

BERSCH & ASSOCIATES LTD.

July 5, 2010

City of Saskatoon
Water & Wastewater Treatment Branch
470 Whiteswan Drive
Saskatoon, SK
S7K 6Z7

ATTENTION: Jared Nelson

SUBJECT: Bulk Material Identification Report

Please find attached our laboratory's results for the bulk samples collected from the Waste Water Treatment Plant during the site investigation conducted between April - June 2010. Additional samples were inputted onto the attached spreadsheets that were collected in July, November and December of 2009. The samples were forwarded to our Laboratory for the identification of asbestos.

The results for the bulk samples collected were obtained by examination in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No.210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as greater than 1% by volume.

This test report relates only to the material sent for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information please contact me at 222-7477. Thank you for this opportunity of service to your facility.

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLD13

ENTERED
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BERSCH & ASSOCIATES LTD.

July 26, 2010

City of Saskatoon
Water & Wastewater Treatment Branch
470 Whiteswan Drive
Saskatoon, SK
S7K 6Z7

ATTENTION: Mike Sadowski

As per our telephone conversation this morning I have attached two documents in reference to the bulk samples collected from the main level of the Scum Gallery. Three of the samples collected tested positive for asbestos. Following the identification of the asbestos containing fittings, the glovebag removal method was utilized to remove the asbestos material. As of to date, the asbestos containing pipeline fittings have been removed from the main level of the Scum Gallery. The fittings remaining in the main level of the Scum Gallery contain non asbestos insulation material.

If any questions arise on the results of the attached information please contact me at 222-7477.

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67MEMG26

1.0 GENERAL

.1 SCOPE

The City of Saskatoon intends and this specification covers the removal of Asbestos Containing Material from within various areas of the Wastewater Treatment Plant Facility located at 470 Whiteswan Drive in Saskatoon, Saskatchewan. The project will entail the removal of asbestos mechanical insulation presently identified in the Maintenance Building, Administration Building, Laboratory, Primary Gallery, Tunnel 8A upper, Tunnel 8B, Tunnel T1 and Tunnel T7.

The asbestos abatement project at the Wastewater Treatment Plant will be conducted as a Low Risk Asbestos Process implementing the Glovebag Removal Method. Refer to Appendix I for a description of the glovebag removal procedures and guidelines.

The contractor will be required to re-insulate all areas of asbestos removal activity with lineal fiberglass insulation to match existing thickness. Lineal fiberglass insulation will be wrapped with "Thermocanvas" as supplied by S. Fattal Canvas Inc., 5 ounce weight. Canvas shall be treated and shall have ULC listing with flame spread of 25 or less and smoke development of 50 or less. Canvas shall carry ULC label and label shall be permanently marked on the canvas every 2 to 4 feet on the roll. Canvas finish to be Foster Lagfas 81-42W, white or Childer CP-52 or Robson White Lag. Pipe elbows will be re-insulated with pre-fabricated pipe insulation enclosed with a PVC jacket.

Approximate quantities consist of: 145 lineal feet of medium pipeline insulation (consists of 2 medium fiberglass runs canvassed together and troweled with mud compound), 50 small pipeline fittings, 55 medium pipeline fittings, 50 large pipeline fittings, 15 large pipeline flanges, 3 large roof drain flanges. It will be the tenderer's responsibility to perform all take-offs and inspections to fully acquaint themselves with the **quantities** and site conditions involved in the removal project.

.2 DESCRIPTION OF WORK

The work shall include, but not be limited to, the provision of all supervision, labour, goods, plant, services and facilities specified and/or required to perform the following:

- a) Design, supply and erect scaffolding necessary for asbestos abatement activities. Mobilization will be designed in a manner that minimizes any disruption of daily activities. Mobilization plans must be approved by the building owner and Bersch & Associates Ltd. prior to any activity.
- b) Ensure the maintenance and security of the hoarding, scaffolding and asbestos removal equipment
- c) The pre-cleaning, isolation, and enclosure of all equipment that does not require removal.
- d) Wetting and removal of asbestos containing mechanical insulation. Removal shall be conducted using low-risk asbestos abatement procedures.
- e) Decontamination of contaminated areas following asbestos removal. Decontamination shall include:
 - thorough pick up and HEPA vacuum cleaning of all debris.
 - cleaning of visible debris from all surfaces.

- sealing of all surfaces.
- f) Encapsulation of all surfaces with an approved sealant following asbestos abatement activities.
- g) Transportation of contaminated materials to the approved disposal site along with all permits and arrangements for disposal.
- h) Supply and operation of decontamination and material handling facilities.
- i) Supply and maintenance of respirator equipment.
- j) Dismantling and removal from site of hoarding, scaffolding and asbestos removal equipment and materials.
- k) Site Cleanup.

All work will be subject to frequent inspection and air monitoring by Bersch & Associates Ltd.

.3 INTENT OF SPECIFICATION

These specifications describe and specify the scope of work in broad terms only. It shall be the Contractor's responsibility, from his experience and standard practices, to detail and complete the work so as to satisfy the City of Saskatoon with respect to design, performance, durability, operation and safety. By submitting a proposal on this Contract the tenderer shall certify that he performed all takeoffs and inspections to fully acquaint themselves with quantities and site conditions involved.

.4 INSPECTIONS

Bersch & Associates Ltd. will conduct the follow-up site inspections for the asbestos abatement activities. It will be the contractor's responsibility to notify the designated representative when they are prepared for the inspections under .1 and .3 for the Low Risk asbestos process. Twenty-four hour notification is required for the inspections and if not received by Bersch & Associates Ltd. it will be at their earliest availability.

- .1 Precontamination Inspection - Site visit to ensure that the contractor has fully prepared the site, personnel are trained and equipment-materials are on hand as per specifications prior to the start of asbestos abatement activity.
- .2 Site Inspections - Site visits and air monitoring during removal to ensure work procedures are being followed, proper equipment is being used, and to ensure site security. Prepare written report to identify concerns that require corrective action and document the findings of the visit.
- .3 Final Visual Inspection - Inspection and air monitoring for substantial completion to ensure that the removal area is clean and free of asbestos fibres.

1.1 TERMINOLOGY (Definitions)

- .1 Building owner – City of Saskatoon or their authorized representative.
- .2 Authorized Visitor - The Building Owner, or a representative of any regulatory or other agency having jurisdiction over the project.
- .3 Abatement - Procedures to control fiber release from asbestos-containing material. Includes encapsulation, enclosure, and removal.
- .4 Removal - All herein specified procedures necessary to strip all asbestos-containing materials from the designated areas and to dispose of these materials at an acceptable site.
- .5 Encapsulation - All herein specified procedures necessary to coat all asbestos-containing materials with an encapsulant to control the possible release of asbestos fibers into the ambient air.
- .6 Enclosure - All herein specified procedures necessary to complete enclosure of all asbestos-containing materials behind airtight, impermeable, permanent barriers.
- .7 Air Monitoring - The process of measuring the fiber content of a specific volume of air in a stated period of time.
- .8 HEPA Vacuum Equipment - High Efficiency Particulate Air filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- .9 Surfactant - A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- .10 Amended water - A water to which a surfactant has been added.(See 3.2 Asbestos Removal .2)
- .11 Airlock - A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 1.8 meters (6 feet) apart.
- .12 Fixed Object - A unit of equipment or furniture in the work area which cannot be removed from the work area.
- .13 Movable Object - A unit of equipment or furniture in the work area which can be removed from the work area.
- .14 HEPA filter - A High Efficiency Particulate Absolute (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.
- .15 Encapsulant (Sealant) - A liquid material which can be applied to asbestos-containing material and which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).
- .16 Wet Cleaning - The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as asbestos-contaminated waste.

- .17 Venting System - When asbestos debris is disturbed, proper ventilating equipment must be used to exhaust air to the outside air.
- .18 Negative Pressure - Air pressure within a work area resulting from air movement equipment, installed in the work area capable of maintaining a minimum pressure differential of 0.5mm (0.02 in) of water column relative to adjacent unsealed areas.
- .19 Certification - The testing of air movement equipment in accordance with the Province of Saskatchewan's Occupational Health & Safety Regulations Part XXIII Asbestos, section 339.
- .20 ACM - Asbestos Containing Material.

1.2 APPLICABLE REFERENCE DOCUMENTS

- .1 The current issue of each document shall govern. Where conflict among requirements or with these specifications exist, the more stringent requirements shall apply.
 - A. Regulations: Comply with applicable Federal, Provincial, municipal, and local regulations. Province of Saskatchewan, Occupational Health and Safety Act and The Occupational Health and Safety Regulations December, 1996.

Transportation of Dangerous Goods Act Regulations and/or Waste Management Act Regulations. Province of Saskatchewan Dept. of Environment Regulations.
 - B. U.S. Federal Standard 209B "Clean Room and Work Station Requirements, Controlled Environment"
 - C. National Sanitation Foundation Standard NSF 49, Class II (Laminar Flow) Biohazard Cabinetry.

.2 Codes and Standards

A. CSA-Canadian Standards Association.

- .1) CSA Standard Z94.4-M1982 Selection, Care and Use of Respirators
- .2) CSA Standard Z180.1-M85 Compressed Breathing Air And Systems
- .3) ANSI Z88.2 - 1980 Practices for Respiratory Protection

B. Province of Saskatchewan

- .1) Occupational Health & Safety Act, 1993
- .2) Occupational Health & Safety Regulations, 1996 Part XXIII - Asbestos

C. United States Environmental Protection Agency

- 1) EPA 560/5-85-024 Guidance for Controlling Asbestos Containing Material in Buildings

1.3 SUBMITTALS AND NOTICES

.1 Prior to Commencement of Work Contractor shall:

- .1 Submit proof, satisfactory to the Building Owner or his authorized representative, that all required permits and arrangements for transport and disposal of asbestos-containing or contaminated materials have been obtained.
- .2 Submit to the Building Owner or his authorized representative a copy of Pollution Insurance policy regarding hazardous materials.
- .3 Submit documentation to the Building Owner or his authorized representative indicating employee instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on entry and exit from work areas, and on all aspects of work procedures and protective measures.
- .4 Post warning signs where access to the work area is possible. Such signs shall delineate entry and protective equipment requirements and provide warning of the potential health consequences of exposure to asbestos.
- .5 Submit names of supervisory personnel who will be responsible for work on each site. One of these supervisors must remain on site at all times asbestos related work is occurring. Contractor shall submit proof that supervisory personnel have attended a training course on asbestos removal and have performed supervisory functions on at least two comparable projects. Substitution of these supervisors will only be allowed with written permission of the Building Owner or his authorized representative.
- .6 Submit to the Building Owner, documentation, including test results, of sealant materials proposed for use.
- .7 Submit certification that vacuums and other equipment required to contain airborne fibres conform to the Province of Saskatchewan Occupational Health & Safety Regulations Part XXIII Asbestos Section 339. Certification must prove that the High Efficiency Particulate Air Vacuums and Negative Air Machines do not exceed a D.O.P. (di-2-ethyl hexyl phthalate) penetration of 0.01 percent at any point. Where exterior ventilation is not possible, in-place D.O.P. filter testing is required (applies to negative air machines only). Certification of vacuums must show proof of certification within the last twelve (12) months.
- .8 The Contractor and the Owner shall agree in writing on the condition of the building and fixtures, prior to commencement of the work.

1.4 TEST RESULTS

- .1 The material to be removed was identified as containing Chrysotile Asbestos.

1.5 PERSONNEL PROTECTION

- .1 Prior to commencement of work, the workers shall be instructed, and shall be knowledgeable, in the areas described in Section 1.3. Submittals And Notices.
- .2 Provide workers with personally issued and marked respiratory equipment approved by the Province of Saskatchewan Occupational Health and Safety Branch. Category III HEPA filtered half face respirators will be implemented for low risk asbestos abatement activity. An additional respirator must be available for every three workers during the removal in the event of damage or failure of one of the three respirators. A review of respiratory requirements may be necessary, as dictated by air monitoring results obtained by the consultant. The provisions of CSA Standard Z94.4-M1982 regarding the care, use and selection of respirators shall apply. No supervisors, workers or authorized visitors shall wear facial hair, which affects respirator to face seal. Contractor shall provide sanitizing tablets or equivalent sanitizing agent.
- .3 Provide authorized visitors with suitable respirators with new filters or cartridges whenever they are required to enter the work area, to a maximum of one (1) per day.
- .4 Provide workers with sufficient sets of protective full body impervious clothing. Such clothing shall consist of full body coveralls and headgear. Disposable type protective clothing, headgear, and footwear may be provided.
- .5 Provide authorized visitors with suitable protective clothing, headgear, eye protection and footwear, as described in Section 1.5.4, whenever they are required to enter the work area to a maximum of two sets per day.

1.6 BUILDING PROTECTION

- .1 The Work Areas must be isolated from the rest of the building with posted warning signs identifying asbestos abatement in progress.
- .2 For Low Risk Asbestos Abatement activity, the contractor shall isolate the area of the glovebag removal, if possible, to a perimeter of 5 meters (15 feet) from the work zone with barrier tape and signage to prevent entrance to the work zone and to warn others of the possible asbestos exposure.

1.7 SCHEDULE

- .1 The contractor shall provide the City of Saskatoon with a Schedule which clearly indicates major proposed sectors of work and describes manpower loadings. Schedule must be in accordance with completion date, terms, and conditions identified in the Tender Form.
- .2 The contractor shall provide Bersch & Associates Ltd. with a Schedule that clearly indicates major proposed sectors of work. At minimum a **Weekly Schedule** shall be delivered at the start of each week and updated more frequent if changes are required.

2.0 MATERIALS AND EQUIPMENT

.1 MATERIALS

- .1 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
- .2 Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.
- .3 Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with asbestos shall be disposed of in accordance with the applicable regulations.
- .4 Plastic sheet - Of 0.15mm (6 mil) thick polyethylene, unless otherwise specified, sized to minimize frequency of joints.
- .5 Tape - Capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water.
- .6 Surfactant (wetting agent) - Shall consist of 50% polyoxyethylene ether and 50% of polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of 1.25 kg/cubic meter, (one ounce of surfactant to five gallons of water).
- .7 Impermeable containers - Suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. Two separate polyethylene bags of 0.15mm (6 mil) thickness or one bag used to line uncontaminated metal or fibre drums shall be used as appropriate. Containers must be air and water-tight and individually labelled.
- .8 Warning labels and signs - Delineating entry and protective equipment requirements and providing warning of the potential health effects of exposure to airborne asbestos fibres.
- .9 Encapsulants - Bridging type, slow drying approved by the authority having jurisdiction and meeting the requirements of CGSB 1-GP-205M Type 2. TowerThon 20-300 Elastomeric Coating to be used.
- .10 Other Materials - Provide all other materials, such as lumber, nails and hardware, which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area.

2.2 TOOLS AND EQUIPMENT

- .1 Provide all suitable tools for asbestos removal and encapsulation. Submit a list of the equipment that will be provided to execute this contract.
- .2 Air movement equipment - High Efficiency Particulate Air Filtration Systems shall be equipped with filtration equipment in compliance with ANSI Z9.2, Local Exhaust Ventilation. No air movement system or air equipment shall discharge asbestos fibers outside the work area.

- .3 Breathing air equipment - Shall meet the following requirements;
 - 1) Approved by the Province of Saskatchewan Occupational Health and Safety Branch.

3.0 EXECUTION

.1 PREPARATION

.1 Work Area:

- .1 If necessary, provide temporary lighting and power supply. Contractor will be required to install additional lighting to ensure visibility to all work areas.
- .2 Maintain emergency and fire exits from the work areas, or establish alternative exits.
- .3 Asbestos abatement work shall not commence until:
 - .1 Arrangements have been made for disposal of waste at an acceptable site.
 - .2 Tools, equipment and material waste receptors are on hand.
 - .3 Arrangements have been made for building security.
 - .4 Precontamination Inspection has been conducted by the consultant.
 - .5 All other preparatory steps have been taken and applicable notices posted and permits obtained.

.2 ASBESTOS REMOVAL

- .1 The primary method for removal of the asbestos containing materials shall be by manual handling and packaging. Low Risk removal procedures (Glovebag Method) will be used to conduct the asbestos removal throughout the Waste Water Treatment Facility. Refer to Appendix I for Glove Bag Removal Procedures.
- .2 Spray asbestos material with amended water, following the placement of the glovebag, using spray equipment capable of providing a "mist" application to reduce the release of fibres. Saturate the material sufficiently to wet it to the substrate without causing excess dripping or delaminating of the material. Spray the asbestos material repeatedly during work process to maintain it in a wet condition and to minimize asbestos fibre dispersion.
- .3 After completion of stripping work, clean all surfaces by means of wire brushes, scouring pads, scrapers or alternate tools to remove all visible asbestos materials. During this work the surfaces being cleaned shall be kept wet. Following this cleanup all surfaces should again be vacuumed to ensure a thorough cleanup has been completed.

.3 CLEAN UP

- .1 Upon completion of the cleaning operation, perform a visual inspection of the work area to ensure that the work area is free of visible asbestos contaminated debris.
- .2 All equipment used in the work area shall be included in the clean-up and shall be removed from work areas at an appropriate time in the cleaning sequence.
- .3 If the consultant finds visible accumulations of dust/debris within the work area, the Contractor shall repeat the cleaning process at the Contractor's expense until the work area is, in the opinion of the consultant in an acceptably clean condition.
- .4 Work area clearance shall be based largely on a visual inspection of the work area by the consultant. When visual inspection determines that the area is free of accumulations of dust and debris and the air monitoring results collected simultaneously are recorded at airborne fibre levels of less than 0.01 f/cc (fibres per cubic centimetre of air) the work area clearance shall be granted.
- .5 A final check shall be carried out to ensure that no dust or debris remains on surfaces as a result of dismantling operations.

.4 DISPOSAL

- .1 All poly drop sheets shall be disposed as asbestos waste requiring the double-bagging of the waste material in 6-mil disposal bags. Black bags (6 mil) may be used for the initial bagging of the material, but the factory labeled (yellow) asbestos bags must be used for double bagging to identify the bags that have been double bagged.
- .2 Place the glovebag inside a factory labeled yellow asbestos bag then move to holding area pending removal for disposal. Bags or containers must have caution labels in accordance with applicable regulations governing the transport and disposal of asbestos wastes.
- .2 As the work progresses, the contractor will not exceed available enclosed storage capacity on site and shall remove asbestos waste for disposal in an enclosed transport unit and dispose of same at an authorized disposal site in accordance with the requirements of the disposal authority. Obtain, complete and submit appropriate manifest documentation regarding disposal to the building owner. The personnel assigned to transport will be fully informed and equipped to handle a broken container in transport or disposal.
- .3 Ensure landfill operator is fully aware of hazardous material being disposed of and that all equipment operators are informed of appropriate disposal procedures.
- .4 Cooperate and comply with Federal, Provincial and Municipal authorities regarding the transport and disposal of asbestos waste materials.
- .5 Ensure that all transport and disposal activities are supervised by a representative of the contractor to ensure compliance with all applicable regulations.
- .6 Deliver to the Building Owner or his authorized representative the landfill receipts for the material accepted for disposal from the waste generator.

.5 CIRCUMSTANCES RESULTING IN AN IMMEDIATE SHUTDOWN

- .1 High Fibre Concentration - The fibre level must be maintained at a level below the Occupational Health and Safety's acceptable level of 0.01 f/cc within the adjacent areas to the work zone
- .2 Water Leakage - Any leakage of water from the removal area or decontamination facilities will not be tolerated.
- .3 Faulty Equipment - All equipment involved in the asbestos abatement activity must be maintained in good working order.
- .4 Inadequate Supply of Materials - An adequate supply of materials must be available on site at all times (eg. disposable coveralls, respirators, HEPA filters, towels).
- .5 Unsafe Activities - Any other circumstances, which the site inspector feels, are unsafe to the workers or occupants of the building.

APPENDIX I
GLOVEBAG REMOVAL
PROCEDURES

Bersch & Associates Ltd.

Work Procedures for Glovebag Removal

The following work procedures will be implemented when conducting glovebag removal of asbestos-containing mechanical insulation. All work will be conducted in accordance with the Saskatchewan Occupational Health & Safety Act - 1993, and the Occupational Health & Safety Regulations – 1996. Removal will be classified as a Low Risk Asbestos process and performed by workers competent in removal procedures and safety equipment used.

Procedures:

1. Enclose or Isolate the Work Area

1. Isolate the area of glovebag removal, if possible, to a perimeter of 5 meters (15 feet) from the work zone with barrier tape and signage to prevent entrance to the work zone and to warn others of the possible asbestos exposure.
2. Isolate ventilation equipment operating in the area and cover with 6 mil plastic any ventilation grills.
3. Choose the correct size and type of glovebag. Different pipe sizes are available. There are horizontal and vertical type bags for horizontal and vertical pipe insulation removal.
4. HEPA Vacuum the area one meter by one meter around the pipe insulation or asbestos containing materials to be removed to ensure that any fibres are cleaned up that have previously been released by violation of the material.
5. Lay a drop sheet in the immediate work area of the glovebag removal.
6. Place the required tools inside the glove bag.
7. Place a wrap of duct tape around the insulation covering at each end of the glovebag to ensure a good seal at each end.
8. Position the glovebag on the pipe starting at the end if possible with a taped isolation to a wall or ceiling.
9. Seal the ends with the straps provided or with duct tape. If necessary the bag may have to be additionally supported by a hanger provision or similar device.
10. Ensure all the materials and equipment are in the removal area.

2. Worker Protection

1. Workers will be provided with disposable coveralls with elasticized hoods.
2. Put on a Category 3 Respirator. Conduct the necessary checks to ensure the respirator is fully functional. Conduct negative and positive pressure tests on the respirator to ensure a fit and conduct a smoke fit test if necessary.

3. Minimize Fiber Production

1. Place wetting nozzle through port if available or cut a slit in the bag, secure with duct tape and wet the insulation to be removed by misting with a water amended with a wetting agent. If amosite asbestos insulation it may require warm water amended with a wetting agent. Place HEPA Vacuum nozzle into the bag either through a custom port or cut a slit for insertion and secure with duct tape.
2. Cut the insulation covering along the storage side of the bag and around each end of the pipe section contained within the glove bag.
3. Mist the asbestos material as it is exposed.
4. Wet down the inside walls of the glovebag and tools.
5. Scrape - Scour - Wet the pipe to remove any visible debris.
6. Again, wet down inside of bag and wet-wipe pipe and top section of the bag.
7. If the bag is to be moved to next section, seal the removed material in the bottom storage section. Start the HEPA Vacuum Cleaner and vent the bag. With the vacuum running, free the ends to move the bag to the next section of removal. Two people required to ensure proper move, minimize openings, for proper venting and a smooth move.

4. Cleanup and Disposal

1. When removal is completed, clean the tools by wetting and wiping. Place the tools in a sleeve for removal. Double tape the glove sleeve allowing space to cut off tool sleeve. Further cleaning of the tools may be accomplished by submerging the cut off sleeve in water and releasing the tools for clean up.
2. Seal the glovebag as well as the pipe or component with an approved sealant.
3. Remove glovebag and place in a 6 mil Asbestos Material Disposal Bag. Tightly seal.
4. HEPA Vacuum the area of any visible debris. Remove disposable coveralls, fold up drop sheet, outer corners in and place in disposal bag.
5. Remove respirators, wash face and hands at the first opportunity. Wash and disinfect respirator and place in a suitable plastic bag.
6. Move disposal bags to the designated storage area for asbestos waste.
7. Ensure asbestos waste is disposed of as per Province of Saskatchewan Regulations and transported in accordance with the "Federal Regulations respecting the Transportation of Dangerous Goods."

Wes Berschminsky,
Bersch & Associates Ltd.

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B1	26/11/2009	WWTP - Chlorine Building Small yellow pipeline fitting along the east wall on the east end of the building	None detected		WB
B2	26/11/2009	WWTP - Chlorine Building Medium blue pipeline fitting servicing the overhead unit heater on the east end of the building	None detected		WB
B3	26/11/2009	WWTP - Chlorine Building Large yellow chlorine disinfection pipeline fitting on the east end of the building adj. the southeast man door.	None detected		WB
B4	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting serving the south 1974 construction overhead heating unit	Chrysotile	30	WB
B5	26/11/2009	WWTP - Scum Gallery Building Small light green DCW pipeline fitting adjacent the doorway to the northmost tunnel	None detected		WB
B6	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWS pipeline fitting above the conveyor pump adj. the doorway to the northmost	Chrysotile	20	WB
B7	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting adj. the doorway to the northmost tunnel	Chrysotile	20	WB
B8	26/11/2009	WWTP - Scum Gallery Building Chlorine Disinfection large overhead yellow pipeline fitting adjacent the doorway to the northmost tunnel	None detected		WB
B9	26/11/2009	WWTP - Operators Gallery Medium overhead 805 HWR pipeline T-fitting approximately 12' south of the Raw Sludge PLC	None detected		WB
B10	10/12/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting at the northmost unit heater	None detected		WB
B11	10/12/2009	WWTP - Scum Gallery Building Medium blue 805 HWS pipeline fitting at the northmost unit heater	None detected		WB
B12	10/12/2009	WWTP - Operators Gallery, below stairwell to Scum Gallery, pipeline fitting on the 805 HWR pipeline adj. to YP-111A Primary Scum Pump	None detected		WB
B13	13/04/2010	WWTP - Scum Gallery Building Small blue pipeline fitting on 805 HWR at upper east side adjacent southwest overhead unit heater	None detected		WB
B14	13/04/2010	WWTP - Scum Gallery Building Small blue 805 HWR pipeline fitting 8' to northwest of the southmost overhead unit heater	None detected		WB

Box 356

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B15	13/04/2010	WWTP - Scum Gallery Building 3 pipeline fitting assembly on 805 HWR above the south conveyor housing adj. the south doorway to	None detected		WB
B16	13/04/2010	WWTP - Scum Gallery Building West side of #4 south conveyor motor 805 HWS pipeline fitting of upper wall south stairwell doorway	None detected		WB
B17	13/04/2010	WWTP - Scum Gallery Building Small blue 805 HWS pipeline fitting 6' south of the 4th unit heater from south	None detected		WB
B18	13/04/2010	WWTP - 805 HWS pipeline fitting on west side of 4th unit heater from south	None detected		WB
B19	13/04/2010	WWTP - South Primary Gallery Basement Pipeline fitting in upper northeast corner behind south scum tank on 592 TEW separated water system line	None detected		WB
B20	13/04/2010	WWTP - South Primary Gallery Basement Medium pipeline fitting 113 SC 805 HWR of south scum tank 6' adj. east of YP-113A pump approximately	None detected		WB
B21	13/04/2010	WWTP - South Primary Gallery Basement Small dark green pipeline fitting on 592 TEW along north wall 4' from floor beside south scum tank	None detected		WB
B22	13/04/2010	WWTP - South Primary Gallery Basement Large pipeline fitting on 113 SC line at bottom of south scum tank	None detected		WB
B23	13/04/2010	WWTP - South Primary Gallery Basement Medium blue pipeline fittings on 805 HWS along floor on north side of south scum tank	None detected		WB
B24	13/04/2010	WWTP - South Primary Gallery Basement 114 SC 805 HWS pipeline fitting on YP 114 A primary scum pump and fitting at victaulic Y at north wall	None detected		WB
B25	13/04/2010	WWTP - South Primary Gallery Basement Pipeline fitting compound on 113 SC 805 HWR on both sides of Y-victaulic above sink at east end of	None detected		WB
B26	14/04/2010	WWTP - South Primary Gallery Basement 805 HWS adjacent overhead unit heater adjacent south 50UM tank	None detected		WB
B27	14/04/2010	WWTP - South Primary Gallery Basement 805 HWR adjacent overhead unit heater adjacent south scum tank	None detected		WB
B28	14/04/2010	WWTP - South Primary Gallery Basement Light brown victaulic pipeline fitting 113 SC 805 HWR along north wall 12' from bottom west stairwell	None detected		WB

Box 356

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B29	14/04/2010	WWTP - South Primary Gallery Basement Light brown pipeline fitting along north wall, centre of 113 SC 805 HWR	None detected		WB
B30	14/04/2010	WWTP - South Primary Gallery Basement Dark blue 805 HWS pipeline fitting along north wall	None detected		WB
B31	14/04/2010	WWTP - South Primary Gallery Basement Dark Green 592 TEW pipeline fitting along north wall	None detected		WB
B32	14/04/2010	WWTP - South Gallery Dark green pipeline T-fitting on north wall below cable tray across 592 TEW downspout on south wall 15' east	None detected		WB
B33	14/04/2010	WWTP - South Gallery 592 TEW on upper south wall 10' east of QP137A&B sump pump	None detected		WB
B34	14/04/2010	WWTP - South Gallery & South Primary Gallery Intersect Dark green 592 TEW small pipeline fittings overhead	None detected		WB
B35	14/04/2010	WWTP - South Gallery & South Primary Gallery Intersect Light green small pipeline fitting 7' to west of QP 137A	None detected		WB
B36	14/04/2010	WWTP - South Gallery & South Primary Gallery Intersect Light brown mud composition on 113 SC 805 HWR at	None detected		WB
B37	14/04/2010	WWTP - South Primary Gallery Basement Dark blue south gallery intersect pipeline fitting along west wall below overhead unit heater and 21' north 805	None detected		WB
B38	14/04/2010	WWTP - South Primary Gallery Basement Dark blue 805 HWR medium overhead south end height of 4' of raw sludge pump 6 control panel along	None detected		WB
B39	14/04/2010	WWTP - South Primary Gallery Basement Dark green 592 TEW at the height of 6' and 2' south of raw sludge pump 6 control panel	None detected		WB
B40	14/04/2010	WWTP - South Primary Gallery Basement Small dark blue pipeline fitting on DHW at water heater along east wall to south of RAW 10 pump	None detected		WB
B41	14/04/2010	WWTP - South Primary Gallery Basement Small light green pipeline fitting on DCW at water heater along east wall to south of RAW 10 pump	None detected		WB
B42	14/04/2010	WWTP - South Primary Gallery Basement Small dark blue 805 HWR unit heater at south end	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B43	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room Small blue 805 HWS above stairwell railing, leading	None detected		WB
B44	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room 805 HWR pipeline fitting along west wall to north of	None detected		WB
B45	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room 805 HWR pipeline fitting in northwest corner of room	None detected		WB
B46	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room 805 HWS pipeline fitting in northeast corner of room	None detected		WB
B47	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room 592 TEW pipeline fitting in northeast corner of room	None detected		WB
B48	14/04/2010	WWTP - Primary Gallery Mezzanine South MCC Room Glycol S&R pipeline fitting on dark blue medium line	None detected		WB
B49	14/04/2010	WWTP - Primary Gallery Basement Along west wall overhead 805 HWR 113SC victaulic pipeline fitting behind unit heater adj to stairway to	None detected		WB
B50	14/04/2010	WWTP - Primary Gallery Basement 805 HWR at wall penetration on victaulic pipeline fitting	None detected		WB
B51	14/04/2010	WWTP - Primary Gallery Basement 805 HWS at wall penetration on victaulic pipeline fitting	None detected		WB
B52	14/04/2010	WWTP - Primary Gallery Basement 113SC 805 HWS, light brown overhead 12' south of raw sludge PLC control panel CP-2	None detected		WB
B53	14/04/2010	WWTP - Primary Gallery Basement Dark blue medium 805 HWR overhead to left above cable tray as entering into gallery from admin tunnel	Chrysotile	60%	WB
B54	14/04/2010	WWTP - Primary Gallery Basement 101 PS light brown victaulic large pipeline fitting 5' above the raw sludge PLC control panel CP-2	Chrysotile	60%	WB
B55	14/04/2010	WWTP - Primary Gallery Basement 805 HWR medium blue pipeline victaulic fitting to right of doorway entering into gallery from admin	None detected		WB
B56	14/04/2010	WWTP - Primary Gallery Basement 805 HWS overhead pipeline victaulic fitting	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B57	14/04/2010	WWTP - Primary Gallery Basement 805 HWS blue medium pipeline victaulic fitting along west upper wall adjacent sample sink	None detected		WB
B58	14/04/2010	WWTP - Primary Gallery Basement Overhead light brown 113 SC 805 HWS pipeline fitting adjacent west of the sample sink	None detected		WB
B59	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 111 SC 805 HWR light brown flange overhead mud compound above the north valve assembly in floor	None detected		WB
B60	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Dark blue 805 HWR overhead flange assembly mud compound	None detected		WB
B 61	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 814 DCW light green pipeline fitting at north corner of north gallery and primary gallery intersection 6' above	None detected		WB
B62	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) DWH dark blue small pipeline fitting at north corner of north gallery and primary gallery intersection 8' above	Chrysotile	30%	WB
B63	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 814 DCW light green small pipeline fitting at north corner of north gallery and primary gallery intersection	None detected		WB
B64	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Large chlorine yellow pipeline fitting at north corner of north gallery and primary gallery intersection 4' above	None detected		WB
B65	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Large chlorine yellow pipeline fitting at north corner of north gallery and primary gallery intersection 6' off	None detected		WB
B66	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 814 DCW medium light green pipeline fitting at north corner of north gallery and primary gallery intersection	None detected		WB
B67	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Medium dark blue pipeline fitting overhead unit heater behind raw sludge PLC control panel CP-2 in Primary	None detected		WB
B68	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Dark blue 805 HWS pipeline T-fitting overhead to west of unit heater behind CP-2 in Primary Cell Base	None detected		WB
B69	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 805 HWR medium blue victaulic T upper west wall adjacent sample sink	None detected		WB
B70	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) 814 DCW light green in north gallery at ceiling height adjacent DR-130A Big Bertha Pump	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B71	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Medium top yellow chlorine pipeline fitting at the east end adjacent hot water heater	None detected		WB
B72	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Medium bottom yellow chlorine pipeline fitting at the east end adjacent hot water heater	None detected		WB
B73	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting DHW line at ground level adj sink at the east end, bottom adj wall	Chrysotile	60%	WB
B74	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting DHW line at ground level adj sink at the east end, bottom	None detected		WB
B75	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting DHW line at ground level adj sink at the east end, above 73 & 74	None detected		WB
B76	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Medium pipeline fitting on 111 SC/805 HWR line adj Primary Scum Pump YP-112A at east end	None detected		WB
B77	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on 805 HWS line between YP-111A Primary Scum Pump & north Scum Tank	Chrysotile	30%	WB
B78	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue line at head height on the east side of Scum Tank	None detected		WB
B79	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on light green DCW line east of Scum Tank	Chrysotile	30%	WB
B80	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue DHW line overhead east of Scum Tank	None detected		WB
B81	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue line overhead adj east side of Scum Tank	None detected		WB
B82	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue 805HWR line overhead at east side of Scum Tank in northeast corner of tank	None detected		WB
B83	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue line adjacent south side of Scum Tank at head height	None detected		WB
B84	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue 805 HWS line in centre corridor adjacent Primary Sludge Pump PS-101B,	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B85	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on light green "814 DCW" line adjacent sink at north end	None detected		WB
B86	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue "814 DHW" line adjacent sink at north end	None detected		WB
B87	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue "805 HWS" line adjacent stairs at north end	None detected		WB
B88	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue "805 HWR" line adjacent stairs at north end	None detected		WB
B89	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue "805 HWS" line adjacent unit heater at top of stairs leading to basement in the	None detected		WB
B90	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on blue "805 HWR" line adjacent unit heater at top of stairs leading to basement in the	None detected		WB
B91	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Mud compound orange metal pipeline fitting penetration into south wall overhead, within the	Chrysotile	70%	WB
B92	14/04/2010	WWTP - North Gallery (Primary Gallery Basement) Pipeline fitting on large orange line adjacent "KC-120A Service Air Compressor" within the Mezzanine	None detected		WB
B93	30/04/2010	WWTP - Lower Tunnel 8B Light brown large pipeline fitting on 103 PS line along south upper wall adj doorway to primary gallery	Chrysotile	60%	WB
B94	30/04/2010	WWTP - Lower Tunnel 8B 101 PS light brown course mud compound pipeline fitting at victaulic coupler along centre of south wall 5'	None detected		WB
B95	30/04/2010	WWTP - Lower Tunnel 8B 805 HWS upper dark blue pipeline fitting mud compound at victaulic coupler along upper north wall	None detected		WB
B96	30/04/2010	WWTP - Tunnel T1 Victaulic coupler mud compound adjacent fire alarm pull station on centre of tunnel 805 HWS pipeline	None detected		WB
B97	30/04/2010	WWTP - Tunnel T1 Victaulic coupler mud compound adjacent fire alarm pull station on centre of tunnel 805 HWR pipeline	None detected		WB
B98	30/04/2010	WWTP - Tunnel T1 814 DCW light green broken open pipeline fitting 1/3 way down tunnel adjacent south of water meters	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B99	30/04/2010	WWTP - Upper Tunnel T8A 805 HWR dark blue victaulic pipeline fitting along north wall at corner adjacent T1 Junction	None detected		WB
B100	30/04/2010	WWTP - Upper Tunnel T8A 805 HWS to west of fire door adjacent lower 8B on overhead pipeline fitting	None detected		WB
B101	30/04/2010	WWTP - Upper Tunnel T8A 103 PS large light brown pipeline fitting victaulic coupler mud compound along upper south wall west of	None detected		WB
B102	30/04/2010	WWTP - Upper Tunnel 8A 102 PS light brown pipeline fitting along south wall 5' above floor directly west of fire door adjacent lower	None detected		WB
B103	30/04/2010	WWTP - Upper Tunnel 8A 805 HWR dark blue pipeline fitting adjacent Admin Building fire door	None detected		WB
B104	30/04/2010	WWTP - Upper Tunnel 8A Low pressure steam silver pipeline fitting along north wall 30' east of Heating Plant fire door	None detected		WB
B105	30/04/2010	WWTP - Upper Tunnel 8A 102 PS overhead light brown pipeline fitting victaulic coupler fitting on south wall 30' adjacent west of	None detected		WB
B106	04/05/2010	WWTP - North Gallery (Primary Gallery Basement) Small pipeline fitting on light green 814 DCW overhead adjacent YP 111A Primary Scum Pump	None detected		WB
B107	04/05/2010	WWTP - North Gallery (Primary Gallery Basement) Mud compound on small blue pipeline fitting at head height on west side of scum tank	None detected		WB
B108	04/05/2010	WWTP - North Gallery (Primary Gallery Basement) Mud compound on small blue pipeline fitting at head height at north side of scum tank fitting	None detected		WB
B109	04/05/2010	WWTP - North Gallery (Primary Gallery Basement) Pipeline fitting on medium blue line overhead on the west side of scum tank	None detected		WB
B110	04/05/2010	WWTP - North gallery (Primary Gallery Basement) Mud compound on scum tank at head height of northeast corner	None detected		WB
B111	04/05/2010	WWTP - Heating Plant Base #2 Store Room Small blue overhead pipeline fitting above cable tray along east wall	None detected		WB
B112	04/05/2010	WWTP - Heating Plant Base #2 Store Room Small blue overhead pipeline fitting above cable tray along east wall	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B113	04/05/2010	WWTP - Heating Plant Base #2 Sore Room Silver condensate return pipeline fitting overhead northeast corner	None detected		WB
B114	04/05/2010	WWTP - Maintenance Building - 2nd Floor Soft DCW pipeline fitting in Water Tank Room on Building Heater Tank	Chrysotile	30%	WB
B115	04/05/2010	WWTP - Maintenance Building - 2nd Floor 814 DCW overhead along south wall adjacent Dig Heat Water Tank	Chrysotile	30%	WB
B116	04/05/2010	WWTP - Maintenance Building - 2nd Floor Storage room silver low pressure stream pipeline fitting at ceiling in centre of room	None detected		WB
B117	04/05/2010	WWTP - Maintenance Building - 2nd Floor Mud compound in 320 SCL pipeline fitting penetration in east wall adjacent north of entrance	None detected		WB
B118	28/05/2010	WWTP - Tunnel T7 Mud compound on medium "801 HWS" pipeline fitting 10' north of entry from Heating Plant basement	None detected		WB
B119	28/05/2010	WWTP - Tunnel T7 Mud compound on medium brown "540 WFS/PS" pipeline fitting overhead 15' from Heating Plant entry	Chrysotile	65%	WB
B120	28/05/2010	WWTP - Tunnel T7 Mud compound on medium "102 PS" pipeline fitting overhead 15' in from Heating Plant entry	None detected		WB
B121	28/05/2010	WWTP - Tunnel T7 Mud compound on large "540 WFS/PS" pipeline fitting overhead, 45' in from entry into tunnel from Heating	None detected		WB
B122	05/28/2010	WWTP - Tunnel T7 Mud compound on large "102 PS" pipeline fitting overhead, 45' in from Heating Plant entry	None detected		WB
B123	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWR" pipeline fitting 35' in from Heating Plant entry	None detected		WB
B124	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWS" pipeline fitting 35' in from Heating Plant entry	None detected		WB
B125	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWS" pipeline fitting 55' in from Heating Plant entry	None detected		WB
B126	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWS" pipeline fitting 55' in from Heating Plant entry	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B127	28/05/2010	WWTP - Tunnel T7 Mud compound on large "540 WFS/PS" pipeline fitting 60' in from entry into Heating Plant	None detected		WB
B128	28/05/2010	WWTP - Tunnel T7 Mud compound on large "102 PS" pipeline fitting 60' in from entry into Heating Plant	None detected		WB
B129	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWR" pipeline fitting 75' in from Heating Plant entry	None detected		WB
B130	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWS" pipeline fitting 75' in from Heating Plant entry	None detected		WB
B131	28/05/2010	WWTP - Tunnel T7 Mud compound on large "540 WFS/PS" pipeline fitting 85' in from Heating Plant entry	None detected		WB
B132	28/05/2010	WWTP - Tunnel T7 Mud compound on medium brown "102 PS" overhead 85' in from Heating Plant entry	None detected		WB
B133	28/05/2010	WWTP - Tunnel T7 Mud compound on medium brown "102 PS" overhead 87' in from Heating Plant entry	None detected		WB
B134	28/05/2010	WWTP - Tunnel T7 Mud compound on large blue "801 HWR" pipeline fitting 85' in from Heating Plant entry	None detected		WB
B135	28/05/2010	WWTP - Tunnel T7 Mud compound on large "801 HWS" pipeline fitting 85' in from Heating Plant entry	None detected		WB
B136	28/05/2010	WWTP - Tunnel T7 Mud compound on "801 HWS & 801 HWR" pipeline fittings 105' in from Heating Plant, grouped two lines	Chrysotile	60%	WB
B137	28/05/2010	WWTP - Tunnel T7 Mud compound on "540 WFS/PS" pipeline fitting 105' halfway in from Heating Plant, mud on flange	Chrysotile	70%	WB
B138	28/05/2010	WWTP - Tunnel T7 Mud compound on "540 WFS/PS" pipeline fitting 145' in from Heating Plant	None detected		WB
B139	28/05/2010	WWTP - Tunnel T7 Mud compound on "102 PS" pipeline fitting 145' in from Heating Plant	None detected		WB
B140	28/05/2010	WWTP - Tunnel T7 Mud compound on "801 HWR" pipeline fitting 165' in from Heating Plant	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B141	28/05/2010	WWTP - Tunnel T7 Mud compound on "801 HWS" pipeline fitting 165' in from Heating Plant	None detected		WB
B142	28/05/2010	WWTP - Tunnel T7 Mud compound on "540 WFS" pipeline fitting adjacent Digester Building Entry, approximately 205' from	None detected		WB
B143	28/05/2010	WWTP - Tunnel T7 Mud compound on "102 PS" pipeline fitting adjacent Digester Building entry	None detected		WB
B144	11/06/2010	WWTP - Digester Basement Large blue HWR Digester Heater pipeline fitting adjacent left entry to T7	None detected		WB
B145	11/06/2010	WWTP - Digester Basement Large blue HWS Digester Heater pipeline fitting adjacent left entry to T7	None detected		WB
B146	11/06/2010	WWTP - Digester Basement Light brown "540 WFS/PS" overhead pipeline fitting adjacent sink in northwest corner	None detected		WB
B147	11/06/2010	WWTP - Digester Basement Large light brown pipeline fitting in southwest corner overhead adjacent light fixture	None detected		WB
B148	11/06/2010	WWTP - Digester Basement Large light brown pipeline fitting overhead along south wall adjacent southwest corner	None detected		WB
B149	11/06/2010	WWTP - Digester Basement Small light green overhead DCW pipeline fitting	None detected		WB
B150	11/06/2010	WWTP - Digester Building - Main Level Small light green TEW pipeline fitting along west wall adjacent southwest corner	None detected		WB
B151	11/06/2010	WWTP - Digester Building - Main Level Light brown DSR overhead pipeline fitting adjacent southwest corner of stairwell wall	None detected		WB
B152	11/06/2010	WWTP - Digester Building - Main Level Dark blue HWS pipeline fitting overhead adjacent northwest corner of stairwell wall	None detected		WB
B153	11/06/2010	WWTP - Digester Building - Main Level Large blue HWS overhead pipeline fitting in northwest area	None detected		WB
B154	11/06/2010	WWTP - Digester Building - Main Level Light green pipeline fitting adjacent west of door on north wall 2' above floor	None detected		WB

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.10****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch****Jared Nelson**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B155	11/06/2010	WWTP - Digester Building - Main Level Small blue DHW pipeline fitting adjacent sink	None detected		WB
B156	11/06/2010	WWTP - Digester Building - Main Level Small light blue DCW pipeline fitting adjacent sink	None detected		WB
B157	11/06/2010	WWTP - Admin Building - Main Level 1x1 yellow/white streak floor tile in Instrument Room off of Spill Response	None detected		WB
B158	11/06/2010	WWTP - Admin Building Basement Medium silver pipeline fitting above entry door in telephone room off lunch room	None detected		WB
B159	31/07/2009	WWTP - Digester Building - 2nd Floor Raw sludge mud compound at valve on large brown pipeline fitting in northeast corner	None detected		WB
B160	31/07/2009	WWTP - Digester Building - 2nd Floor Raw sludge mud compound at valve on large brown pipeline fitting in northeast corner	None detected		WB
B161	31/07/2009	WWTP - Digester Building - 2nd Floor Pipeline fitting on medium blue line overhead, straight west of northeast entry	None detected		WB
B162	31/07/2009	WWTP - Digester Building - 2nd Floor Pipeline fitting on medium blue line overhead, straight west of northeast entry	None detected		WB
B163	31/07/2009	WWTP - Digester Building - 2nd Floor Pipeline fitting on small green "TEW" line overhead, straight west of northeast entry	None detected		WB
B164	31/07/2009	WWTP - Digester Building - 2nd Floor Mud compound at valve "03-BV300B" on large brown raw sludge pipeline fitting adjacent east wall between	None detected		WB
B165	31/07/2009	WWTP - Digester Building - 2nd Floor Pipeline fitting on small green "TEW" line overhead adjacent northwest entry	None detected		WB
B166	31/07/2009	WWTP - Digester Building - 2nd Floor Mud compound at valve "03-BV321A" on large brown pipeline fitting in southeast corner	None detected		WB
B167	31/07/2009	WWTP - Digester Building - 2nd Floor Mud compound at victaulic coupler on a large brown pipeline fitting in southeast corner	None detected		WB
B168	31/07/2009	WWTP - Digester Building - 2nd Floor Pipeline fitting on medium blue line in southeast corner adjacent unit heater	None detected		WB

**CITY OF SASKATOON
WASTEWATER TREATMENT PLANT**

**470 WHITESWAN DRIVE
SASKATOON, SK.**

ASBESTOS SURVEY REPORT

FEBRUARY 2005

**Prepared For: City of Saskatoon
Prepared by: Bersch & Associates Ltd.
Project No.: S67.05**

1.0 INTRODUCTION

Bersch & Associates Ltd. was retained by the City of Saskatoon, Water & Wastewater Treatment Branch to conduct a survey of the Wastewater Treatment Plant located at 470 Whiteswan Drive in Saskatoon, Saskatchewan. The purpose of the survey was to identify all accessible asbestos-containing materials (ACM) located within the Wastewater Treatment Plant and identify any concerns relating to the asbestos-containing material noted throughout the survey. This report gives an account of the results of the inspection and our firm's recommendations on control options to be implemented to bring the Waste Water Treatment Plant into compliance with the Province of Saskatchewan Occupational Health and Safety Act and Regulations. Clint Berschiminsky of Bersch & Associates Ltd completed the site survey activity in February 2005.

2.0 METHODOLOGY

Bersch & Associates Ltd. began conducting the survey of the Wastewater Treatment Plant on November 30, 2004. The primary documents for guidance and criteria in this survey were the Province of Saskatchewan "Occupational Health and Safety Act 1993 and the Occupational Health & Safety Regulations, 1996", Province of Saskatchewan "Management of Asbestos", and the U.S. Environmental Protection Agency "Guidance for Controlling Asbestos Containing Materials in Buildings". The USEPA document identifies factors associated with the "condition" and the "potential for disturbance or erosion" of asbestos containing materials (ACM). These factors help to determine potential for exposure to ACM and were used to make a qualitative evaluation of the material. It should be noted that the recommendation of "Management" Asbestos Abatement Action is based upon the premise that renovations are not scheduled in that area that will require disturbing or violating the asbestos containing material. In the event that renovations are scheduled that impact upon the areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, sixty-four (64) bulk samples of suspect asbestos-containing materials were collected within the various buildings which makeup the Wastewater Treatment Plant. Twenty-one (21) samples were confirmed as containing "Chrysotile" asbestos. Please refer to Appendix I for a copy of the Bulk Analysis Report. All bulk samples collected were analyzed by Bersch & Associates Ltd. laboratory in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No.210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as < 1%.

3.0 EXECUTIVE SUMMARY

The survey of the Wastewater Treatment Plant located at 470 Whiteswan Drive in Saskatoon, Saskatchewan entailed the inspection of all accessible suspect ACM located on the property. Materials inspected included mechanical equipment insulating materials, vinyl floor coverings, suspended ceiling tiles, acoustical tiles and stipple ceiling texture. As a result of our inspection, "Chrysotile" asbestos was detected in twenty (21) of the samples collected for analysis. Accessible ACM within the various buildings/tunnels have been clearly identified to eliminate uncertainty of asbestos content. The identification of these materials is as follows:

- ◆ All accessible asbestos-containing pipe fittings located within the various buildings/tunnels of the wastewater treatment plant were clearly identified with a "RED" dot of paint to signify them as asbestos containing. **It should be noted that any unmarked material located within drywall/plaster enclosed ceilings spaces/wall cavities or other inaccessible areas shall be considered asbestos-containing until testing of the material can determine the presence or absence of asbestos.**

While conducting the Wastewater Treatment Plant Survey, the asbestos-containing materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. Refer to Appendix II, Asbestos Material Assessment for a summary of our recommendations.

4.0 RECOMMENDATIONS

The following is a list of observations and recommendations with regards to asbestos-containing materials identified within the various Wastewater Treatment Plant buildings surveyed.

.1 HEATING BUILDING - BASEMENT LEVEL

- .1 **Pipe Fitting Compound** – Exposed asbestos pipe elbow compound was observed within the Pit area above Boiler Feed Pump No. 1 (Bulk Sample #20). Removal of the pipe elbow as well as the parging compound located adjacent the one hand valve and one cleanout in the immediate area is recommended to prevent further deterioration and potential disturbance of the asbestos-containing material.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE/HIGH
ACTION:	REMOVE

- .2 **Pipe Fitting Compound** - Asbestos was observed within the exposed large diameter pipe flange and pipe elbow located at ceiling level adjacent Boiler Feed Pump No. 1 pit area. Previous fluid damage has resulted in ACM deterioration. Removal of the pipe fittings is recommended to prevent further deterioration and potential disturbance of the asbestos-containing material.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE/HIGH
ACTION:	REMOVE

- .3 **Pipe Fitting Compound** - Deteriorated asbestos-containing parging compound was observed around the identification tag of #2B Heat Exchanger. Removal of the exposed ACM is recommended to prevent further deterioration and exposure to the material.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REMOVE

- .4 **Pipe Fitting Compound** - A deteriorated large silver valve assembly was observed on the East end of #1B Heat Exchanger. Removal of the valve assembly is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE/HIGH
ACTION:	REMOVE

- .5 **Pipe Fitting Compound** - The hand valve assembly located on the piping off of Building Heat Pump No. 1 which extends towards No. 2 Storeroom houses exposed fitting compound. Enclosing the asbestos material with canvas and lagging is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REPAIR

- .6 **Pipe Fitting Compound** – Exposed pipe fitting compound was observed on the silver steam piping at the pressure relief valves above #2B and #3B Heat Exchangers. Removal of the ACM is recommended to prevent further deterioration and possible exposure to the ACM.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REMOVE

- .7 **Pipe Fitting Compound** – The canvas jacket located on the pipe elbows/flanges on the East end of #2B and #3B Heat Exchangers was observed in a torn condition thereby leaving the underlying ACM exposed. Application of canvas and lagging to the damaged areas is recommended to thoroughly enclose the ACM.

PRIORITY:	ONE
CONDITION:	MODERATE
POTENTIAL FOR DISTURBANCE:	MODERATE / HIGH
ACTION:	REMOVE

- .8 **Valve Assembly Compound** – Damaged asbestos-containing parging compound was observed on the large valve assembly on the East end of #2B Heat Exchanger. Removal of the damaged ACM is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE / HIGH
ACTION:	REMOVE

.2 HEATING BUILDING – MAIN FLOOR

- .1 **Pipe Fitting Compound** – Asbestos pipe fitting compound was observed on the various runs of lineal fiberglass insulation within the **Heating Building, Boiler Room**. The ACM was noted in moderate/good condition with a low potential for disturbance. Management of the ACM until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .2 **Pipe Fitting Compound** – Asbestos pipe fitting compound was observed on the runs of lineal light green and blue fiberglass insulation within the **Janitor's Closet adjacent to the Switch Room**. The pipe fittings were observed in good condition with a low potential for disturbance. Management of the ACM until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .3 **Pipe Fitting Compound** – Asbestos pipe fitting compound was observed on the run of silver lineal fiberglass insulation on the East side of the heat radiator in the **stairwell to the Upper Level** (Bulk Sample S67.59). One damaged pipe elbow was observed at floor level on the stairwell landing. Removal of the damaged pipe elbow is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	HIGH
ACTION:	REMOVE

.3 ADMINISTRATION BUILDING – MAIN FLOOR

- .1(a) **Lab BOD Room** – Asbestos pipe fitting compound was observed on the runs of lineal fiberglass roof drain pipe insulation within the Lab BOD Room ceiling space (Bulk Sample S67.50). Three exposed pipe fittings were observed within the ceiling space in the Southwest corner of the area. Removal of the three damaged fittings as well as one additional pipe fitting in the same area is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REMOVE

- .1(b) **Lab BOD Room** – An additional two pipe fittings located within the Lab BOD Room ceiling space in the Northwest corner were noted in good condition. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .2(a) **Control Room** – Asbestos pipe fitting compound was observed on the runs of lineal fiberglass roof drain pipe insulation within the Control Room. The flange fitting compound located at the metal roof decking has deteriorated resulting in pieces of the ACM becoming dislodged and falling to the ceiling tile surface below. At a minimum removing the damage pipe flange fitting compound and conducting a thorough HEPA filter vacuuming of the ceiling tile surface in the immediate area is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE/HIGH
ACTION:	REMOVE

- .2(b) **Control Room** – An additional two pipe elbows located adjacent the damaged pipe flange material were noted in good condition. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .3 **Storage Room/Duct Chase** – Four asbestos containing pipe fittings were identified in the Storage Room/Duct Chase adjacent the Ladies Washroom. The pipe fittings were noted in good condition with a low potential for future damage or disturbance. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended. The pipe fittings were inaccessible within the room due to items stored in the area. Therefore, the pipe fittings were marked from the Conference Room.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .4(a) **Conference Room** – Asbestos pipe fitting compound was observed on the runs of lineal fibreglass roof drain pipe insulation within the Control Room extending from the clock along the South wall. The asbestos mud compound was observed exposed on the bottom of one “Y” connector. At a minimum enclosing the asbestos mud compound with canvas and lagging is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE/HIGH
ACTION:	REMOVE

- .4(b) **Conference Room** – An additional three pipe elbows, one pipe flange and one “T” fitting were also observed within the ceiling space extending from the South wall above the conference table. Three of the pipe fittings located above the conference table remain unmarked due to their location above the conference table. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

- .5 **Office Reception Area** – Two asbestos-containing pipe elbows and one pipe flange were identified in the Office Reception Area. The ACM is located within the ceiling space adjacent the diffuser South of the Reception Desk. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

.4 ADMINISTRATION BUILDING – BASEMENT LEVEL

- .1 **Mechanical Room** – Asbestos-containing pipe fittings were identified within the basement level, mechanical room. In total, eight (8) small pipe elbows and three (3) pipe takeoffs house asbestos mud compound. The pipe fittings were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

- .2 **North Corridor Adjacent Kitchen** – One asbestos-containing pipe elbow was identified on the run of lineal blue fiberglass pipe insulation in the North corridor adjacent to the Kitchen. The pipe elbow was observed in good condition with a low/moderate potential for disturbance. Management of the pipe elbow until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

- .3 **Lunch Room** – Four small and two medium pipe fittings were located within the ceiling space along the West wall of the Lunch Room. The pipe fittings were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	THREE
CONDITION:	GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.5 TUNNEL T8A

- .1 **Pipe Fittings** – Asbestos-containing pipe fittings were identified within Tunnel T8A extending from the basement level of the Heating Building to the intersection with Tunnel T1. The pipe fittings were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	TWO
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.6 TUNNEL T1

- .1 **Pipe Fittings** – Asbestos-containing pipe fittings were identified within Tunnel T1 extending from Tunnel T8A to the Screen Building. The pipe fittings were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	TWO
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.7 TUNNEL T7

- .1 **Pipe Flange Assemblies** – Asbestos-containing pipe flange assemblies were identified on the light green piping at floor level on the West side of Tunnel T7. The pipe flange assemblies were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the pipe flange compound until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	TWO
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.8 OPERATING GALLERY

- .1(a) **Corridor to North Scum Tank** - Asbestos pipe fitting compound was observed on the runs of lineal fiberglass insulation located in the corridor to the North Scum Tank. One fluid damaged pipe elbow and one pipe end were observed below the circulation pump on the blue piping adjacent the North Sump Pit. Three hand valves located in the same area also house asbestos mud compound in a deteriorated state. Removal of the five pipe fittings is recommended.

PRIORITY:	ONE
CONDITION:	POOR
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REMOVE

- .1(b) **Remaining Pipe Fittings** – All remaining pipe fittings located on the runs of fiberglass insulation within the operating Gallery were noted in moderate/good condition with a low/moderate potential for disturbance. Management of the remaining pipe fittings other than those mentioned in item 4.7.1(a) above until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	TWO
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.9 SCREEN BUILDING

- .1(a) **Basement Level, Silencer Area** – Asbestos-containing pipe fittings were identified on the orange Silencer piping. One pipe header end located adjacent the South wall was observed with accumulations of mud compound debris on the horizontal pipe surface. Repair of the pipe header end is recommended.

PRIORITY:	ONE
CONDITION:	MODERATE
POTENTIAL FOR DISTURBANCE:	MODERATE
ACTION:	REPAIR

- .1(b) **Basement Level, Silencer Area** – All remaining pipe fittings located on the orange Silencer piping within the basement level of the Screen Building were observed in moderate/good condition with a low/moderate potential for disturbance. Management of the remaining pipe fittings until renovation/maintenance activity warrants prior removal is recommended.

PRIORITY:	TWO
CONDITION:	MODERATE/GOOD
POTENTIAL FOR DISTURBANCE:	LOW/MODERATE
ACTION:	MANAGE

.10 DIGESTER BUILDING & TUNNEL T8B

All suspect bulk samples collected from within the Digester Building (bulk samples #32-38) and Tunnel T8B (bulk samples #1-3) resulted in no asbestos being detected. Therefore, all accessible visible pipe fitting compound located within the areas area considered non-asbestos.

5.0 ASBESTOS ABATEMENT DISCUSSION

Asbestos is a known carcinogen and is listed in the Province of Saskatchewan under the Occupational Health and Safety Regulations, Table 20 as a Designated Chemical Substance and any release of asbestos fibres into the atmosphere creates a potential health hazard. Although the mechanism and epidemiology of asbestos carcinogenesis is not yet well defined, accumulating evidence suggests the significance of exposure at even very low fibre concentrations and hence human exposure should be kept to a minimum. It should be noted however that asbestos is a natural mineral and a measurable background concentration can be detected in any location sampled (inside buildings, outside buildings, urban, rural, etc.). The recommendations of the report are therefore intended to keep the potential exposure to an absolute minimum with the knowledge that a zero exposure is not possible.

Asbestos containing materials have been used in a wide variety of applications. Of particular concern, is the group of so called friable products. A friable product is one which can be crumbled or reduced to powder or smaller fragments by hand pressure. Publications from the U.S.E.P.A. as early as 1977 have indicated the potential hazard of asbestos exposure in buildings containing these friable products. The two main uses of friable asbestos products are as spray insulation (thermal, acoustic or fireproofing) on decking and/or beams or as thermal insulation on piping or mechanical equipment. A large amount of non-friable asbestos-containing materials have also been used in building construction such as asbestos cement board and asbestos containing vinyl flooring.

The mere presence of a friable asbestos containing material does not imply that there is an actual presence of elevated airborne fibre. As numerous studies have indicated, elevated asbestos fibre levels are generally found when settled dust or the actual asbestos containing material itself is disturbed by maintenance, renovation, inadvertent contact or vibration. The factors considered in the Environmental Protection Agency (USEPA) exposure assessment (condition of material, water damage, activity, movement, exposed surface area, accessibility, friability and presence in an air stream) often give some indication of the likelihood of fibre release but are not in any way definitive in determining whether a hazard exists or not. That is, even if the most friable product exists in a building, elevated fibre levels will not likely occur unless there is some disturbance by physical contact, vibration or an air stream. Asbestos containing pipe or mechanical insulation is not considered friable unless the jacketing is deteriorated or is disturbed by maintenance or renovation.

There are four possible approaches to control exposure to airborne asbestos once a friable material is identified in a building. These methods briefly are as follows:

- A) Removal** - Asbestos material is removed and disposed of by burial and replaced by non-asbestos materials.
- B) Encapsulation** - Asbestos material is coated with a bridging or penetrating sealant.
- C) Enclosure** - Asbestos containing materials are separated from the building environment by physical airtight and waterproof barriers.
- D) Management and Custodial Control** - The Province of Saskatchewan Human Resources, Labor and Employment Branch under the Occupational health and Safety Regulations publish a document outlining "The Management of Asbestos". In the guide for compliance, an action plan is outlined for management of the asbestos materials identified and in summary is:
 - 1. Identification - The Occupational Health & Safety Regulations state that all asbestos containing building materials be clearly marked "ASBESTOS" (where practical) to warn others of the possible exposure to asbestos fibres if disturbed
 - 2. Inspection on regular basis is conducted to determine the ongoing condition of the material. As per the Occupational Health & Safety Regulations, 1996 an employer shall ensure that all friable asbestos containing material and all sprayed-on asbestos surfaces are regularly inspected by the employer, or owner and are inspected at least annually by a competent person to confirm that the material is not releasing, and is not likely to release, asbestos dust into the atmosphere. Maintenance staff should be instructed to bring to attention any problem areas they note during daily activities.
 - 3. Development of Written Work Procedures for maintenance personnel to Control the Hazard of Asbestos, or often arrangements are made for a qualified contractor to conduct the necessary removal/repair prior to the regular staff conducting maintenance. An Asbestos Control Plan needs to be developed that protects the health and safety of all workers in the event of the dispersal of asbestos dust into the atmosphere at a place of employment or worksite. A brief summary of the Asbestos Control Plan is found under Section 337 (2) of the Occupational Health and Safety Regulations, 1996.
 - 4. Asbestos Abatement Awareness and Low Risk Process Training if the regular maintenance personnel are required to conduct asbestos related activities.

For the specifics of this report Repair, Removal, and Management of the asbestos containing materials are the recommended planned activities. Removal of the asbestos containing material observed in poor condition is the only solution to provide permanent elimination of any potential for airborne fibre release. In the event of renovations or maintenance to areas containing asbestos materials, written procedures must be developed to conduct the activity or prior removal if the situation warrants.

5.0 REFERENCES

- .1 Province of Saskatchewan "The Occupational Health and Safety Act, 1993" and "The Occupational Health & Safety Regulations, 1996".
- .2 Province of Saskatchewan Human Resources, Labour, and Employment "The Management of Asbestos" January 1991.
- .3 USEPA, 1985. U.S. Environmental Protection Agency, "Guidance for Controlling Asbestos-Containing Materials in Buildings". Washington, DC: Office of Toxic Substances, USEPA

APPENDIX I
BULK SAMPLE ANALYSIS

BERSCH & ASSOCIATES LTD.

March 01, 2005

City of Saskatoon
Waste & Wastewater Treatment Branch
470 Whiteswan Drive
Saskatoon, SK S7K 6Z7

Attention: Gene McWillie – Maintenance Engineer

SUBJECT: Bulk Material Identification Report

Dear Mr. McWillie,

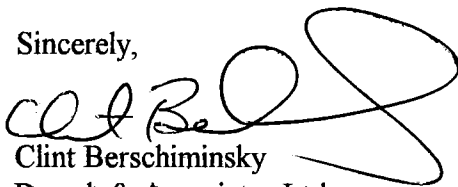
Please find attached our laboratory's results for the bulk samples collected from the City of Saskatoon, Wastewater Treatment Plant during asbestos hazard assessment survey activity. The samples were forwarded to our Regina Laboratory for the identification of asbestos. Chrysotile asbestos detected in twenty-one of the samples submitted for analysis.

The results for the bulk samples collected were obtained by examination in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No. 210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as <1%.

This report relates only to the materials collected for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information, please contact Clint Berschiminsky (Saskatoon Regional Manager) at (306) 222-7477 Cell or (306) 955-9158 Fax. Thank you for this opportunity of service to your organization.

Sincerely,


Clint Berschiminsky
Bersch & Associates Ltd.
S67BLC01

361 BROAD STREET, REGINA, SK, S4R 1X2 Ph: (306) 757-6665 Fax: (306) 757-6664

Bersch & Associates Ltd.

361 Broad Street

Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
1	11/30/2004	Tunnel T8B Lineal Blue Pipe Insulation Pipe Elbow Parging compound	None		Cellulose N/F Material	WB
2	11/30/2004	Tunnel T8B Light Blue Pipe Insulation Pipe elbow Compound	None		Glass Fibre Mineral Wool, Cellulose N/F Material	WB
3	11/30/2004	Tunnel T8B Lineal Brown PRP Piping Pipe Flange Compound	None		Glass Fibre Mineral Wool N/F Material	WB
4	11/30/2004	Operating Gallery Brown SC Piping Valve Flange Compound	None		Glass Fibre Mineral Wool N/F Material	WB
5	11/30/2004	Operating Gallery Adj. North Sump Pit Lineal Blue Pipe Insulation Pipe Elbow Compound @ Pipe Union	Chrysotile	60	N/F Material	WB
6	11/30/2004	Operating Gallery, Adj. North Sump Pit Lineal Yellow Pipe Insulation Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
7	11/30/2004	Operating Gallery Brown Scum Line Fitting Compound @ Pipe Union	None		Glass Fibre N/F Material	WB
8	11/30/2004	Operating Gallery, Adj. North Sump Pit Light Blue Pipe Insulation Pipe Elbow Compound		None	Glass Fibre Mineral Wool N/F Material	WB

N/F - Non Fibrous

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
9	11/30/2004	Operating Gallery Walkway to North Scum Tank Brown Scum Line, Pipe Union Compound	Chrysotile	60	N/F Material	WB
10	11/30/2004	Operating Gallery North Scum Tank Tank Parging Compound	None		Cellulose, Glass Fibre Mineral Wool N/F Material	WB
11	11/30/2004	Operating Gallery Blue Piping Adj. North Scum Tank Pipe Elbow Compound	Chrysotile	80	N/F Material	WB
12	11/30/2004	Operating Gallery Scum Line to South Scum Tank Fitting Compound @ Pipe Flange	None		Cellulose N/F Material	WB
13	11/30/2004	Operating Gallery North Pump Mezzanine Pipe Elbow Parging Compound	None		Glass Fibre Mineral Wool N/F Material	WB
14	11/30/2004	Operating Gallery - MCC #8 West Wall Adj. Circulating Pumps Exposed Pipe Elbow Compound	None		Cellulose N/F Material	WB
15	11/30/2004	Tunnel T8A Adj. Access Door to T8B Lineal Light Green/blue Piping Pipe Elbow Compound	Chrysotile	80	N/F Material	WB
16	11/30/2004	Tunnel T8A Adj. Access Door to T8B Lineal Blue Pipe Insulation Pipe Hanger Compound	None		Glass Fibre Mineral Wool N/F Material	WB

N/F - Non Fibrous

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
17	11/30/2004	Tunnel T8A Adj. Access Door Admin. Lineal Silver Glycol Piping Pipe Elbow Compound	Chrysotile	70	N/F Material	WB
18	11/30/2004	Tunnel T8A Adj. Access Door Admin. Silver Glycol Piping Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
19	11/30/2004	Tunnel T8A Brown PRP Piping Pipe Flange Compound	None		Glass Fibre Mineral Wool N/F Material	WB
20	11/30/2004	Heating Building, Basement Level Boiler Feed Pump #1 Exposed Pipe Elbow Parging Compound	Chrysotile	70	N/F Material	WB
21	11/30/2004	Heating Building, Basement Level Building Heat Pump No. 1 Pipe Elbow Compound	Chrysotile	60	N/F Material	WB
22	11/30/2004	Heating Building, Basement Level N.E. Silver Condensate Return Piping Pipe Elbow Compound	Chrysotile	70	N/F Material	WB
23	11/30/2004	Heating Building, Basement Level Northeast Corner Light Green/Blue Pipe Elbow	None		Glass Fibre Mineral Wool N/F Material	WB
24	11/30/2004	Heating Building, Basement Level Heat Exchanger #1D Pipe Elbow Compound	None		Cellulose Glass Fibre N/F Material	WB

N/F - Non Fibrous

Bersch & Associates Ltd.

361 Broad Street

Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
25	11/30/2004	Heating Building, Basement Level Heat Exchanger #2D Pipe End Parging Compound	Chrysotile	80	N/F Material	WB
26	11/30/2004	Heating Building, Basement Level Light Green Piping Adjacent Sink Pipe Elbow Compound	Chrysotile	60	N/F Material	WB
27	11/30/2004	Heating Building, Basement Level Blue HWS Piping Adjacent Sink Pipe Elbow Compound	None		Cellulose N/F Material	WB
28	11/30/2004	Heating Building, Basement Level Brown PRP Piping Adj. Tunnel T7 Pipe Elbow Compound	Chrysotile	70	N/F Material	WB
29	11/30/2004	Heating Building, Basement Level Heat Exchanger 2B, Cond. Rtn Piping Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
30	11/30/2004	Heating Building, Basement Level East End of Heat Exchanger 2B Blue Pipe Elbow Compound	Chrysotile	70	N/F Material	WB
31	11/30/2004	Tunnel T7 West Side of Entrance to Heating Bldg. Blue Pipe Fitting Compound	None		Cellulose N/F Material	WB
32	11/30/2004	Digester Building, Basement Level Adjacent Tunnel T7 Access Door Exposed Light Green Pipe Elbow	None		Cellulose N/F Material	WB

N/F - Non Fibrous

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Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
33	11/30/2004	Digester Building, Basement Level PRP Piping Adj. Door to Tunnel T7 Pipe Flange Compound	None		Cellulose N/F Material	WB
34	11/30/2004	Digester Building, Basement Level Northwest Corner of Building Light Green DCW Pipe Elbow	None		Cellulose N/F Material	WB
35	11/30/2004	Digester Building, Basement Level Blue Piping Adjacent Stairwell Pipe Elbow compound	None		Glass Fibre Mineral Wool N/F Material	WB
36	11/30/2004	Digester Building, Main Floor North Side of HE 304 Blue HW Pipe Elbow Parging	None		Cellulose N/F Material	WB
37	11/30/2004	Digester Building, Level 1 West Side of Stairwell PRP Piping - Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
38	12/03/2004	Digester Building Stairwell to Rooftop Wall Plaster Material	None		N/F Material	WB
39	12/03/2004	Tunnel T8A Adj. Admin. Access Door Brown PRP Piping Pipe Flange Compound	Chrysotile	70	N/F Material	WB
40	12/03/2004	Tunnel T-1 Adjacent to Water Meters DCW Pipe Flange Compound	Chrysotile	70	N/F Material	WB

N/F - Non Fibrous

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BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
41	12/03/2004	Screen Building, Basement Level Light green DCW Piping Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
42	12/03/2004	Screen Building, Basement Level Blue Heat Rad Piping Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
43	12/03/2004	Screen Building, Basement Level Orange Piping Valve Flange Fitting Compound	Chrysotile	60	N/F Material	WB
44	12/03/2004	Screen Building, Compressor Room Acoustical Wall/Ceiling Grid	None		Cellulose Glass Fibre, Mineral Wool	WB
45	01/10/2005	Screen Building South Silencer Pipe Fitting Compound	Chrysotile	10	Glass Fibre Mineral Wool N/F Material	WB
45B	02/12/2005	Admin. Building Basement Level, Lunch Room 2' x 4' Dot Pattern Ceiling Tile	None		Cellulose Glass Fibre, Mineral Wool N/F Material	WB
46	02/12/2005	Admin. Building, Basement Level Lunch Room, West Wall Above Ceiling Tile Grid Blue Piping - Pipe Elbow Compound	Chrysotile	20	Glass Fibre Mineral Wool N/F Material	WB
47	02/12/2005	Admin. Building, Basement Level Kitchen Area Ceiling Space Stipple Ceiling Texture	None		Cellulose Quartz N/F Material	WB

N/F - Non Fibrous

Bersch & Associates Ltd.

361 Broad Street

Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
48	02/12/2005	Admin. Building, Basement Level Kitchen Area 2' x 4' Fissured Ceiling Tile	None		Cellulose Glass Fibre, Mineral Wool N/F Material	WB
49	02/12/2005	Admin. Building, Basement Level Mechanical Room Adj. Lunch Room Acoustical Walls Tile	None		Cellulose Glass Fibre, Mineral Wool N/F Material	WB
50	02/12/2005	Admin. Building, Main Floor Lab Area Grey Sheet Flooring	None		Vinyl N/F Material	WB
51	02/12/2005	Admin. Building, Main Floor Lab Area Black Lab Countertop	None		N/F Material	WB
52	02/12/2005	Heating Building, Boiler Room North Wall Adjacent Man Door Steam Pipe Elbow Compound	Chrysotile	60	N/F Material	WB
53	02/12/2005	Heating Building, Boiler Room North Side of Boiler No. 3 Exposed Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
54	02/12/2005	Heating Building, Boiler Room N.E. Corner Adj. Boiler No. 1 Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
55	02/12/2005	Heating Building, Boiler Room Above Boiler No. 1 Pipe Elbow Parging Compound	None		Glass Fibre Mineral Wool N/F Material	WB

N/F - Non Fibrous

Bersch & Associates Ltd.

361 Broad Street

Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
56	02/12/2005	Maintenance Shop East Bay Above Man Door Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
57	02/12/2005	Heating Building Washroom Adj. Switch Room Blue Piping - Pipe Elbow Compound	Chrysotile	10	Glass Fibre Mineral Wool N/F Material	WB
58	02/12/2005	Heating Building Washroom Adj. Switch Room Silver Piping - Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB
59	02/12/2005	Heating Building Stairwell to Upper Level Exposed Pipe Elbow Compound	Chrysotile	10	Glass Fibre Mineral Wool N/F Material	WB
60	02/12/2005	Admin. Building, Main floor Spill Response Room Grey Corlon Sheet Flooring	None		Vinyl Cellulose N/F Material	WB
61	02/24/2005	Tunnel T8A Adjacent to Administration Building Lunch Room Green/blue Piping - Pipe Fitting	Chrysotile	10	Glass Fibre Mineral Wool N/F Material	WB
62	02/24/2005	Heating Building Stairwell to Upper Level Pipe Elbow - West Side of Landing	None		Glass Fibre Mineral Wool N/F Material	WB
63	02/24/2005	Heating Building, Upper Level Digester Heat Vessel Area Silver Piping - Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB

N/F - Non Fibrous

Bersch & Associates Ltd.

361 Broad Street

Regina, Sask. S4R 1X2

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. S67.05****CLIENT: CITY OF SASKATOON****WASTEWATER TREATMENT PLANT**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	OTHER	ANALYST
64	02/24/2005	Heating Building, Upper Level Digester Heat Vessel Area Blue Piping - Pipe Elbow Compound	None		Glass Fibre Mineral Wool N/F Material	WB

APPENDIX II
ASBESTOS MATERIAL ASSESSMENT

Bersch & Associates Ltd.

361 Broad Street,
Regina, Sk. S4R 1X2

PROJECT NO. S67.05

CITY OF SASKATOON - WASTEWATER TREATMENT PLANT

470 Whiteswan Drive, Saskatoon, SK

ACM ASSESSMENT

AREA	REPORT REFERENCE	PRIORITY	CONDITION	POTENTIAL FOR DISTURBANCE	ACTION
4.1 Heating Building					
Basement Level	Page 3, Item 4.1.1	1	POOR	MODERATE/HIGH	REMOVE
Basement Level	Page 4, Item 4.1.2	1	POOR	MODERATE/HIGH	REMOVE
Basement Level	Page 4, Item 4.1.3	1	POOR	MODERATE	REMOVE
Basement Level	Page 4, Item 4.1.4	1	POOR	MODERATE/HIGH	REMOVE
Basement Level	Page 4, Item 4.1.5	1	POOR	MODERATE	REPAIR
Basement Level	Page 5, Item 4.1.6	1	POOR	MODERATE	REMOVE
Basement Level	Page 5, Item 4.1.7	1	POOR	MODERATE/HIGH	REMOVE
Basement Level	Page 5, Item 4.1.8	1	POOR	MODERATE/HIGH	REMOVE
4.2 Heating Building - Main Floor					
Boiler Room	Page 5, Item 4.2.1	3	MOD/GOOD	LOW	MANAGE
Janitor's Closet Adj. Switch Room	Page 6, Item 4.2.2	3	GOOD	LOW	MANAGE
Stairwell to Upper Level	Page 6, Item 4.2.3	1	POOR	HIGH	REMOVE
4.3 Admin. Bldg. - Main Floor					
Lab BOD Room	Page 6, Item 4.3.1(a)	1	POOR	MODERATE	REMOVE
Lab BOD Room	Page 6, Item 4.3.1(b)	3	GOOD	LOW	MANAGE
Control Room	Page 7, Item 4.3.2(a)	1	POOR	MODERATE/HIGH	REMOVE
Control Room	Page 7, Item 4.3.2(b)	3	GOOD	LOW	MANAGE
Storage Room/Duct Chase	Page 7, Item 4.3.3	3	GOOD	LOW	MANAGE
Conference Room	Page 8, Item 4.3.4(a)	1	POOR	MODERATE/HIGH	REMOVE
Conference Room	Page 8, Item 4.3.4(b)	3	GOOD	LOW	MANAGE
4.4 Admin. Bldg. - Bsmt. Level					
Mechanical Room	Pages 8-9, Item 4.4.1	3	MOD/GOOD	LOW/MODERATE	MANAGE
North Corridor Adj. Kitchen	Page 9, Item 4.4.2	3	GOOD	LOW/MODERATE	MANAGE
Lunch Room	Page 9, Item 4.4.3	3	GOOD	LOW/MODERATE	MANAGE

MOD/GOOD - Moderate to good

Bersch & Associates Ltd.

361 Broad Street, Regina SK, S4R 1X2

Regina, Sk. S4R 1X2

PROJECT NO. S67.05**CITY OF SASKATOON - WASTEWATER TREATMENT PLANT****470 Whiteswan Drive, Saskatoon, SK****ACM ASSESSMENT**

AREA	REPORT REFERENCE	PRIORITY	CONDITION	POTENTIAL FOR DISTURBANCE	ACTION
4.5 Tunnel T8A					
T8A to Intersection with Tunnel T1	Page 9, Item 4.5.1	2	MOD/GOOD	LOW/MODERATE	MANAGE
4.6 Tunnel T1					
Pipe Fittings	Page 10, Item 4.6.1	2	MOD/GOOD	LOW/MODERATE	MANAGE
4.6 Tunnel T1					
Pipe Fittings	Page 10, Item 4.7.1	2	MOD/GOOD	LOW/MODERATE	MANAGE
4.8 Operating Gallery					
Corridor to North Scum Tank	Page 10, Item 4.8.1(a)	1	POOR	MODERATE	REMOVE
Remaining Operating Gallery Area	Page 11, Item 4.8.1(b)	2	MOD/GOOD	LOW/MODERATE	MANAGE
4.9 Screen Building					
Bsmt. Level, Silencer Area	Page 11, Item 4.9.1(a)	1	MODERATE	MODERATE	REPAIR
Bsmt. Level, Silencer Area	Page 11, Item 4.9.1(b)	2	MOD/GOOD	LOW/MODERATE	MANAGE

MOD/GOOD - Moderate to good

BERSCH & ASSOCIATES LTD.

December 31, 2009

City of Saskatoon
Water & Wastewater Treatment Branch
470 Whiteswan Drive
Saskatoon, SK
S7K 6Z7

ATTENTION: Joe Zimmer

SUBJECT: Bulk Material Identification Report

Please find attached our laboratory's results for the bulk samples collected from the Waste Water Treatment Plant of pipeline fitting compound on November 26, 2009 and December 10, 2009 within the Scum Gallery. The samples were forwarded to our Laboratory for the identification of asbestos.

The results for the bulk samples collected were obtained by examination in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No.210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as greater than 1% by volume.

This test report relates only to the material sent for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information please contact me at 222-7477. Thank you for this opportunity of service to your firm.

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLK26

Bersch & Associates Ltd.

B67BAK26

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.09****CLIENT: CITY OF SASKATOON****Water & Wastewater Treatment Branch - SCUM GALLERY BUILDING****Contact: Joe Zimmer**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B4	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting serving the south 1974 construction overhead heating unit	Chrysotile	30	WB
B5	26/11/2009	WWTP - Scum Gallery Building Small light green DCW pipeline fitting adjacent the doorway to the northmost tunnel	None detected		WB
B6	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWS pipeline fitting above the conveyor pump adj. the doorway to the northmost tunnel	Chrysotile	20	WB
B7	26/11/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting adj. the doorway to the northmost tunnel	Chrysotile	20	WB
B8	26/11/2009	WWTP - Scum Gallery Building Chlorine Disinfection large overhead yellow pipeline fitting adjacent the doorway to the northmost tunnel above the north conveyor	None detected		WB
B9	26/11/2009	WWTP - Operators Gallery Medium overhead 805 HWR pipeline T-fitting approximately 12' south of the Raw Sludge PLC Control	None detected		WB
B10	10/12/2009	WWTP - Scum Gallery Building Medium blue 805 HWR pipeline fitting at the northmost unit heater	None detected		WB

Bersch & Associates Ltd.

B67BAK26

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.09

CLIENT: CITY OF SASKATOON

Water & Wastewater Treatment Branch - SCUM GALLERY BUILDING

Contact: Joe Zimmer

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B11	10/12/2009	WWTP - Scum Gallery Building Medium blue 805 HWS pipeline fitting at the northmost unit heater	None detected		WB
B12	10/12/2009	WWTP - Operators Gallery, below stairwell to Scum Gallery, pipeline fitting on the 805 HWR pipeline adj. to YP-111A Primary Scum Pump	None detected		WB

BERSCH & ASSOCIATES LTD.

December 31, 2009

City of Saskatoon
Water & Wastewater Treatment Branch
470 Whiteswan Drive
Saskatoon, SK
S7K 6Z7

ATTENTION: Joe Zimmer

SUBJECT: Bulk Material Identification Report

Please find attached our laboratory's results for the bulk samples collected from the Waste Water Treatment Plant of pipeline fitting compound on November 26, 2009. The samples were forwarded to our Laboratory for the identification of asbestos.

The results for the bulk samples collected were obtained by examination in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No.210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as greater than 1% by volume.

This test report relates only to the material sent for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information please contact me at 222-7477. Thank you for this opportunity of service to your firm.

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLK26

Bersch & Associates Ltd.

B67BAK26

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.09

CLIENT: CITY OF SASKATOON

Water & Wastewater Treatment Branch - CHLORINE BUILDING

Contact: Joe Zimmer

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B1	26/11/2009	WWTP - Chlorine Building Small yellow pipeline fitting along the east wall on the east end of the building	None detected		WB
B2	26/11/2009	WWTP - Chlorine Building Medium blue pipeline fitting servicing the overhead unit heater on the east end of the building	None detected		WB
B3	26/11/2009	WWTP - Chlorine Building Large yellow chlorine disinfection pipeline fitting on the east end of the building adj. the southeast man door.	None detected		WB

Bersch & Associates Ltd.

P.O. Box 3568

Humboldt, SK S0K 2A0

B01BAD07

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B01.08

CLIENT: LEN RACETTE - STANTEC CONSULTING

H. McIVOR WEIR WATER POLLUTION CONTROL PLANT

SCREEN BUILDING - SASKATOON, SK

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	4/7/2008	Basement Medium blue pipeline fitting "GHWS" line in the northwest corner adjacent the west staircase	None detected		WB
2	4/7/2008	Basement Mud compound on the "HWR" line at the blue tank in the northwest corner adjacent the west staircase	None detected		WB
3	4/7/2008	Basement Valve compound at shoulder height, to the south of the circ. pumps & tank in the northwest corner adjacent the west staircase	None detected		WB
4	4/7/2008	Basement Small overhead green pipeline fitting to the south of the circ. pumps #1 & #2	None detected		WB
5	4/7/2008	Basement Firestop compound at pipe penetration into the west wall of the storage room, adjacent circ. Pumps # 1 & #2	None detected		WB
6	4/7/2008	Basement Small blue overhead pipeline fitting, adjacent the hot water heater to the east of the storage room	None detected		WB
7	4/7/2008	West Mezzanine Overhead pipeline fitting on medium "HWS return" line above the "Vortex Air Separator" at the east wall	None detected		WB
8	4/7/2008	West Mezzanine Overhead pipeline fitting on medium "HWS supply" line to the north of the "Vortex Air Separator", in the northeast corner	Chrysotile	50	WB

Bersch & Associates Ltd.

B01BAD07

P.O. Box 3568

Humboldt, SK S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B01.08

CLIENT: LEN RACETTE - STANTEC CONSULTING

H. McIVOR WEIR WATER POLLUTION CONTROL PLANT

SCREEN BUILDING - SASKATOON, SK

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
9	4/7/2008	West Mezzanine Firestop at blue "HWS supply" line penetration into the floor adjacent the electrical breaker panel	None detected		WB
10	4/7/2008	West Mezzanine Pipeline fitting on medium blue "HWS supply" line overhead east of the electrical breaker panel	None detected		WB
11	4/7/2008	T1 Tunnel - South of Screen Bldg Pipeline fitting on blue "HWS supply" line adjacent the south stairs of the tunnel	None detected		WB
12	4/7/2008	T1 Tunnel - South of Screen Bldg Pipeline fitting on light green "PW" line adjacent the south stairs of the tunnel	None detected		WB
13	4/7/2008	West Mezzanine Firestop remnants at the pipeline penetration into the T1 tunnel, to the south of the stairwell	None detected		WB
14	4/7/2008	West Mezzanine Pipeline fitting on small light green line at the base of the staircase, adjacent T1 tunnel entry	None detected		WB
15	4/7/2008	East Mezzanine Pipeline fitting on the blue "HWS supply" line adjacent the unit heater in the southeast corner	None detected		WB
16	4/7/2008	East Mezzanine Firestop at orange steel pipe penetration into the ceiling adjacent "ÄC1" unit and the south wall	Chrysotile	60	WB

Bersch & Associates Ltd.

P.O. Box 3568

Humboldt, SK S0K 2A0

B01BAD07

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B01.08

CLIENT: LEN RACETTE - STANTEC CONSULTING

H. McIVOR WEIR WATER POLLUTION CONTROL PLANT

SCREEN BUILDING - SASKATOON, SK

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
17	4/7/2008	East Mezzanine 1' x 1' wall tile, white with pin hole pattern	None detected		WB
18	4/7/2008	East Mezzanine Pipeline fitting on the blue "HWS return" line in the northeast corner adjacent the stairs	None detected		WB
19	4/7/2008	East Mezzanine Washroom Firestop at pipe penetration into the south wall in the southwest corner, overhead	Chrysotile	70	WB
20	4/7/2008	East Mezzanine Washroom Firestop at pipe penetration into the floor straight north of entry door	Chrysotile	40	WB
21	4/7/2008	East Mezzanine Washroom Small pipeline fitting beside the toilet	None detected		WB
22	4/7/2008	Main Floor Pipeline fitting on "HWS return" line in the northeast corner, overhead	None detected		WB
23	4/7/2008	Main Floor Pipeline fitting on "HWS return" line in the northwest corner adjacent stairs	None detected		WB
24	4/7/2008	Main Floor Firestop at orange pipe penetration into the south wall adjacent the south man door	None detected		WB

BERSCH & ASSOCIATES LTD.

July 23, 2008

City of Saskatoon
Utility Services Department
470 Whiteswan Drive
Saskatoon, SK
S7K 6Z7

ATTENTION: Mark Pavlakovich

SUBJECT: Bulk Material Identification Report

Please find attached our laboratory's results for the bulk sample collected from the Waste Water Treatment Plant of the pipeline fitting compound on July 16, 2008. The sample was forwarded to our Laboratory for the identification of asbestos.

The results for the bulk sample collected was obtained by examination in accordance with the current U.S. 40 CFR Part 763, Vol. 52, No.210 for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as greater than 1% by volume.

This test report relates only to the material sent for examination and any use or extension of the information by the client of these results is the responsibility of the client.

If any questions arise on the results of the attached information please contact me at 222-7477. Thank you for this opportunity of service to your firm.

Sincerely,

Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLG16

Bersch & Associates Ltd.

B67BAG16

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.08

CLIENT: CITY OF SASKATOON

UTILITY SERVICES DEPARTMENT

Contact: Mark Pavlakovich

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
B07	16/7/2008	Wastewater Treatment Plant - Damaged condensate return pipeline fitting at floor level in Heating Building Ventilation Fan Room on the upper floor (Boiler Makeup Air).	None detected		WB

Bersch & Associates Ltd.

B67BAG31

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT

PROJECT NO. B67.09

CLIENT: CITY OF SASKATOON

UTILITY SERVICES DEPARTMENT

Wastewater Treatment Plant

Contact: Mark Pavlakovich

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
01	31/7/2009	WWTP - Digester Building - 2nd floor Mud compound at valve on large brown line (raw sludge) in the northeast corner	None detected		WB
02	31/7/2009	WWTP - Digester Building - 2nd floor Mud compound at valve on large brown line in the northeast corner	None detected		WB
03	31/7/2009	WWTP - Digester Building - 2nd floor Pipeline fitting on a medium size blue line overhead, directly west of the northeast entry	None detected		WB
04	31/7/2009	WWTP - Digester Building - 2nd floor Pipeline fitting on a medium size blue line overhead, directly west of the northeast entry	None detected		WB
05	31/7/2009	WWTP - Digester Building - 2nd floor Pipeline fitting on a small green "TEW" line overhead, directly west of the northeast entry	None detected		WB

Bersch & Associates Ltd.

B67BAG31

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**PROJECT NO. B67.09****CLIENT: CITY OF SASKATOON****UTILITY SERVICES DEPARTMENT****Wastewater Treatment Plant****Contact: Mark Pavlakovich**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
06	31/7/2009	WWTP - Digester Building - 2nd floor Mud compound at valve "03-BV300B" on large brown "Raw Sludge" line adjacent the east wall, between the man doors	None detected		WB
07	31/7/2009	WWTP - Digester Building - 2nd floor Pipeline fitting on small green "TEW" line overhead, adjacent the northwest entry	None detected		WB
08	31/7/2009	WWTP - Digester Building - 2nd floor Mud compound at valve "03-BV321A" on large brown line in the southeast corner	None detected		WB
09	31/7/2009	WWTP - Digester Building - 2nd floor Mud compound at victaulic coupler on large brown line in the southeast corner	None detected		WB
10	31/7/2009	WWTP - Digester Building - 2nd floor Pipeline fitting on a medium size blue line in the southeast corner adjacent the unit heater	None detected		WB