
 - Power and water available in close proximity
 - Client provides electrical and mechanical isolation
 - Clear access to the site for loading and unloading
- The air monitoring costs are directly dependant on the length of time the abatement takes and may change substantially
- Costs do not include mitigating factors such as scaffolding, specialized equipment, ect.
- It is assumed that the abatement and consulting companies will be travelling from Edmonton
- Remediation costs are dependent on the length of time the abatement takes (based on their manpower and resources) and may change substantially
- It is assumed that the average abatement crew consists of five personnel
- This cost budget is an estimate of probable costs. We have made every effort to ensure the costs are accurate however Ballast Environmental Consulting Ltd. cannot be held liable for its content