Yukon
Mobile Abattoir
Procedures Manual

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1. Introduction

Early in the fall of 2006, Canada's first mobile abattoir arrived ready for business in the Yukon.

The mobile abattoir is housed in a fifth wheel trailer custom designed with features for Yukon conditions and provides slaughter, inspection and refrigerated transportation services for red meats such as beef, bison, pork, elk, sheep and goats. The front of the unit houses a mechanical room and a cooler with refrigeration capacity for up to 8 bison, beef cattle or elk, 15 hogs, or 20 smaller animals such as sheep or goats. The back half of the unit contains overhead winches for lifting the animal into the dressing bed as well as the equipment needed for skinning and evisceration.

The mobile abattoir, together with individual farms, provides all the necessary components to meet the regulatory requirements to process meat for retail sales. A Yukon government meat inspector provides inspection services during the slaughter process and ensures all federal and territorial regulations and health guidelines are met or exceeded. For meat intended for retail sale, the mobile abattoir can then provide refrigerated transportation of stamped carcasses (approved by the meat inspector) to an approved meat processor for cold storage, ageing, butchering and wrapping services. Unstamped carcasses (not for retail sale), may be picked up or transported by the farmer or customer.

Farmers, either directly or through arrangements with the meat processor, are now able to market inspected (stamped) product to stores, restaurants, and caterers as well as to individual Yukon families.

An outstanding benefit of mobile abattoirs is that the animals being slaughtered are subjected to a minimum of stress because there is no requirement to load or transport animals, and because there is no interaction with unfamiliar animals or humans.

A. Retail Sale vs Farm Gate Sale

The mobile abattoir is used to process farmed red meat for retail sales, for home consumption, or for farm gate sales.

The relevant legislation that distinguishes between meat processed for retail sales and farm gate sales is from the 2002 revision of the Yukon Agricultural Products Act section 19:

> *(1) No person shall sell a regulated product or offer a regulated product for sale to any person unless the product has been approved by an inspector in accordance with regulations applying to that product.*
>
> *(2) Subsection (1) does not prohibit a person from making an occasional private sale of a live animal, other than a game animal, raised by the person, whether or not the person assists the purchaser with the slaughter or butchering of the animal.*

Meat intended for retail sales (to stores, restaurants or caterers) must be slaughtered in a licensed and inspected facility such as the mobile abattoir and a meat inspector must verify the health of the animal prior to slaughter as well as the postmortem quality of the meat. The meat inspector will stamp the carcass prior to delivery to an approved processing (cutting and wrapping) facility.

In Yukon, the interpretation of the regulation has been made to allow for some sales of uninspected meat (farm gate sale). It is the responsibility of the farmer to take the precautions necessary to provide a healthy product for this type of sale. Meat that is classified as “farm gate” cannot be sold in a retail facility or a farmers' market, nor to a restaurant or caterer.

The meat inspector is always present when meat is processed in the mobile abattoir. To maintain an inspected product, meat must travel from the mobile abattoir to an approved cutting and wrapping facility by an approved vehicle such as the mobile abattoir. If meat is removed from this inspection process at any point prior to delivery to the customer, the meat is no longer eligible for retail sale as an inspected product.

B. Roles and Responsibilities

It is important that each person involved in producing food have a clear understanding of the requirements for cleanliness and the potential for disease transfer so that steps can be taken to minimize the risks. When using the mobile abattoir, these roles must be clearly defined to prevent confusion and ensure the process meets or exceeds federal and territorial food safety and environmental legislation.

Farmer/Producer

The farmer has a legal and ethical responsibility for the care and wellbeing of their animals prior to slaughter. Appropriate handling facilities should be available on the farm to safely control the animal and to minimize stress. Animals should be protected from excessive sun or rain while in holding facilities and must have drinking water available.

The farmer is responsible for providing the meat inspector with information about the animals to be slaughtered. This includes age, identification tags, and medical history.

The farmer will book the abattoir as well as ageing and/or cutting wrapping services if needed.

The farmer must provide a location for the mobile abattoir to park that is at least 30 metres (100 ft) from any drinking water well. If an on-site source of water is to be used in the mobile abattoir, a water sample must be collected and submitted to Environmental Health Services (EHS) for bacteriological analysis at least 15 days prior to slaughter. Surface water or water from wells less than 15 metres deep must also be filtered and treated by UV disinfection. In some specific cases, even when using a secure groundwater well source, secondary disinfection during distribution or storage, using chlorine or other approved disinfectant may be required.

The farmer is responsible for the disposal of all waste materials including specified risk materials (SRM). (See page 26 for more information about SRM.)

The farmer is responsible for ensuring their animal(s) is(are) killed using an approved method. This means stunning the animal with a bullet or the captive bolt stunner before being bled. A captive bolt stunner is available from the mobile abattoir operator.

If the hides are to be kept, the farmer is responsible for any processing such as fleshing and/or salting, curing and sale. The farmer should notify the abattoir operator before skinning starts if they wish to keep the hide.

Abattoir Operator

Before booking a slaughter date, the abattoir operator will confirm that the farmer has completed the Application for On-Farm Operation of the Mobile Abattoir.

The abattoir operator is responsible for providing all administrative duties related to the use of the mobile abattoir. This includes:

- scheduling slaughter dates with farmers and the meat inspector
- invoicing farmers and collecting and remitting fees
- keeping and submitting records concerning slaughter, waste disposal, safety, equipment maintenance, time spent at each farm and the temperature on slaughter days
- submitting invoices for reimbursement.

The abattoir operator will clean and sanitize the mobile abattoir, provide the necessary tools, professionally skin and eviscerate farmed red meat animals, and, if required, transport the carcass to a processing (cutting and wrapping) facility. It is important for the operator to work carefully and safely to ensure all parts of the animal can be used. Organ meats as well as hides often add value to the sale of an animal.

The operator is responsible for maintaining the equipment and abattoir to inspection standards.

Meat Inspector

The meat inspector, appointed under the Agricultural Products Act, must be on-site prior to slaughter to verify the health of live animals and to collect information from the farmer regarding the age, identification, and medical history of animals to be slaughtered. The antemortem (before death) inspection must be performed on all animals within 24 hours of slaughter to ensure safe and suitable handling of animals intended for meat. No down, diseased, dying, or dead animals can be processed in the mobile abattoir. (An exception may be made for a recently injured animal accompanied by a veterinarian's certificate and a postmortem examination by that veterinarian.)

The meat inspector will verify that the abattoir facility, together with the facilities and equipment supplied by the farmer, meets the standards required to produce an inspected product. The meat inspector will keep a record of the species, age, sex, disposition and medical history of animals slaughtered as well as whether the meat is to be sold retail or as farm gate sale.

After evisceration, the head, organs and carcass are inspected. When abnormalities are found, the meat inspector will consult with an Animal Health Unit (AHU) veterinarian. The meat inspector has the authority and responsibility to reject an animal (or parts of an animal) from the human food chain when that animal or carcass appears diseased or unhealthy.

A carcass (or carcass parts) with abnormalities will be clearly labelled and will be placed on hold. The carcass must be kept in an approved chilling facility at a temperature of 4 degrees Celsius or lower. It must be kept separate from other carcasses or meat products intended for human consumption.

The AHU veterinarian will be consulted and samples may be sent for additional testing. Following consultation and further testing (if required), a decision will be made about whether the carcass (or part of carcass) will be condemned or released for human consumption.

Processor/Butcher

The facility that inspected meat is delivered to must be a processor or butcher regulated under the *Public Health and Safety Act*.

Arrangements for ageing and/or cutting and wrapping as well as payment for those services are made between the butcher and the farmer, and must be in place before slaughter begins.

Generally, when the mobile abattoir is used, the mobile abattoir operators will transport and deliver the carcasses processed that day to an approved cut and wrap facility. If, for any reason, the farmer/producer will be doing their own transport, some key items and requirements for transportation to keep in mind include:

Inspected carcasses or meat products (stamped by the meat inspector) that are to be transported to another facility for cut and wrap, further processing, or for retail sale, must be transported using a vehicle and method previously approved by a Yukon Environmental Health Officer for that purpose.

Chill carcasses to 4°C (40°F) or prior to loading. Check and record the temperature before loading. Maintain a temperature of 4°C (40°F) or colder during transport. Confirm temperature of carcass is 4°C (40°F) or colder upon arrival at butcher shop. Document temperatures on a temperature log sheet

The vehicle used for transport must be free of any items or materials that may contaminate the meat. Ensure vehicle is washed and clean for transport.

Carcass must not contact the floor, ground or any other surfaces that may be contaminated during loading and unloading. Any equipment or surfaces that contact meat during transfer to and from container or during transport must be cleaned and sanitized prior to contact and be made of nontoxic, noncorrosive materials that are food grade.

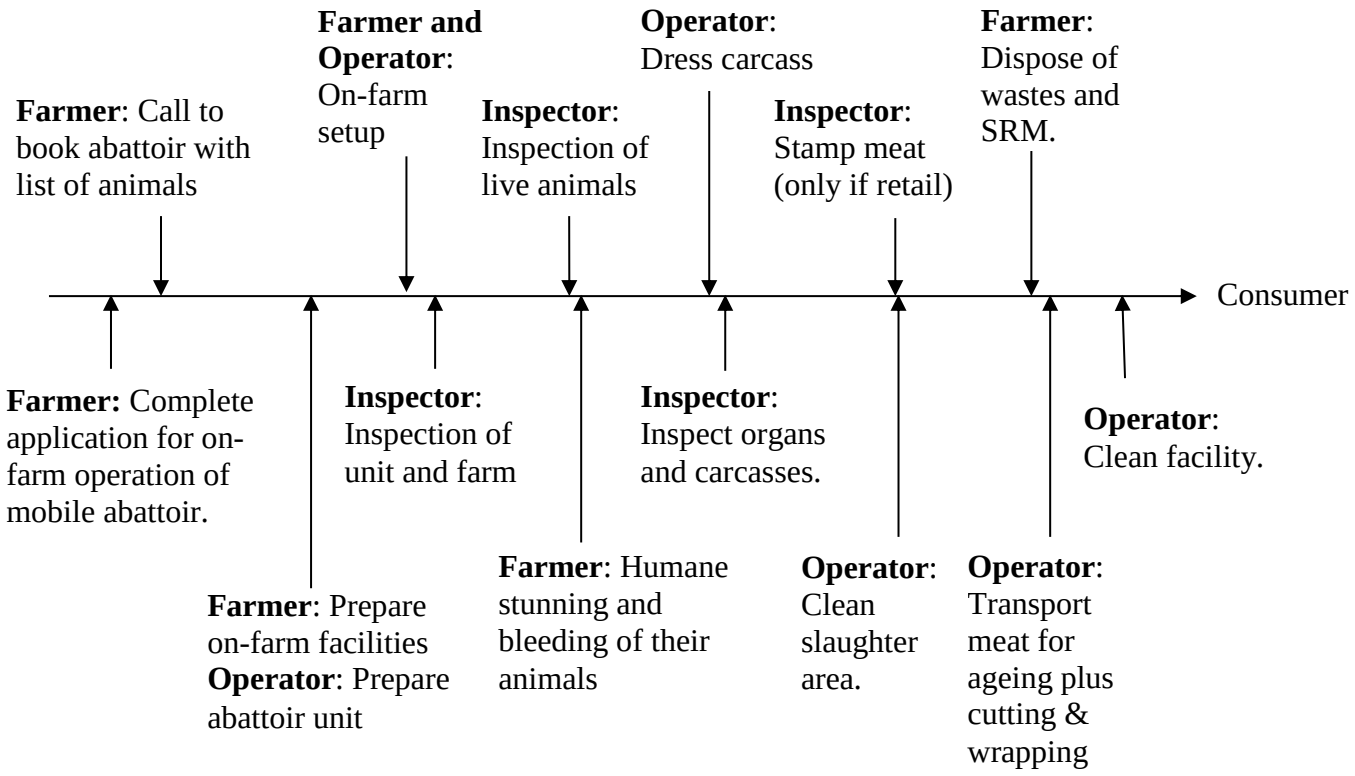
Containers must be cleaned and sanitized after each use, allowed to air dry and stored in a location and manner that will prevent contamination.

Covers on containers must be designed to prevent contamination of the carcass, be constructed of a material that is nontoxic, noncorrosive and food grade. Covers must be securely fastened during transport.

Any protective coverings in contact with carcass (e.g. shipping bags, shrouds) must be industry approved so as to be suitable for contact with food.

If ice packs are used, they must be clean. Any ice used must be from an approved source.

C. *Chronology of Events*



D. Government Involvement and Relevant Legislation

The inspection of meat sourced in Yukon is overseen by the Government of Yukon Agriculture branch under authority of the Agricultural Products Act and Regulations. Meat sourced from outside Yukon must come from a federally registered facility.

The Government of Yukon Environmental Health Services unit administers the Public Health and Safety Act and Legislation. The Act and Regulations define requirements for compliance in the areas of food safety, safe drinking water and proper waste disposal in order to protect the public against illness and disease.

The Government of Yukon Environmental Programs branch administers the Solid Waste Regulations. The Regulations set standards for disposing waste on-site associated with the use of the mobile abattoir.

The Government of Canada administers the Food and Drugs Act and the Safe Food for Canadians Act, and their respective regulations. All foods offered for sale in Canada are subject to the safety and labelling requirements of this legislation. The Canadian Food Inspection Agency (CFIA) enforces these statutes.

Contacts in Whitehorse

Environmental Health Services
#2 Hospital Road,
Whitehorse, Yukon Y1A 3H8
(867) 667-8391
1-800-661-0408 extension 8391

Agriculture Branch, Energy, Mines & Resources
300 Main Street, Suite 320, Elijah Smith Building
P.O. Box 2703, Whitehorse, Yukon Y1A 2C6
(867) 667-5838
1-800-661-0408 extension 5838

Department of Environment
10 Burns Road, across from the airport
P.O. Box 2703, Whitehorse, Yukon Y1A 2C6
(867) 667-5683
1-800-661-0408 extension 5683

Territorial Regulations

Yukon Agricultural Products Act
Meat Inspection and Abattoir Regulations
www.gov.yk.ca/legislation/acts/agpr.pdf

Public Health and Safety Act
Health Regulations
www.gov.yk.ca/legislation/regs/co1958_079.pdf

***Environment* Act**
Solid Waste Regulations
http://www.gov.yk.ca/legislation/regs/oic2000_011.pdf

Federal Regulations and References

Canadian Food Inspection Agency Act
https://laws-lois.justice.gc.ca/eng/acts/c-16.5/

Safe Food for Canadians Regulations
https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-108/

Canadian Food Inspection Agency
Safe Food for Canadians
Inspection Services – Meat Products and Food Animals
Meat Products and Food Animals
https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-108/

Government of Canada
Health of Animals Regulations
https://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._296/

Government of Canada
Food and Nutrition
http://www.hc-sc.gc.ca/fn-an/index_e.html

Government of Canada
Food and Drugs Act
https://laws.justice.gc.ca/eng/acts/F-27/

Government of Canada
Food and Drug Regulations
https://laws.justice.gc.ca/eng/regulations/C.R.C.,c._870/

E. Abattoir Safety

The Yukon Government is committed to the safety of the abattoir work environment. The objectives of the Mobile Abattoir Safety Program are to identify hazards and undertake to reduce or eliminate them.

The hazards that may be involved when operating the abattoir may include but are not limited to:

- Slipping hazards on wet or frozen floors or ground
- Overhead and falling objects
- Sharp knives and saws
- Exposure to sanitizing agents
- Stunning of animals (firearm or captive bolt stunner)
- Transporting animals and carcasses into and out of the abattoir
- Handling animal carcasses

To reduce or eliminate abattoir hazards, all abattoir workers shall:

- Wear rubber boots with slip-resistant treads and protective toes.
- Wear a hard hat and hearing protection.
- Use handholds for exit and entry.
- Keep all cutting tools sharp and in good repair.
- Keep cutting tools encased or enclosed when not in use.
- Wear cut resistant gloves.
- Use proper calibre of firearm for stunning.
- Ensure proper placement of bullet or captive bolt.
- Securely shackle animals when transporting to or placing in the abattoir.
- Material Safety Data Sheets for cleaning/sanitizing chemicals used (available in the appendix).
- Have first aid kit, emergency numbers and accident procedures list available at a known, accessible location.
- Advise all abattoir workers and farmers about abattoir safety.

Details of the Mobile Abattoir Safety Program including Safe Work Practices for each activity that may be encountered in the normal operation of the mobile abattoir can be found in the appendix Mobile Abattoir Safety Program.

Safe Work Practices are detailed for:

- Material Handling: Lifting
- Use of Electrical Appliances and Electrical Cords
- Vehicle Loading and Towing
- Killing of Livestock
- Firearm Use
- Noise in the Abattoir
- Heavy Overhead Objects
- Walking and Working Surface in Abattoir
- Working with Knives
- Working with Hot Water
- Exposure to Pathogens
- Step-stools and Ladders
- Driving
- Operator Client Interaction
- Violence in the Workplace
- Workplace Hazardous Information Systems (WHMIS)

Note:

Should an incident occur, the abattoir operator must inform the Agriculture Development Officer immediately.

2. Booking the Abattoir

The first step in booking the mobile abattoir to come to a farm is for the farmer/owner to complete the **Application for On-Farm Operation of a Mobile Abattoir**. A copy of the application form can be obtained from the Yukon Agriculture Branch.

Since three different government departments have a role to play in the on-farm processing of meat, the yearly application must be submitted at least one month before you require abattoir services. This allows time for the farmer to become familiar with the regulations that apply and to ensure that on-farm preparations will meet the regulatory requirements.

The completed application can be brought in to the Agriculture Branch office on the third floor of the Elijah Smith Building in Whitehorse, sent in the mail, or emailed to agriculture@gov.yk.ca. Staff at the office can provide assistance with completing the form if necessary.

Once the application is approved, the farmer can contact the abattoir operator currently contracted to provide service to schedule abattoir services.

Be prepared to answer the following questions:

- Have you completed the Application for On-Farm Operation of the Mobile Abattoir?
- When are the preferred dates and times? (have at least three options)
- What species and how many animals do you want slaughtered? (the mobile abattoir can handle farmed red meat – not wild game and not poultry)
- Where will the slaughter occur? (have precise directions available)

The abattoir operator will provide current pricing for abattoir services. In normal daily operations, the mobile abattoir is able to process 5 bison, beef or elk, or yak, up to 10 pigs, sheep or goats, or up to 75 rabbits per day. This allows enough time for setup and timely delivery to a cut & wrap facility.

If needed, the farmer is responsible for making arrangements with a processing facility to book ageing and/or cutting and wrapping services.

The farmer/owner should make arrangements as early as possible in order to secure desired dates. There must be a minimum number of animals for the mobile abattoir to be engaged: for bison, beef, yak or elk it is 2 animals; for pigs, sheep or goats, it is 4 animals, and for rabbits it is 25 animals.

3. Preparations for Slaughter

Each person involved in processing animals for slaughter has a role to play. Being clear about who is expected to do what helps to streamline the process and ensure that no detail is forgotten. It is important to set up the slaughter site so that everything is at hand when it is needed.

A. The Farmer's Preparations

The farmer must ensure that preparations are completed as specified in their application because the farm, together with the mobile abattoir, provide the necessary components to meet the regulatory requirements for processing an inspected product that is suitable for retail sale.

The farmer will prepare a waste disposal site or get permission to take the wastes off-site for disposal.

A flat area must be provided to park the mobile abattoir. The abattoir trailer is not only high and long, it is also heavy and has very little clearance. This means the approach to as well as the parking area for the abattoir must be both flat and solid. This area where slaughter is to occur must be at least 30 metres (100 ft) from any drinking water well.

Because the farmer must kill the animal outside the mobile abattoir facility, it is worth spending some time to make arrangements for the mobile abattoir to be located as near as possible to the on-farm animal handling areas. The area must be as free as possible from dust, fecal material or mud to minimize contamination. Concrete is ideal, but packed gravel is also an option. Dogs or other pets should be confined in an area away from where slaughter will occur.

The farmer, operator and meat inspector must be able to access the on-farm washroom and hand-washing area. Soap and single use towels must be provided. Any people who may come in contact with the carcass should be healthy and should be wearing clean, washable or disposable outer clothes. All participants must be aware of the risks and methods for preventing the contamination of the meat or the transfer of disease.

If daily operations will need more than the 1350 litres (300 gallons) of water contained in the mobile abattoir, on–farm water will be required. The on-farm water must be sampled and submitted for testing 15 days prior to slaughter, and the water must be satisfactory for bacteriological quality. Testing is provided free of charge from Environmental Health Services located at #2 Hospital Road in Whitehorse. The farmer must obtain a sample bottle and collect a water sample. The sample must be kept cool and returned for testing within 24 hours of collection. Results are available by the next working day.

The farmer must be prepared to kill their animals and must be familiar with the proper stunning technique using a rifle or captive bolt stunner. A captive bolt stunner is available through the mobile abattoir operator. In order to use the captive bolt effectively, the animals must be restrained. Farmers should have a means of safely restraining the animal and must be knowledgeable about appropriate shot placement for the species of animal. The farmer must be prepared with the equipment necessary to hoist the animal for proper bleeding.

Animals should not be fed for 8-12 hours prior to slaughter, but must continue to have access to clean drinking water. An empty digestive tract is easier to remove which reduces the risk of rupture and contamination of the meat. The farmer is also responsible for providing shelter to protect the animals from the elements and animals shouldn't be overcrowded in the holding area.

The farmer is responsible for the disposal of all waste materials. A permit must be obtained from the Department of Environment to set up an on-farm waste disposal site. The farm must provide containers to hold and transport waste materials from the mobile abattoir to the disposal site. When slaughtering beef cattle, animals over 30 months of age are at a higher risk for Bovine Spongiform Encephalopathy (BSE) and so must be processed last. (See page 26 for more about Specified Risk Materials - SRM)

If the abattoir must remain on the farm for more than one day of slaughter, the farmer must pay the cost of keeping the cooler refrigerated. To continue to be an inspected product suitable for retail sales, the carcass(es) must remain in the abattoir cooler, or other inspected cooler, until delivery to an approved cut and wrap facility.

B. The Abattoir Operator's Preparations

The operator and any individuals who will be working inside the abattoir facility itself must come prepared with personal protective gear such as steel-toe boots, hard hat, & cut proof glove. Jewellery, including wristwatches must be removed. Clean and sanitary protective clothing must be worn. Hands must be washed thoroughly with hot water and soap after using the washroom, and when entering or leaving the processing area.

The abattoir must arrive at the farm ready to go to work. This means the water tank must be full, the generator must be fuelled and in good working order. The refrigeration unit must be started chilling and be ready to receive completed carcasses. Lights must be in good working order. A well-stocked first aid kit must be on hand.

The floor and equipment in the mobile abattoir must be clean and disinfected to be ready for operation. The abattoir operator must keep all meat products free from: foreign material, toxic metals, harmful chemicals, pathogenic microorganisms, and non-pathogenic organisms that cause spoilage.

Knives must be kept sharp to avoid having to use excessive force when cutting. A mesh glove should be worn on the free hand when using a knife. Knives should be stored in a scabbard when not in use and worn knives should be replaced before arriving at a farm.

The operator should communicate with other workers concerning safety around the abattoir. The operator will ensure that everyone working around the abattoir knows the safe procedures to follow.

C. The Meat Inspector's Preparations

The meat inspector must arrive prior to slaughter to perform the antemortem (before death) inspection. The meat inspector must observe the animals at rest and moving; noting any abnormality in breathing, behaviour, gait, posture, structure or conformation, colour and or temperature, or abnormalities such as discharges or protrusions. If the meat inspector determines that an animal is not in good health, it will not be slaughtered that day.

The meat inspector will verify and record that the preparations made by the farmer and the abattoir operator meet accepted standards. Enforcement of sanitation standards is essential to fulfilling the meat inspector's primary responsibility of ensuring food safety.

For each animal, the meat inspector will record the species, tag numbers, age, sex, disposition, recent medications and medical history and whether the meat will be for farm gate sales or stamped for retail sales. Cattle that have left their farm of origin must have a Canadian Cattle Identification Agency (CCIA) tag.

Services of the mobile abattoir will not be used for dead, dying, downed or diseased animals. The meat inspector must make the decision as to whether the animal is fit or unfit for slaughter. If an animal is deemed unfit for slaughter during the antemortem inspection, the meat inspector will consult with an AHU veterinarian.

If an AHU veterinarian determines that an animal must be killed immediately because of an injury AND after being killed, it will be fit for human consumption, the veterinarian may issue a certificate directing that the animal be slaughtered immediately. That same veterinarian must then conduct a postmortem inspection of the carcass, its parts and viscera, and issue a report to the meat inspector.

4. Slaughter and Evisceration

The farmer is responsible for providing the necessary information about their animals to the meat inspector. This information includes the age, identifiable markings of the animal, sex and medical history, and tag numbers, as well as if slaughter is for farm gate or retail purposes.

The farmer is responsible for actually killing the animal. A rifle may be used or the mobile abattoir carries a captive bolt stunner which is available for use by the farmer. If the farmer wishes to use the captive bolt stunner, the animal's head must be able to be restrained. Stunning brings the animal instantly into a state of insensibility which must last until they are bled to prevent avoidable suffering.

Stunning minimizes the risk of the animal feeling pain during and after sticking, immobilizes the animal to allow sticking to be performed more easily and accurately, and minimizes the convulsions which occur during bleeding in animals that have not been stunned.

After the animal has been stunned, the farmer will hoist the animal up and make a cut for bleeding the animal. Blood from pigs may be collected for human consumption by the use of an approved stainless blood collection tube if desired. In this case, the abattoir operator will work with the meat inspector to ensure the blood is collected properly for this use. Once the animal has bled out, the hoists in the mobile abattoir will be used to lift the animal into the mobile abattoir where the abattoir operator will dress and eviscerate the animal. Care should be taken to ensure the animal is as free of mud, dust, and fecal material as possible.

The farmer must let the abattoir operator know if organs such as the heart, liver, tongue or kidneys are to be kept for human consumption. The meat inspector will harvest the organs and will incise and/or palpate them as needed for inspection. This should be done in a way that does not ruin the organ quality for processing and human consumption.

The farmer must have clean (washed and sanitized) food-grade containers ready to hold inspected organs and other containers for the waste material from the evisceration process. It is the farmer's responsibility to dispose of all waste materials. (For cattle, see page 26 for details on disposing of Specified Risk Materials – SRM.)

If the meat inspector finds any part of a carcass that is abnormal or diseased, or is affected with a condition that may present a hazard to human health, or that may be repulsive to the consumer, trimming or condemnation may result. If only a small area is affected, trimming may be sufficient. If effects are more widespread, the entire carcass and organs may be condemned.

If the animal is for retail sale and approved by the meat inspector, the meat inspector will stamp it as Yukon Approved (Plant 2) after the carcass is moved from the slaughter area to the cooler.

For approved carcasses from cattle over 30 months of age (OTM), a triangular stamp with a 3 is used.

A. *Using the Captive Bolt Stunner*

Stunning can be reversible (the animal can regain consciousness) or irreversible (the stunning method leads to death).

Mechanical means of stunning include delivering a blow to the head with either a non-penetrating device or a penetrating device such as the captive bolt stunner or a bullet from a rifle.

The disadvantages of using a rifle for stunning include:

- danger to both the operator and bystanders with ricochets,
- inaccuracy in hitting the target area, and
- ineffective stunning from using the incorrect calibre.

Effective stunning by captive bolt depends on:

- accurate placement of the pistol
- using the correct cartridge for the size and species of animal
- proper maintenance of the bolt and pistol

When using the captive bolt stunner, the farmer must be close to the animal and the animal's head must be properly restrained in order to get proper placement of the bolt. The captive bolt should not be fired when the animal is moving its head.

With either method, the farmer must immediately follow stunning with cutting both carotid arteries and both jugular veins for the quickest bleeding. The stunning procedure renders the animal unconscious for only a very short period of time and bleed-out must occur quickly while the animal is insensitive to pain and before it begins to recover consciousness. The farmer should be prepared to hoist and cut the animal efficiently to ensure that bleeding starts as quickly as possible.

The captive bolt stunner is effective on bison, cattle, elk, goats and sheep but is more difficult to use to stun pigs because of the structure of their skull. The captive bolt stunner is available to be used by farmers who have booked the mobile abattoir facility.

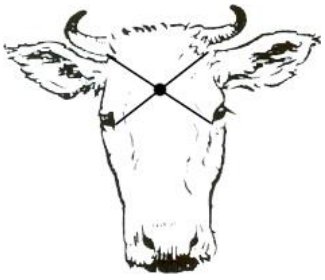
Bison

If the captive bolt stunner is used with bison, the shot should be at the midpoint on a line drawn from the base of one horn to the base of the horn on the opposite side of the head and aimed down the length of the spine. Be sure the cartridge strength is high enough – the manufacturer's recommendations should be taken as the minimum strength required. Exceeding the recommendations will increase the likelihood of effective stunning. Bison are often shot twice with the captive bolt stunner although 95% are rendered unconscious with a single shot. The second shot ensures the animal is insensate before someone approaches for sticking (administering the cut for bleeding).

Bison should be shackled between the foot and the hock for hoisting. A sterilized knife is used to make a cut through the hide from the underside of the throat to the brisket. Re-sterilize the knife and insert it at a 45° angle directly below the brisket and sever both carotid arteries and both jugular veins.

The knife can be chemically sanitized or sterilized in clean, hot water (82°C - 180°F or more). (See pages 29-30 for details on appropriate sanitizing solutions.)

Cattle or Yak

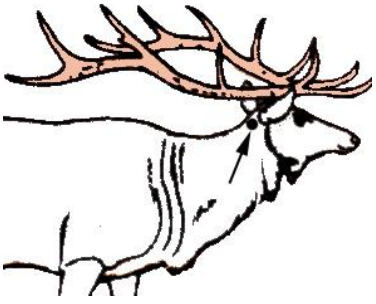


Ensure the animal is well restrained before using the captive bolt stunner. The position for the shot from the stunner is at the crossover point between two lines drawn between the inside corner of each eye and the top of the ear on the opposite side of the head and directed down the length of the spinal column.

Shackle the animal between the foot and the hock to hoist them. A sterilized knife is used to make a cut through the hide from the underside of the throat to the brisket. Re-sterilize the knife and insert it at a 45° angle directly below the brisket and sever both carotid arteries and both jugular veins.

Sterilize the knife before sticking and re-sterilize for each animal. The knife can be chemically sanitized or sterilized in clean, hot water (82°C - 180°F or more). (See pages 29-30 for details on appropriate sanitizing solutions.)

Elk



Because the head of elk must be removed and sent for testing, the captive bolt stunner cannot be used on elk. Instead, elk are shot high in the neck with the intent of severing the spinal cord to render the animal insensate. To hoist, shackle the animal between the foot and hock. Both carotid arteries and both jugular veins are then cut with a sterilized knife to bleed the animal.

The knife can be chemically sanitized or sterilized in clean, hot water (82°C - 180°F or more). (See pages 29-30 for details on appropriate sanitizing solutions.)

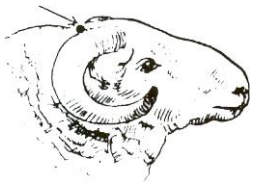
Pigs, Wild Boar

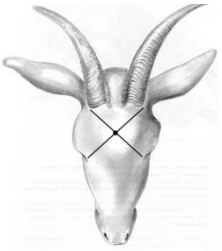
Although it may be more difficult to use the captive bolt stunner with a pig or wild boar because of the structure of their skull, it can still be effective when properly positioned. The position is the same for using the captive bolt stunner as for using a bullet. The only difference is that the captive bolt pistol is held firmly against the skull, whereas a rifle would be held 5 to 25 centimetres (2 – 10 inches) away. The proper position is directed at the mid-line of the forehead, 2.5 cm (one inch) above the level of the eyes, and directed down the line of the spinal cord.

Immediately shackle the hind leg and hoist the animal up. Blood from pigs may be collected for human consumption if desired. A stainless collection knife with tube is used and a new plastic bag is held over the end to collect the blood. A sanitized knife is used to open the skin and the sanitized collection tube is inserted at a 45° angle directly below the brisket and pushed forward to sever the carotid artery and jugular vein. (see the Blood Collection SOP in the Appendix.) If not collecting the blood, simply insert a sterilized knife at a 45° angle directly below the brisket to sever the carotid artery and jugular vein.

The knife can be chemically sanitized or sterilized in clean, hot water (82°C - 180°F or more). (See pages 29-30 for details on appropriate sanitizing solutions.)

Sheep or Goats





A shot aimed at the front of the head just above the eyes and pointing straight down the spine should be used in preference to the poll position (just behind the horns). Where the poll position must be used, the shot should be placed immediately behind the base of the horns and aimed toward the mouth.

Shackle the hind leg between the hoof and hock and hoist the carcass up. Bleeding sheep or goats is done by holding the ear in one hand and inserting the sterilized knife behind the jaw, even with the base of the ear, with the other. Then, pull the knife outward to sever the carotid artery and jugular vein.

The knife can be chemically sanitized or sterilized in clean, hot water (82°C - 180°F or more). (See pages 29-30 for details on appropriate sanitizing solutions.)

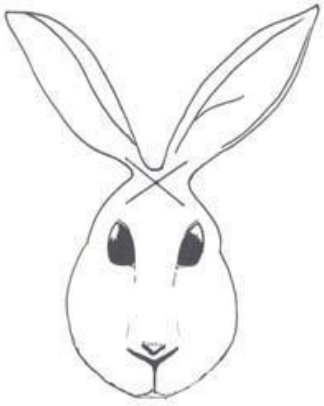
Rabbits

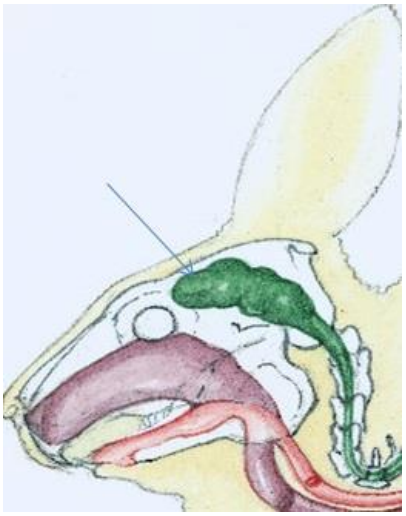
Acceptable methods for stunning rabbits include captive bolt pistol stunning and electrical stunning. (***Prohibited*** is stunning by means of atlanto-axial elongation; rapid decapitation by means of dorsal incision without prior stunning; stunning by means of a blow to the back of the head; and stunning by means of an electric knife applied to the muzzle and/or to the forehead.)

Proper stunning requires the rabbits are restrained properly by someone trained in proper rabbit handling, the gun is aimed at the correct part of the rabbit's brain (the gun must be positioned in such a way that the concussion damages the brain stem and the cortex.), and the rabbit's throat is slit immediately afterwards, before the rabbit regains consciousness as the captive bolt method by itself is not a humane method of slaughter.

Hanging should be performed once the animal has been stunned. Bleeding time shall not be less than 90 seconds to permit complete bleeding. Bleeding must be performed by means of simultaneous severance of the jugular veins and carotid arteries. Severance can be performed ventrally or dorsally (incision in the atlantoaxial intervertebral space). In both cases, the stick wound and decapitation surface must be removed later.

"X" on forehead (frontal view) and arrow (profile view) indicate target area to place captive bolt stunner.





B. Dressing and Eviscerating Procedures

For all animals, possible sources of contamination must be eliminated or controlled by the abattoir operator during the dressing operation. The most common sources of contamination are flying insects, the hide, feet, contents of the digestive and reproductive tract, diseased tissue and unclean equipment or personnel. Any part or organs that contacts the floor must be trimmed and/or condemned. Any piece of equipment (knife, hook, saw… that enters into contact with the floor must be immediately washed with detergent and warm water, rinsed clean, and sanitized in the hot water sanitizer.

For this reason, the flow of people in and out of the abattoir unit is strictly controlled. If the meat inspector is not satisfied that methods or conditions meet approved standards, the meat cannot be stamped and, therefore, will not be suitable for retail sale.

Bison, Cattle, Elk, or Yak

The head is removed immediately after bleeding and after moving the carcass into the abattoir. Care must be taken to ensure that the flaps of skin do not contact underlying tissue. The head is removed at the joint between the skull and the first vertebra.

The exposed surfaces of the head are washed and the nasal passages flushed. The meat inspector will expose and incise the lymph nodes and other organs that need to be examined in the head.

The operator will remove the lower part of the front legs with a cut through the knee joint. The hide is removed from the lower portion of the hind leg to expose the Achilles tendon (which will be used to hang the animal in the cooler) and the feet are removed at the hock joint.

The carcass is skinned beginning at the midline between the neck and the pubic area. The knife is slipped under the skin and the hide is cut from the inside out. Cutting from the inside minimizes contamination of the carcass with hair and doesn't dull the knife as quickly. A cut from the midline is made up the inside of each leg. The hide is pulled from the legs, belly and sides of the animal making sure to reflect the hide away from the carcass so that contamination does not occur.

The brisket is split with a sanitized saw and udders or penis and/or testicles are removed.

The esophagus is separated from the trachea using a knife and weasand rod all the way to the top of the rumen. A weasand clip is then applied to the esophagus and pushed down to the rumen to contain the contents of the rumen.

Now a stainless gambrel is placed under both Achilles tendons and used to lift the carcass to the half-hoist position.

Using a clean knife, the skin around the anus and vulva is reflected back, making sure the sphincter muscle of the anus remains intact. The anus, along with the neck of the bladder, are freed from their attachments, covered with a clean (new) plastic bag, securely tied, and lowered into the pelvic cavity.

After the bung is dropped, the pubic, or aich, bone is split. The hide is removed from the hind quarters as the carcass is hoisted high enough for the front legs to clear the floor. The rest of the hide is removed in a downward direction. The abattoir operator will now pass the hide out to the farmer for further processing such as fleshing and salting. The hide must be completely removed before removal of the internal organs (evisceration) begins. The floor is cleared of visible contamination from the hide using a broom or squeegee before proceeding to evisceration.

The viscera (internal organs) are now removed through a cut made along the midline of the abdominal wall starting from the pelvic area down to the sternum. After initial entry, the knife is inserted into the abdomen and the cut is made from the inside with the blade of the knife pointing outward whenever possible to prevent the accidental puncture of the intestines or stomachs. The operator can use an elbow to hold the viscera away from the cut.

Once the opening is made, downward pressure is exerted on the rumen while the connective tissue along the spine is cut. The weight of the viscera assists in its removal. To prevent contamination, the liver is usually removed before cutting the esophagus where it enters the rumen.

All organs which will be kept for human consumption (heart, liver, kidneys, etc) will be removed and placed on the inspection table by the operator. The inedible viscera and remaining contents of the thoracic cavity (the lungs, trachea, etc) are placed on the floor for inspection.

The carcass is now transferred from the gambrel to hooks with attached rollers and hung on the rail. Hooks and rollers must be clean and free of excess mineral oil. Hooks will be sanitized immediately before each use.

The carcass is split by cutting through the midline of the spine. The spinal cord is removed and any areas that have been contaminated are trimmed. The carcass is then washed to remove any blood or loose bone dust before a final inspection by the meat inspector. Once approved, and the carcass is sprayed with a 2% lactic acid solution and moved into the cooler.

Cattle

For all beef cattle, the distal ileum, the last portion of the small intestine (last 2 metres), must be removed and treated as “Specified Risk Material” (SRM). Since beef cattle over 30 months of age are at a higher risk for BSE, they must be processed last. For cattle over 30 months of age, the entire spinal column and the basal root ganglia must be removed and treated as SRM (Note: this is in addition to the distal ileum and the head). (See page 26 for more details about SRM.)

Elk

Elk and deer are at risk for CWD or chronic wasting disease, similar to BSE in cattle. A compulsory CWD program is in place for all farmed elk. All captive elk which are slaughtered must have the head sent out for testing.

Pigs, Wild Boar

Before opening the carcass, any hair, scurf or other contamination must be completely removed. The most common method of dressing pigs is scalding and de-hairing, although they may be skinned in the same way as other animals if they are too large to be accommodated in the scalding/dehairing unit that accompanies the mobile abattoir. If a farmer wants to have a pig processed with the skin on, and the animal is over 180 kg (400 lb) live weight, the facilities for scalding and de-hairing must be provided by the farm.

The scalding/dehairing unit needs to be level and positioned as near as possible to the back door of the abattoir. Fill to 2.5 cm (1 inch) above rollers with hot water (49°C), connect power and propane and turn on controller. When temperature reaches 62°C, the scalding/dehairing unit is ready for use. For most efficient use, prewash pigs/wild boar before scalding and lift rollers and scoop out skin and hair to keep the scalding water as clean and possible.

After skinning or scalding and de-hairing, chains and gambrel are used between the hock and hoof of both hind legs to suspend the animal from a hoist. The operator will remove any remaining skin, hair, and scurf using a knife and/or torch before beginning the evisceration process.

Heads may be left on the carcass (split or whole) or separated just at the base of the skull. If the head is to be kept, the ears must be clean and the nasal and oral cavities must be flushed with water.

Similar to the manner used for cattle, a midline incision is made from the pelvis to the sternum and the brisket is opened with a sharp knife or saw. The bung is dropped by cutting around the anus with a clean knife. It is not necessary to tie the rectum in pigs because fecal leakage is seldom a problem when pigs have been off feed for 12 hours prior to slaughter.

In males, the penis is removed along with the entire preputial pouch to prevent contamination. The pubis is split and the abdominal organs and thoracic organs can be completely removed in one operation. Organs which will be saved for human consumption are placed on the table for inspection. Care must be taken throughout the operation to prevent accidental puncture of the stomach or intestines.

Following evisceration, the carcass is split, transferred to clean, sanitized hooks and rollers on the rail, washed and given a final inspection. Before moving into the cooler, the carcass is sprayed with a 2% lactic acid solution.

Sheep or Goats

The process for skinning and eviscerating sheep or goats is the same as for bison, elk, cattle, or yak although special care must be taken when the animals have long wool or hair to prevent contamination by contact with the carcass.

To make it easier to prevent contamination, the lower portion of one leg should be skinned out and the animal hung by the Achilles tendon or with chains rather than using the dressing bed. Skinning should start from the rump leaving about ½ inch of skin that is free from wool (or hair)

around the anus. Skinning proceeds along the flanks and back, gradually reaching the shoulders and neck. As the hide on sheep and goats is very thin, hands are usually used to pull or push the hide separate from the carcass. The forelegs are skinned and the lower part of the legs removed at the knee joint. The head (with horns) is removed at the beginning of the spine.

The remainder of the slaughter process - evisceration, splitting, hanging on the rail, washing, inspection and lactic acid spray - is done in the same way as for bison, elk, cattle, yak, or pigs.

Rabbit

Special care must be taken when dressing rabbits so as not to cause contamination by loose hair. After stunning, the rabbit is hung by one of the hind legs above the hock joint using a small slip chain from the overhead hoist. The head is immediately removed to allow complete bleeding. The three loose paws are cut at the carpal and tarsal joints.

Then the skin around the hock joint of the leg is cut and the cut extended from between these points across the lower part of the body. The tail is removed and the skin is pulled down and forward over the body.

After the head, forefeet and skin are removed, the carcass, while still hanging, is opened to remove the viscera. A cut is made from the lower part of the abdomen near the anus to the mid-point of the lowest rib. The intestinal tract and lungs are normally removed. The liver can be left attached to the carcass after removal of the gall bladder or be presented separately for inspection; and the hearts, if they are harvested for human consumption, must be incised to remove the clots inside the ventricles.

Rabbits are hung on the organ rack in the cooler for initial chill and then placed into clean food grade bins within the cooler.

Producers must supply clean food grade bins with sufficient capacity to accommodate the number of rabbits being processed.

C. Minimums, Maximums, & Multi-species Operation

To ensure efficiency and provide continued support for the operation of the Yukon government mobile abattoir, fees will be assessed for a minimum number of animals when the abattoir is mobilized. For bison, cattle, elk, or yak, the minimum is for two animals. For pigs, sheep, or goats, fees will be for a minimum of four animals, and for rabbits, the minimum fee is for processing 25 animals.

In normal operations, to allow adequate time for cleaning and delivery to cut and wrap facilities, the mobile abattoir operator sets a maximum number of each species per day. These are:

- Bison, cattle, elk, or yak – 5 per day
- Pigs, sheep, or goats – 10 per day
- Rabbits – 75 per day

If a number of animals of different species are to be processed on the same day, the abattoir operations room and equipment must be cleaned and sanitized between species. Each species must occupy their own rail inside the abattoir cooler. To allow time for the additional cleaning and space within the cooler, fewer animals of each species will be processed in a day when more than one species is being processed.

D. Role of the Meat inspector

The meat inspector must examine the organs as well as the entire carcass to check for abnormalities. The order is not specific, but each meat inspector develops a routine that ensures the inspection is thorough and includes various lymph nodes, the liver, kidneys, abdominal viscera, trachea, heart and lungs as well as the carcass itself. The meat inspector will be evaluating the health of the animal by looking for pathological indicators of disease such as cysts, lesions and inflammation. The evaluation includes a visual inspection, palpation (feeling), and will often involve incising (cutting) the organs in a way that does not ruin the organ for processing if no abnormalities are found.

When abnormalities are found in either organs or in the carcass, the meat inspector may consult with a veterinarian. The meat inspector has the responsibility, and in consultation with a veterinarian, the authority to reject an animal (or parts of an animal) from the human food chain when that animal or carcass appears diseased or unhealthy.

Upon completion of the postmortem inspection, the meat inspector must make the decision to:

- approve the entire carcass for human consumption,
- condemn organs and/or portions of the carcass if the abnormal conditions are localized or benign,
- place a “held” tag on the carcass and hold all edible viscera pending further consultation with a veterinarian and/or laboratory testing.

Approved carcasses which will be transported to an approved cut and wrap facility will be stamped as Yukon Approved (Plant 2) by the meat inspector after the carcass is moved to the cooler. Beef over 30 months of age, will also be stamped with a triangular stamp with a 3 in it.

5. Waste Disposal and Post Slaughter Clean-up Procedures

Once slaughter and inspection are complete, each carcass will be moved to the cooler to await transport to an approved cooler or cut and wrap facility butcher. Chains are used over the rollers to ensure the rollers stay on the rail. The operator will clean the abattoir and the farmer will dispose of any wastes generated in the slaughtering process. All waste and drainage from the operation of the abattoir shall be disposed of in a sanitary manner and with the approval of a health officer from Environmental Health Services.

Meat intended for retail sales must be transported in a way which is approved by a health officer from Environmental Health Services. Generally, the mobile abattoir is used to transport and deliver the carcasses processed each day. For retail sale, the facility that the meat is delivered to must be an approved processor or butcher (this means they hold a Permit to Operate from Environmental Health Services).

A. Specified Risk Material

Bovine Spongiform Encephalopathy (BSE) is an untreatable disease affecting the nervous system of cattle and is spread via ingestion of diseased beef or sheep tissue. More specifically, a direct link between the ingestion of feeds containing rendered material was discovered. Tissues that may contain the BSE infectious agents (prions) have been identified as Specified Risk Material (SRM) and are to be removed from the food chain to prevent transmission of a similar disease in humans. SRMs include: the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord, dorsal root ganglia of animals over 30 months of age as well as the distal ileum of all cattle.

Federal legislation prescribes strict collection and disposal procedures of SRMs to prevent this worldwide reportable disease. Collection procedures include: storing these materials in dedicated containers that are clearly and indelibly marked in both official languages: "Specified Risk Material/Matériel à risque spécifié" or "SRM/MRS"; and these tissues must be thoroughly stained with blue meat dye. Due to the difficulty in destroying the prions within these SRM tissues, disposal methods are limited. Options currently available include on-site/off-site burial, composting or a certified incinerator. Incineration is not a waste disposal option currently used in Yukon. Contact Environmental Programs branch if considering this option.

If SRMs are to be disposed of on-site, marking and staining is not required, but any material that comes in contact with the SRMs must also be treated as SRM. (See below for burying procedures.) Separating SRMs from other wastes limits the volume of SRM that must be dealt with.

Transportation of SRM (if not buried or composted on-site) will require a special permit from the Canadian Food Inspection Agency (CFIA).

B. Other Wastes

The farmer is responsible for the proper disposal of all wastes generated during the slaughter of their animals. Details of how wastes will be dealt with must be included in the Application for On-Farm Operation of a Mobile Abattoir.

Options for on-farm waste disposal include burying, composting, recycling, burning or incineration. Burning and incineration are not currently recommended waste disposal option in Yukon. However, burning or incineration may be allowed if required for health and safety reasons (such as dealing with condemned carcasses or required to prevent spread of a disease). Yukon Environment Protection and Assessments Branch must be contacted if considering this option.

Off-site disposal is also possible as long as permission from the owner of the dump site is obtained. With prior approval, solid wastes can be taken to a community dump and liquid wastes to a sewage lagoon.

Burying

Solid or liquid waste can be buried on-site at the farm in a pit or trench. The hole must be at least 2.3 metres (7 ½ feet) deep and the wastes must be covered immediately with at least 2 metres (6 ½ feet) of soil.

The pit or trench must be:

- at least 300 metres (1000 feet) from any building used for human occupancy or for the storage of food;
- at least 300 metres (1000 feet) from any drinking water well;
- at least 100 metres (330 feet) from the high water mark of any waterway.

The burial area shall be secured with an electric exclusion fence(s) and gate(s) to prevent wildlife from entering the encompassed area. Refer to electric fencing guidelines for information on design, installation and maintenance of electric fences.

Burying is an acceptable method to dispose of SRM containing wastes on-farm.

Composting

Although composting is commonly associated with animal manure, animal carcasses and slaughter waste that is not contaminated by chemicals will compost under proper conditions. Control the composting process carefully to promote proper decomposition. Compost scientists have determined that the fastest way to produce fertile, sweet-smelling compost is to maintain a carbon (C) to nitrogen (N) ratio somewhere around 25 to 30 parts carbon to 1 part nitrogen. If the C:N ratio is too high (excess carbon), decomposition slows down. If the C:N ratio is too low (excess nitrogen) you will end up with a stinky pile.

The compost pile that will be used to compost waste from the slaughtering process must be:

- At least 300 metres (1000 feet) from any building used for human occupancy or for the storage of food;
- at least 300 metres (1000 feet) from any drinking water well; and
- at least 100 metres (330 feet) from the high water mark of any waterway.

The pile must be built in a way that will exclude scavengers and the volume of animal parts must not exceed 25% of the total compost pile. The animal parts must be covered by at least 15 cm (6 inches) of composting material.

To properly compost, there needs to be a suitable mixture of materials high in carbon such as wood shavings or chips, old hay, straw, shredded branches or leaves as well as materials high in nitrogen such as grass clippings, animal parts or animal manures. Getting lots of air into the pile and ensuring there is enough high carbon material will keep the pile from smelling. Keep the pile wet as you build it and make sure the moisture level remains high enough when you turn it. Turn often and re-cover the top with a layer of high carbon material.

The composting area shall be secured with an electric exclusion fence(s) and gate(s) to prevent wildlife from entering the encompassed area. Refer to electric fencing guidelines for information on design, installation and maintenance of electric fences.

SRM waste may be composted separately from non-SRM slaughter waste on-farm. The composting of SRM material must be followed by on-farm burial.

Recycling

Many parts from the slaughtering process can be used to feed animals that won't be used as human food. Sometimes trappers or dog team owners are interested in using slaughter wastes.

Rendering is a process that treats the carcass at high temperatures and pressures to remove water and fats. The remaining meat and bone meal is then ground up into a fine powder and can be used as a fertilizer. The person who is rendering must make sure that high enough temperatures and pressures are reached to kill all viable pathogenic organisms and a complete record must be kept.

Burning

Waste from the butchering process that does not include SRM can be burned on farm in special circumstances. Burning must be in compliance with environmental legislation for air quality.

An Air Emissions Permit must be obtained from the Yukon Environment Protection and Assessments Branch for burning more than 5 kg per day of garbage either in the open or in an incinerator.

Please take these precautions when burning solid waste:

- burn only when wind conditions will disperse the smoke away from nearby populated areas;
- don't burn during high winds or when the wind direction is frequently changing as fire can spread quickly;
- keep fires an adequate distance from buildings;
- ensure a quick, hot and complete burn by turning or aerating smouldering materials;
- make every reasonable effort to prevent runoff water from entering the burning area; and,
- burn in small manageable piles.

C. *Maintenance of the Mobile Abattoir*

Constant attention to sanitation during abattoir operations is essential because all animal parts will readily decompose and this provides an ideal medium for bacterial growth. Maintenance of acceptable standards of sanitation is the responsibility of the abattoir operator. Inspectors work with the abattoir operator(s) to ensure these conditions are met.

The advantages of keeping a clean and sanitary environment include:

- less production delays
- minimize trimming losses
- longer shelf life for the meat
- improved quality of the product
- improved customer satisfaction
- a safe working environment.

A routine cleaning schedule for the mobile abattoir including equipment, overhead structures, floors, walls and doors is necessary to keep it free of contamination maintained in a sanitary condition. Equipment must be constantly observed and repaired as necessary.

While the terms are often used interchangeably, **cleaning** and **sanitizing** have two entirely different purposes.

Cleaning removes visible soil including fats and oils and is typically achieved by using water and a detergent or degreaser and physical means (e.g., scrubbing, high pressure washing). Cleaning products must be rinsed from surfaces before sanitizing.

Sanitizing is the treatment of a clean surface with a chemical or physical agent (e.g., heat) to reduce microorganisms that can cause disease and/or spoilage to levels considered safe for public health.

Suitable sanitizing agents include:

- Chemical sanitizers:
    - 100 ppm chlorine solution
    - 200 ppm quaternary ammonium solution (commonly referred to as “quats”)
- Hot water above 82°C

Other sanitizers may be considered.

The mobile abattoir operator must have available the proper test paper (such as chlorine strips) to determine the concentration of the sanitizer and a thermometer to determine the temperature of the sanitizing solution.

Hot Water

Hot water (~49°C) is used to wash all carcasses in the mobile abattoir before final inspection. Washing carcasses with hot or warm water is more effective at reducing bacterial loads than washing with cold water.

Hot water (>82°C) is also used in the mobile abattoir to sanitize knives, scabbards, hooks, and saws. Special scalding units are used to maintain the water at the proper temperatures for effective sanitizing. Tools to be sanitized must be washed clean and rinsed before brief immersion in the scalding water.

Chlorine Solution

Household bleach used to make a sanitizing solution that has at least 100 parts per million requires 9 mL (2 teaspoons) of bleach in 4.5 litres (1 gallon) of warm water. This bleach spray is applied to the walls, floors, and equipment surfaces after cleaning and rinsing. Chlorine solutions are to be made fresh the day being used as the solution will lose strength rapidly. Once equipment and surfaces have been sanitized, they should be allowed to air dry.

Lactic Acid Solution

Organic acid sprays have been shown to be effective in reducing the presence of pathogenic bacteria on hot carcass surfaces. A 2% lactic acid solution is sprayed on the final inspected carcass prior to moving the carcass into the cooler in the mobile abattoir. The solution requires 23 mL (1 tablespoon) of 88% concentrated lactic acid in 1 litre (1 quart) of warm water.

Caution

Do **NOT** mix sanitizing solutions.

D. Sanitation Procedures for the Mobile Abattoir

Pre-Operational Sanitation

Indirect food-contact surfaces such as floors, walls, and ceilings can be an important source of microbial contaminants. The following steps are regularly performed to maintain sanitary conditions.

Sweep up debris using a broom and/or squeegee and discard it.

Rinse surfaces with potable water.

Clean surfaces with an approved detergent using the long-handled brush.

Rinse surfaces with potable water.

Sanitize with 100 ppm bleach solution.

Processing room floors and walls, cooler floors, walls, and chains are cleaned at the end of each production day. Light fixtures, rails, & hoist chains are cleaned at least once a season, and more often if needed.

Operational Sanitation

The objective of the Sanitation Standard Operating Procedure (SSOP) for the mobile abattoir (the full program is in the Appendix) is to prevent contamination of carcasses and edible offal during processing.

No person with illness, or open/infected wounds is allowed to handle foods or food-contact surfaces. Cuts will be covered with a band-aid and then a disposable glove. Gloves will be changed as often as necessary.

Everyone shall begin the day wearing clean garments. Protective gear shall be worn which include water-proof aprons, steel-toed boots, and a hard hat. Disposable gloves will be worn over protective chainmail gloves.

No person inside the mobile abattoir may use tobacco, chew gum, eat, or drink.

Operators may not wear jewelry or cosmetic items that could contaminate product.

Hand wash facilities shall be maintained and properly supplied.

Processing will be performed under sanitary conditions to prevent direct contamination and cross contamination of carcasses and edible offal.

Clean and sanitize equipment, tables, and other product contact surfaces throughout the day as needed to prevent contamination of food products.

Everyone shall wash hands properly after entering or re-entering the abattoir, before and after putting on disposable gloves, after picking anything up off the floor, and before applying the final lactic acid carcass spray and moving the clean carcass into the cooler.

Scabbards and knives shall be completely submerged in the deep sanitizing unit before beginning each processing day and between each animal processed.

Between animals, after sharpening, or whenever a knife comes in contact with a source of contamination, rinse off debris with potable water and immerse the blade in one of the sanitizers.

Remove debris from the saw blade with warm water after each use. Sanitize the saw blade in the deep sanitizing unit before each use.

Remove the majority of debris and excess water on the floors at regular intervals using the broom and/or squeegee to move material from the floor to the viscera door.

Rinse the walls, floors, tables and equipment as needed between animals. Avoid spraying the floor while a carcass is in the processing room to prevent aerosolizing contaminates up onto the carcass.

Monitor frost build-up in the condenser unit of the cooler. If necessary, adjust the defrost periods to prevent freezing of the condenser unit. More frequent monitoring and adjustments may be necessary during the warmer summer months. Remove accumulations of water in the cooler in a sanitary manner. Use a cleaned and sanitized squeegee that is designated for this use.

Check cooler temperature regularly. Coolers should be at 4°C or colder.

Post-Operational Sanitation

All equipment and other surfaces that could contact carcasses or meat as well as walls and floors shall be cleaned and sanitized at the end of the day in which it was used.

Physically remove debris by hand or with tools such as scrubbers, broom and/or squeegee.

Observe equipment for missing parts or parts/surfaces that are worn to the extent that debris will accumulate and cause contamination. Replace or repair parts/surfaces and document what was done.

Rinse all surfaces, walls, floors, and equipment (Note: equipment may include personal protective gear, ladder, broom/squeegee, cradle, neck tray, ladle, scalder/dehairer, knife and saw sanitizers, chains, roller hooks, & winch controls) with warm potable water to remove remaining debris.

Apply detergent to surfaces and scrub with long handled brush. (Note: it is recommended to clean floors first and then clean walls and other surfaces from top to bottom.)

Rinse all surfaces with potable water.

Sanitize floors, walls, and equipment with bleach that is mixed to 100 ppm.

Store equipment in processing room sink, truck cabinet or in locker in mechanical room. Ensure hoses and pump are clean and sanitary and store in designated bin in the mechanical room.

Store cleaning and sanitizing chemicals separately in the mechanical room of the abattoir.

E. Demobilization

At the end of each processing day, once carcasses have been delivered, the abattoir parked, and the abattoir cooler and processing room have been cleaned and sanitized, shut off and unplug the on-demand water heater and the water pump located inside the mechanical room prior to shutting off the generator. This will prevent burning out the sensor in the on-demand water heater due to fluctuating power supply.

Check fuel levels on the generator and the on-board propane tank.

Store cleaning and sanitizing chemicals in the locker inside the mechanical room. Close and lock all doors including the viscera door.

F. Cold Weather Operations

The majority of livestock slaughtered in the Yukon is done in the fall. This invariably means colder temperatures. When temperatures fall below -10°C at night, it is no longer possible to operate the mobile abattoir safely. For this reason, the policy is that use of the mobile abattoir may only be scheduled between mid-April and mid-November and are dependent on weather conditions remaining favourable. Producers must keep this limitation in mind when making a booking as rescheduling during cold weather may be required.

When nighttime freezing temperatures are possible, the abattoir operator must take special precautions at the end of cleanup to disconnect and drain areas where ice may form.

- Remove and drain hoses from the foot controls of the hand-wash sink.
- Remove and drain the spray nozzle, disconnecting the ceiling bungee from the potable water hose, and drain the water hose inside the processing room.
- Open both taps in the processing room.
- Open all valves on the water supply to drain the water tanks, hoses, and water pressure tank in the mechanical room.
- Disconnect the hose connecting the water pressure tank and drain.
- Disconnect and drain the water intake lines and back-flow prevention valves.

6. Transport, Cutting and Wrapping

Once the animal has been eviscerated and hung to chill and age, the next step is to cut and wrap the meat on the farm for farm gate sales or transport the carcass to an approved facility for aging or processing the meat for retail sale.

When moving the carcasses from the mobile abattoir to a cooler, sanitation of all tools and equipment that may come in contact with the carcass is essential to maintain cleanliness and provide for longer shelf-life. People involved in carrying carcasses must wear clean outer coverings and hair covers. Hands must be clean and sanitary before handling carcasses. Hooks or carts must be clean and sprayed with a sanitizing solution prior to use.

A. Farm Gate Sales

Since the term “farm gate sales” refers to meat that is not an inspected product, the location where the meat will be cut and wrapped for the customer does not need to be an inspected facility but the farmer is responsible to ensure that it is clean and sanitized. There will be a fee assessed for transport when the mobile abattoir is used to deliver to an off-farm, uninspected cut and wrap facility.

When meat is being sold as “farm gate”, it is possible for the meat to be transported in a vehicle other than the mobile abattoir to where it will be cut and wrapped. The meat must be kept cold and clean during transportation. The meat should be protected from weather conditions and road dust.

B. Retail Sales

To be approved for retail sales, meat must be processed in a way that meets the relevant regulations to ensure a safe, inspected product. This means that each step in the chain is supervised by the person designated for that task. Transfer of the meat from one person to another is confirmed with a signature.

After being processed in the mobile abattoir, the meat is delivered in an approved conveyance to an approved facility. The temperature in the conveyance must remain at 4°C or lower throughout transport. The vehicle must be clean, free from odours and the carcasses secured so that the product is not allowed to contact the walls or floors. The butcher who receives the stamped carcass signs to confirm that the meat was delivered in an acceptable condition.

For retail sales, the place where further processing of the carcass occurs must comply with the Federal Food and Drugs Act and Regulations as they pertain to sanitation, ingredients, additives, processing good management practices, and labelling.

C. Transport

Generally, the mobile abattoir is used to transport and deliver the inspected carcasses slaughtered each day to an approved cut and wrap facility. When carcasses are aged in one

location and cut and wrapped in another, transport will take place in a vehicle approved by an Environmental Health Services Officer.

Guidelines for the Safe Transportation of Carcasses, Poultry and Meat Products:

http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/EH/FPS/Meat/GuidelinesfortheSafeTransportationofCarcassesPoultryMeatProducts.pdf

A summary of the requirements for transportation include:

- Chill carcasses to 4°C (40°F) or colder prior to loading. Confirm temperature of carcass is 4°C (40°F) or colder upon arrival at butcher shop.
- Ensure vehicle is washed and clean for transport.
- Carcass must not contact the floor, ground or any other surfaces that may be contaminated during loading and unloading.
- Containers must be cleaned and sanitized.
- Covers on containers must be securely fastened during transport.
- Protective coverings in contact with carcass must be suitable for contact with food.
- Ice used must be from an approved source.

7. Complaints

Not every system works perfectly every time. If something goes wrong, talking about what happened and why it happened is the best way to improve the system so it won't happen again.

If there are concerns about how the process will work on a particular farm, the first step should be a conversation between the farmer, the abattoir operator and the meat inspector.

If a farmer would like to provide feedback on the operation of the mobile abattoir on their farm, they should call the development officer at the Yukon Agriculture branch office at (867) 667-5838 or 1-800-661-0408 extension 5838.

Changes to policies or procedures for the mobile abattoir will be decided upon by the development officer in consultation with the mobile abattoir working group.

References

1) Application for the On-Farm Operation of the Mobile Abattoir
https://yukon.ca/en/application-farm-operation-mobile-abattoir

2) Good Health Handbooks – Animal Health Unit
Swine Health Handbook for Yukon Farmers
https://yukon.ca/en/swine-health-handbook

Cattle Health Handbook for Yukon Farmers
https://yukon.ca/en/cattle-health-handbook

3) Solid Waste Regulations and Permitting (*Environment Act*)
https://yukon.ca/en/doing-business/licensing/get-solid-waste-management-permit
or call Yukon Department of Environment: (867) 667-5683
or 1-800-661-0408 extension 5683

4) Meat Inspection and Abattoir Regulations (*Agricultural Products Act*)
http://www.gov.yk.ca/legislation/regs/oic1988_104.pdf

or call Yukon Agriculture branch: (867) 667-5838
or 1-800-661-0408 extension 5838

5) Guidelines for the Safe Transportation of Carcasses, Poultry and Meat Products:
http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/EH/FPS/Meat/GuidelinesfortheSafeTransportationofCarcassesPoultryMeatProducts.pdf

6) Public Health Regulations (*Public Health and Safety Act*)
http://www.gov.yk.ca/legislation/regs/co1958_079.pdf

or call Yukon Environmental Health Services: (867) 667-8391
or 1-800-661-0408 extension 8391

7) Assessable Activities, Exceptions and Executive Committee Projects Regulations (*Yukon Environmental and Socio-Economic Assessment Act*)
http://www.yesab.ca/act_regulations/act_regulations.html

or call the YESAB office: (867) 668-6420

8) Regulations for Humane Slaughter
The Safe Foods for Canadians Regulations describe the requirements for handling food animals before and during slaughter:
https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-108/

9) The latest information on Bovine Spongiform Encephalopathy (BSE) in North America
http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/eng/1323991831668/1323991912972

10) Specified Risk Materials - SRM is defined as the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (last portion of the small intestine) of cattle of all ages. (**cattle** *means animals of the species Bos taurus or Bos indicus and any animal that is the result of a cross with a Bos taurus or Bos indicus animal.; but does not include other ruminants such as bison, muskox, yak or water buffalo*)
http://www.inspection.gc.ca/food/food-specific-requirements-and-guidance/meat-products-and-food-animals/srm/eng/1369768468665/1369768518427

Appendix

Mobile Abattoir Safety Program

The purpose of this Occupational Health and Safety Program is to use effective management processes and systems to prevent injury and illness, avoid costly lost time and property damage, manage workers' compensation assessments and maintain a productive work environment.

The mobile abattoir contractor is committed to providing a healthy and safe work environment for its operators and integrating that commitment into everyday activities. To realize that commitment, the following Occupational Health and Safety Policy will be implemented.

The mobile abattoir operator is responsible for the health and safety of its operators while they are at work and will make every effort to provide a healthy and safe work environment. Operators will be trained and held responsible for ensuring that:

- all operators and assistants follow this policy;
- operators and assistants use safe work practices and receive adequate training to protect their health and safety; and
- the safety of equipment and facility at large.

All levels of workers will co-operate to create a healthy and safe work environment. Co-operation will also be extended to others, such as producers, inspectors, owners, etc.

It is the duty of each member of the operator's team to report to other members, as soon as possible, any hazardous conditions, injury, accident or illness related to the workplace. Also, operators must protect their own health and safety by complying with applicable laws and by following company policies, procedures, rules and instructions as prescribed.

Where possible, hazards will be eliminated. If this is not possible, and where there is a requirement, safe work practices will be developed, and operators will be required to use personal protective equipment, clothing, devices and materials.

We recognize the operators' duty to identify hazards, and support and encourage operators to play an active role in identifying hazards and to offer suggestions or ideas to improve health and safety.

1. Program Objectives

The objectives of this program are to ensure that every precaution reasonable in the circumstances is taken to provide for a healthy and safe working environment.

2. Definitions

- Adequate: sufficient to protect a person from injury or damage to health;
- Incident: An occurrence in the workplace that results, or may have resulted in, injury, illness or property damage;
- Hazard: Any potential danger of injury or illness to a person, or damage to property;
- Hazard Control: Any means used to eliminate or reduce a hazard.

3. Accountability

Health and safety is a shared responsibility. Operators are responsible and accountable to work safely at all times, to identify and report hazards and to take whatever measures necessary and reasonable in the circumstances to protect and promote health and safety.

Operators have specific responsibility for:

- implementing and complying with this program in their operations;
- providing a safe and healthy working environment;
- ensuring compliance with regulatory requirements;
- addressing all hazards in a timely manner; and
- achieving the objectives of this program, and making health and safety a top priority.

4. Goals and Planned OHS Activities

Goal	Activity	Lead Person	Due Date
Ensure adequate first aid training	Determine who has valid training. Schedule training and maintain records		

5. Hazard Identification and Control

Operators must:

- ensure a workplace hazard assessment is conducted at start-up, create an OHS Program and follow any significant change;
- conduct a job safety analysis on each job/task performed to identify hazardous work;
- participate in inspections, inquiries, investigations and audits concerning health and safety, and follow up with action plans when needed;
- advise on improvements to the health and safety inspection system; and
- participate in the co-operative auditing of the workplace to determine compliance with occupational health and safety requirements.

Hazards are typically associated with people, equipment, materials or the work environment in some way. Reviewing the workplace from the perspective of these four categories can be a useful approach to identifying hazards.

Are people working safely, or are their actions creating hazards? Is the equipment properly guarded? Do the materials, for example, cleaning chemicals, pose a hazard? Does the environment create hazards such as falls, slips, insufficient lighting, exposure to irate customers? Typical injuries result from overexertion, bodily reaction, falls, entanglement, struck by, or exposures to electrical contact, chemicals and others.

A chart such as the risk assessment matrix is used to determine the level of risk associated with each activity encountered in the operation of the mobile abattoir. Specific safe work practices are then identified to address these risks.

Risk Assessment Matrix

Impact of Risk (Consequence)	Major	Medium	High	High
	Moderate	Medium	Medium	High
	Minor	Low	Medium	Medium
Seriousness of risk = Probability X Impact		Unlikely (0-33%)	Moderately Likely (33%-67%)	Highly Likely (67%-100%)
		Probability of Risk (Likelihood)		

6. Monitoring, Follow-up and Control

Whenever a health or safety hazard is identified – be it through inspection, incident or complaint – it must be addressed. In addition, workers must continually monitor the workplace for existing hazards, or new hazards that may arise out of changes, such as new equipment or processes, new workers, or changing conditions. Weather, for example, can significantly change the hazards associated with using the mobile abattoir. Where new hazards are identified, they must be corrected and action taken to ensure people are not injured or exposed to harmful products.

7. Safe Work Procedures or Practices

Where a hazard is identified, and can't be eliminated through actions, such as changing the process, eliminating the task or using engineering controls (such as a guard), the use of personal protective equipment and safe work procedures will be considered. This involved examining the process and risks and identifying the safest possible way to perform a necessary task.

Each operator will be trained in the specific hazards associated with their work, and how the work can be done safely, including any "safe work practices" or SWP that have been developed. Records will be maintained for when, how and by whom the training was provided. This would include WHMIS awareness, and training for specific chemicals as appropriate.

Hazard Assessment and Control Report

General Task: skinning, scalding, eviscerating, splitting, hanging, and transport of meat

Worksite: Mobile Abattoir

Specific Task	**Potential Hazard**	**Risk Analysis** (High, Medium, Low)	**Hazard Control / Preventative Measures**
Arrange slaughter date and ensure paperwork is complete	Hostile individual	L	Operator Client Interaction SWP Violence in the Workplace SWP
Transport abattoir to slaughter site	Driving large vehicle and trailer on irregular terrain	M	Driving SWP Off-road Driving in Remote Areas SWP Vehicle Loading and Towing SWP
Prepare abattoir for operation	Exposure to diesel fuel & propane	L	
	Ladder use to maintain generator	M	Step-Stools and Ladders SWP
	Install steps	L	Material Handling: Lifting SWP
Present while farmer kills livestock	Accidental discharge or malfunction of gun	M	Safety switch on gun Firearms SWP Killing of Livestock SWP
	Loud noise	M	CSA approved hearing protection
	Damage/injury due to unmatched ammunition	M	Firearms SWP

Present while carcass is bled	Heavy carcass may fall	M	CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
Entering and Exiting Abattoir	Abattoir floor and step may be wet, and/or icy	H	CSA approved footwear and heat protection Walking and Working Surfaces in Abattoir SWP
	Excessive cold/heat	M	Clothing in layers, insulated boots
Roll out/in of scalder/dehairer unit	Heavy equipment may move unexpectedly	H	Maintain equipment Moving Heavy Equipment SWP
	Lifting/carrying heavy objects	M	Material Handling: Lifting SWP
Use of scalder/dehairer	Electrical hazards in wet environment	M	GFI for all outlets Use of Electrical Appliances and Electrical Cords SWP
	Noise from scalder/dehairer unit	M	CSA approved hearing protection Noise Exposure in Abattoir SWP
Move carcass into and out of scalder/dehairer	Heavy carcass overhead may fall	M	Maintain equipment CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
	Lifting/carrying heavy objects	M	Material Handling: Lifting SWP

Move carcass into abattoir and place on cradle	Heavy carcass overhead may fall	M	Maintain equipment CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
Skin, eviscerate, and dress carcass	Cutting injury	M	CSA approved footwear, head protection, and chain-mail gloves Working with Knives in Abattoir SWP
	Exposure to extremely hot water	M	Monitor water temperatures Working with Hot Water in Abattoir SWP
	Heavy carcass overhead may fall	M	CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
	Falling or slipping on floor	M	CSA approved footwear and head protection Walking and Working Surfaces in Abattoir SWP
	Electrical hazards in wet environment	M	GFI for all outlets Use of Electrical Appliances and Electrical Cords SWP
	Noise from splitting saw	M	CSA approved hearing protection Noise Exposure in Abattoir SWP

	Exposure to pathogens carried by animals and carcasses	M	Frequent hand washing Exposure to Pathogens in Abattoir SWP
	Repetitive strain injury	M	Working with Knives in Abattoir SWP
Moving carcass to and from cooler	Heavy carcass overhead may fall	M	CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
	Falling or slipping on floor	M	CSA approved footwear and head protection Walking and Working Surfaces in Abattoir SWP
	Excessive cold/heat	M	Clothing in layers, insulated boots
Transport carcass to cut and wrap facility	Driving large vehicle and trailer on irregular terrain	M	Driving SWP Off-road Driving in Remote Areas SWP Vehicle Loading and Towing SWP
	Heavy carcass overhead may fall	M	CSA approved footwear and head protection Heavy Objects Overhead in Abattoir SWP
	Lifting/carrying heavy objects	M	Material Handling: Lifting SWP
Cleaning & Sanitizing	Exposure to chemicals	M	WHMIS SWP
	Exposure to extremely hot water	M	Monitor water temperatures Working with Hot Water in Abattoir SWP

Safe Work Practices (SWP) Contents

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1. **Material Handling: Lifting**

   Safe Work Practice

Purpose: Operators lift heavy objects such as hides, viscera and carcasses. Injury can occur if heavy objects are lifted incorrectly or attempts are made to lift objects too heavy or awkward to lift unassisted.

Guidelines:

- Use winches to lift heavy objects whenever possible. Transfer of carcass from winch to rail with winch and hooks.
- Never lift in excess of 50 pounds (23 kg) unassisted. If objects heavier than 50 lbs must be moved, use mechanical aids or ask for assistance.
- When you must lift heavy objects (50 lbs or less), bend your knees and look towards the horizon. Keep your chin tucked to lift with your legs, not your back.
- Carry the load close to your body.
- Do not twist your body while carrying a load. To change direction, shift your foot position and turn your whole body.
- Be sure the path ahead of you is clear.
- To lower the object, bend the knees and place the load carefully to prevent pinching your fingers or dropping the load on your feet.
- Wear appropriate CSA approved footwear to prevent slipping while carrying a load and injury from potential dropping.

2. Use of Electrical Appliances and Electrical Cords Safe Work Practice

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Purpose: Operators use electrical appliances such as a splitting saw or air compressor in a dry or wet environment. Care must be taken to prevent electrical shocks.

Guidelines:

- For work in wet areas ensure plugs or breakers are protected with Ground Fault Interrupters (GFI).
- Outlets in wet areas must have covers available. Keep covers closed when outlets are not in use.
- Read the operating instructions to ensure familiarity with safe operations procedures for all electrical appliances.
- Make sure the power supply is disconnected before moving, or during routine cleaning and maintenance, or before troubleshooting problems.
- Do not circumvent safety features or use of approved power supplies.
- Beware of and do not touch hot surfaces. Use handle or knob provided.
- Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions, or has been damaged in any manner.
- Do not use the appliance for anything other than its intended use.
- Use only appropriate cleaners and methods approved for the appliance.
- Do not plug several cords into one outlet by using a single-to-multiple outlet adapter.
- Keep cords away from hot surfaces.
- Three-prong plugs must be used on any appliances used in a wet environment. Replace broken 3-prong plugs and make sure the third prong is properly grounded.

3. Operator Client Interaction
Safe Work Practice

Purpose: There are many communication techniques that can be applied to diffuse a hostile individual, prevent a violent incident from occurring or communicate in an effective manner. The guidelines provide for interaction which will foster positive relationships between producers and operators. Practicing good communication techniques can reduce the number of potentially negative incidents in the use of the mobile abattoir.

Guidelines:

- Greet the farmer immediately upon arrival.
- Smile and introduce yourself while making eye contact.
- Offer a handshake and/or your business card.
- Introduce the inspector to everyone present when she/he arrives.
- Listen
    - Stop talking
    - Put the speaker at ease: help him/her feel free to talk.
    - Remove distractions: seek a quiet place if possible.
    - Empathize: try to see the speaker's point of view.
    - Be patient: allow time for the other to be heard.
    - Hold your temper: when angry, the wrong meaning can be inferred.
    - Go easy on criticism:
    - Ask questions: help the speaker express him/herself clearly.
- Acknowledge
    - Paraphrase: express in your own words the content and feeling of what the speaker has said.
    - Validate their concerns. People want to hear that their concerns have been heard.
- Satisfy
    - Explain what you can do.
- Farewell
    - Thank your client for inviting you to their farm. Welcome them to do so again.

4. Violence in the Workplace Safe Work Practice

Purpose: There is potential for disputes and incidents of violence in our workplace. The potential for violent situations is increased where payments or inspection and enforcement occur or when working with volatile or unstable individuals, working alone, in small numbers or in an area of low visibility and in a mobile workplace. Violent situations can present themselves in different forms including verbal attack and bullying.

Guidelines:

- Check in prior to leaving for an operation site, upon arrival, when leaving, and upon return to base.
- If any check-in is missed, the contractor must contact the operator and if the operator is not receiving calls, contact the authorities.
- Be prepared for any situation. Know the risks.
- Trust your instincts. If it feels unsafe, it likely is.
- Be ready to respond.
- Remain calm.
- Do not reciprocate violence with violence.
- Never leave someone alone with a violent individual.
- Incidents which cause the operator to feel unsafe or threatened must be reported to the owner.
- Do not go alone to a location where there is a known risk of violence.
- Do not enter any situation or location where you feel threatened or unsafe.

5. Workplace Hazardous Materials Information Systems (WHIMS) Safe Work Practice

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Purpose: In the workplace, we may encounter various types of hazardous materials, some of which may include cleaning products, acid washes and pesticides. Special care must be taken to protect individuals from hazards create from the use or exposure to these products.

The Hazardous Products Act (HPA) requires suppliers of hazardous workplace materials known as “controlled products” to label containers and provide detailed hazard information through material safety data sheets (MSDS). The Occupational Safety and Health WHMIS Regulations require employers to provide labels, MSDS and worker education and training programs.

Guidelines:

- Whenever possible, nonflammable and nontoxic products should be used.
- Cleaning and sanitizing products should be safely stored in a locked cabinet inside the mobile abattoir.
- The operator must be aware of all chemicals that are used in the mobile abattoir and be sure that all individuals who work with or are exposed to these materials have been instructed in their proper use, storage and first aid measures.
- Ensure that all hazardous materials used at the workplace have the correct WHMIS labels and a current MSDS.
- Become familiar with MSDS which are located in the Mobile Abattoir Manual.
- Refer to product labels and MSDS before using a controlled product and follow instructions for use, storage and first aid measures.
- Use Personal Protective Equipment (PPE) such as safety glasses, face shields, gloves, respiratory protection and clothes as specified on the MSDS.

6. Step-stools and Ladders Safe Work Practice

Purpose: Falling from heights off of step-stools and ladders may lead to injuries. Care must be taken to prevent slips or falls.

Guidelines:

- Check for damage. If a ladder or step-stool is defective, take it out of use and have it repaired or thrown out.
- Carry ladders upright, checking clearances.
- Set ladders and step-stools on firm, level footing.
- Check for obstructions, overhead hazards and debris.
- Open ladder and ensure ladder braces are locked in position.
- Keep ladders and step-stools free of oil, grease and other slipping hazards.
- Do not load a ladder or step-stool beyond its maximum intended load. The weight it is supporting includes the tools or carcass you are carrying.
- Wear appropriate footwear when climbing a ladder or using a step-stool.
- To not place a ladder or step-stool on boxes or other unstable bases to obtain additional height.
- Do not use on slippery surfaces unless secured or provided with slip-resistant feet. Do not use slip-resistant feet as a substitute for exercising care.
- Do not move or shift ladders or step-stools while in use.
- Face the ladder or step-stool when moving up or down.
- Always maintain a 3-point contact on the ladder. In the case of a step-stool, brace yourself with your free hand while climbing.
- Do not carry objects or loads that could cause you to fall or lose your balance. Move materials with caution.
- Position as close as possible to the work to prevent over-reaching.
- Do not use a step ladder's top or pail shelf as a seat.

7. Driving
Safe Work Practice

Purpose: Safe driving is essential. Accidents occur when drivers are distracted, fatigued or merely careless. Be aware that distractions can come from many sources at any time.

Guidelines:

- Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, and manufacturer's recommended operating guidelines.
- Wear a seat belt at all times while travelling in a vehicle.
- Be a defensive driver and be aware of changing driving conditions such as traffic volume, weather, etc. Reduce speed to suit the driving conditions.
- Do not consume alcohol, drugs, medications or other substances before driving.
- Complete vehicle pre-trip inspection and logbook entry prior to departure.
- Adjust seat, mirrors, steering wheel and climate controls before departure. Be aware of trip duration and fatigue. Be well rested and concentrate on driving.
- Before departure, ensure, to the best of your ability, that the vehicle is in good working order.
- When driving, make regular checks of the fuel gauge and instrument panel.
- Ensure the vehicle's maintenance schedule is adhered to.
- Plan your route, check the map or read the directions. Check road conditions and weather reports and investigate potential hazards that may be encountered on your route before setting out. Plan for emergencies and check emergency gear as part of your safety check.
- When driving to remote areas where uncertain conditions or rough terrain prevail, use a vehicle appropriate for the terrain. Refer to Off Road Driving SWP.
- Bring a communication device for emergencies. Do not use cellular phones or other communication devices while driving.
- Secure loose cargo items.
- Never carry hazardous or highly flammable items such as bear spray, gasoline, or propane in a vehicle cab.

- If you suspect a problem with your vehicle, pull over safely and check it out. If you have a flat tire, park as safely as possible before changing the flat. If you cannot park safely, call for assistance and do not change the tire.

Winter Driving:

- Always start the trip dressed for the season and make sure that you have the gear and protective clothing you will need if a vehicle breakdown or accident occurs.
- Ensure that your vehicle as tires appropriate for winter driving.
- Check traction regularly. Slow down or stop driving if conditions deteriorate.
- Be prepared to stop. Maneuvering may be difficult.
- Keep a safe following distance to allow you to brake, especially on icy and slushy roads.
- Keep your windshield, windows and mirrors clear and clean. Glare from snow and ice can blind you.
- Be aware that ice forms quicker on bridges and overpasses as well as shaded areas and traffic intersections. Slow down and be prepared for problems.

Boosting:

- Car batteries release hydrogen fumes which can be ignited by a spark. To avoid this spark, the ground connection coming from the boosting battery should NEVER be connected to the ground connection of the battery being boosted.

Breakdowns:

If you encounter a problem with your vehicle, try to get it off the road. Especially in conditions of low visibility, to warn other drivers, place reflective warning triangles:

- At back right corner of vehicle.
- 30 metres in front of vehicle.
- 30 metres behind vehicle.

8. Off-road Driving in Remote Areas Safe Work Practice

Purpose: Use of the mobile abattoir sometimes requires travel on secondary and un-maintained roads. Taking appropriate precautions will minimize the hazards of driving in remote areas and on different road surfaces.

Guidelines:

- Complete the pre-trip inspection record of the trailer and truck prior to departure in the logbook.
- Drive defensively and be aware of changing terrain. Scout out trail conditions if required. Keep in mind the nature of the abattoir trailer – it is long, high, and has low clearance.
- Check maps, plan your route, research the area you are travelling to and investigate potential hazards that you may encounter on your route (washouts, deteriorated bridges, water-crossing, rockslides, etc.) Check weather reports before setting out.
- Get someone to stand outside the vehicle to guide you if you must maneuver over or around an obstacle, or if you must back up with limited visibility. Your guide should stand 10 metres from the vehicle, out of your travel path, but where s/he can see you or your mirror and all four wheels.
- If you suspect that there may be a problem with your vehicle, stop, pull over, and check it out.

9. Vehicle Loading and Towing Safe Work Practice

Purpose: Operating the mobile abattoir includes driving a loaded truck, towing a trailer and loading and offloading. Reduce hazards by taking proper precautions.

Guidelines:

- Be aware of and do not exceed truck load capacity and towing capacity. If in doubt refer to truck operating manual.
- Conduct a safety inspection on truck before connecting to trailer. Ensure truck brakes are in good working condition.
- Conduct a safety inspection on trailer before connecting to truck. Ensure and record in logbook that:
    - the electrical connection between the truck and trailer is in good working order.
    - all lights on the trailer are working,
    - the trailer tires are in good condition,
    - a spare tire and jack are present,
    - the trailer brake mechanism is functioning and
    - there is no play in the trailer wheel bearings.
- For optimum handling, keep truck and trailer loads balanced from side to side and keep the centre of gravity low. Secure sides in the cooler before transport.
- Make sure the truck mirrors give ample vision around both sides of the trailer.
- Before towing a trailer in traffic, be sure you are confident in turning, stopping, and backing up the trailer.
- Be aware that towing a trailer causes changes in vehicle handling. Speeding up, slowing down and switching lanes take more time. When towing, you must swing out wider when travelling around bends and corners.

10. Killing of Livestock Safe Work Practice

Purpose: During the operation of the mobile abattoir a firearm or captive bolt gun are used to kill livestock. Take precautions to reduce risk of injury from using the captive bolt gun or being present while this activity is occurring.

Guidelines:

- Ensure the person using the firearm or the captive bolt stunner is familiar with the proper placement for the kill shot.
- Ensure the animal is comfortable and not in distress.
- Establish clear communication between yourself and the person using the firearm or the captive bolt stunner before any livestock are killed.
- Ensure there is access to multiple rounds of ammunition in case the primary shot is ineffective.
- Ensure that you and the shooter are in agreement on the location of the shot before any livestock are killed.
- Ensure that the shooter informs you before firing the firearm or the captive bolt stunner.
- Stand several feet behind the shooter at all times.
- Wear hearing protection when the firearm or captive bolt stunner is fired.

11. Firearm Use
Safe Work Practice

Purpose: During the operation of the mobile abattoir a firearm or captive bolt gun are used to kill livestock. Although the operator will not be shooting a firearm, take precautions to reduce risk of injury from using captive bolt gun or being present while shooting is occurring.

Guidelines:

- Wear CSA approved hearing protection.
- Ensure the person using the firearm or the captive bolt stunner is familiar with the proper placement of the kill shot.
- Store captive bolt stunner unloaded, with a trigger lock in place and in a secured container. Store ammunition locked separately. Make sure the correct ammunition is available for the specific firearm.
- If the operator feels unsafe as a result of the manner in which a firearm is being used in the vicinity of the mobile abattoir, a report to the owner and/or authorities must be made.
    - Always point the firearm in a safe direction away from people and keep fingers off the trigger until ready to shoot.
    - Keep captive bolt stunner clean and stored to prevent condensation and ice forming in the barrel in cold climates.
    - Before firing, be sure of your target and the location of any person, livestock or object which may be down range.
    - Unload firearm or captive bolt stunner before putting it down or passing it to someone else.
    - Keep captive bolt stunner in good condition and fully functioning. Any firearm that is not absolutely dependable is a liability to the person using it and for others whose safety depend upon it.

12. Noise in Abattoir Safe Work Practice

Purpose: Operators are exposed to extremely loud noises throughout their slaughter day. Care must be taken to prevent hearing difficulties that can range from hearing impairment to permanent hearing loss.

Guidelines:

- Use CSA hearing protection prior to use of firearm/captive bolt during stunning of animals.
- Use CSA hearing protection prior to use of splitting saw in abattoir.
- Ensure ear protection is properly worn/utilized and maintained as directed by manufacturer.

13. Heavy Overhead Objects in Abattoir Safe Work Practice

Purpose: Mobile abattoir operators are exposed to overhead dangers numerous times throughout daily operation of the mobile abattoir. During skinning, eviscerating, and dressing hoisted carcasses are transferred to the abattoir by the farmer's tractor, tethered to winches, transferred and shackled to hooks, split and moved on a rail system for transport. Falling hazards include animals over 500 lbs, hooks, rollers and split carcasses generally weighing more than 200 lbs.

Guidelines:

- Wear a CSA approved hand had and CSA approved steel-toed rubber boots at all times while within the mobile abattoir.
- Ensure that all personal protective equipment (PPE) is properly worn by all persons within the mobile abattoir.
- Ensure that all personal protective equipment (PPE) is properly maintained and free of defects.
- Ensure that winches are functioning properly prior to commencing slaughter.
- Ensure the carcass is properly secured before lifting.
- Remain to side or back of abattoir as carcass is unloaded from tractor to skinning cradle.
- Hooks and straps shall be inspected prior to use to ensure they are in good repair. Rail system and switch guards shall be inspected for good repair.
- Remain to the side wall as carcass is hoisted and transferred to rollers.
- Once hung on rollers, carcasses should be pushed steadily and with caution. This is especially true where rail switches exist.
- Hooks shall be cleaned, oiled and housed in a protective manner that preserves their functionality.

14. Walking and Working Surfaces in Abattoir Safe Work Practice

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Purpose: Mobile abattoir operators are exposed to extremely slippery floor conditions. Fat from carcasses and ice from washing when working in below zero temperatures can be especially dangerous. Care must be taken to prevent slipping and falling injuries.

Guidelines:

- Wear a CSA approved hard hat and CSA approved steel-toe non-slip rubber boots at all times while working in the mobile abattoir.
- Ensure that all personal protective equipment (PPE) is properly worn.
- Ensure that all personal protective equipment (PPE) is properly maintained and free of defects.
- Practice good housekeeping procedures: wash and squeegee floors regularly while working.
- Do not lift or reach off balance.
- The slope of the outside ramp should not exceed a gradient of 1:3. Position the trailer to maintain this slope or less.
- When working in below zero temperatures, keep the ramp clear of ice. The mobile abattoir should not be operated when nighttime temperatures have dropped below -10° Celsius.
- Keep the ramp clear of fat and other carcass contaminants.
- Exercise care and take small steps when moving around inside the abattoir and when entering or exiting the abattoir.

15. Working with Knives in Abattoir Safe Work Practice

Purpose: Mobile abattoir operators are required to use knives often during daily duties. There is a high potential for frequent and serious injury from knives. Repetitive strain injury from knife use is also possible.

Guidelines:

- Keep knives sharp to avoid the need to apply excessive force when cutting.
- Wear a mesh glove on the non-dominant hand when sharpening and using a knife.
- Wear a knife scabbard at all times and use it to store knives when they are not in use.
- Knives shall be placed in the scabbard when walking.
- When passing a knife from one person to another, pass it handle first with the blade facing up.
- Never try to catch a falling knife.
- Ensure there is adequate space in areas where knives are used.
- Never use a knife to pick up or position material.
- Be aware of the position of others. When possible, practice cutting away from yourself or others.
- Two people should not work simultaneously on the same area on the same carcass.
- Knife scabbards must be made of washable material. Knives with wooden handles are unacceptable for use in the mobile abattoir because they deteriorate under the conditions present.

16. Working with Hot Water in Abattoir Safe Work Practice

Purpose: Mobile abattoir operators are exposed to hot water throughout the skinning and eviscerating process. Care must be taken to prevent burn injuries.

Guidelines:

- Ensure that there is a thermometer in place to monitor the temperature of the water baths used to sanitize knives and saws.
- Ensure that the water baths remain above 82°C but do not exceed 100°C.
- Exercise care when retrieving knives from the water bath.
- Exercise care when you or others are spraying hot water for cleaning.
- Wear insulated rubber gloves if needed while cleaning to prevent burns from contact with metal parts of sprayer nozzle. Use quick-connect joins to allow sprayer to swivel as needed.

17. Exposure to Pathogens in Abattoir Safe Work Practice

Purpose: Handling of diseased carcasses or parts of carcasses may expose operators to potential sources of infection. Care must be taken to prevent contracting or spreading disease.

Guidelines:

- Wear coveralls, waterproof aprons and rubber boots at all times while in the mobile abattoir.
- Ensure all personal protective equipment (PPE) is properly worn.
- Ensure all personal protective equipment (PPE) is properly maintained and free of defects.
- Properly bandage all wounds and open cuts. Cover bandages with latex gloves or finger cots.
- Avoid unnecessary handling of diseased material.
- Wash hands frequently while working and especially after touching feces or potential contaminants such as diseased material.
- Thoroughly wash hands with soap and water before leaving the abattoir. Dry hands using disposable paper towels.
- Boots, aprons, hard hats and knives should be washed with hot water and disinfected before leaving the mobile abattoir.

Sanitation Standard Operating Program (SSOP)

The Abattoir Operator is responsible for activities related to implementing and maintaining the SSOP.
Implementing and maintaining the SSOP involves

- revising the SSOP as needed,
- doing the daily monitoring of pre-operational, operational, and post-operational SSOP procedures,
- recording the findings of monitoring,
- performing or assigning any corrective actions necessary, and
- documenting the corrective actions.

All records pertaining to the Sanitation SOP will be kept on file by the Abattoir Operator for at 6 months in the abattoir or another storage facility.
All SSOP records will be made available to Yukon Health personnel (within 24 h) upon request.

1. Pre-Operational Sanitation

The Abattoir Operator will inspect equipment and other surfaces before the start of each workday to monitor the effectiveness of cleaning and sanitizing. The Abattoir Operator will normally rely on appearance, odour, and feel of food contact surfaces (an "organoleptic inspection"). Any necessary corrective actions shall be performed and documented. If new inspection procedures are adopted, the SSOP will be modified accordingly.

Record the inspection results on the SSOP Inspection Checklist. **If an inspected area or piece of equipment is acceptable, enter the appropriate symbol (✓). If a deviation is noted, enter the (X) symbol in the SSOP Inspection Checklist, and then describe the problem and the corrective actions taken to fix it.** Status must be acceptable, corrected, or documented as having no impact prior to operations beginning. The corrective action may consist of re-training the sanitation crew as appropriate, changing a cleaning/sanitizing procedure, and/or repeating the existing procedure with greater care and re-inspecting.

Indirect food-contact surfaces such as floors, walls, and ceilings can be an important source of microbial contaminants. The following steps are regularly performed to maintain sanitary conditions.

1-1. Cleaning Procedures.
   a. Sweep up debris using a broom and/or squeegee and discard it.
   b. Rinse surfaces with potable water. (Note: use of drinking water from an approved municipal source, or a satisfactory bacteriological analysis of drinking water report from a private drinking water well (done at least

every year) will be available to prove that the water supply is potable.)

c. Clean surfaces with an approved detergent using the long-handled brush.
d. Rinse surfaces with potable water.
e. Sanitize with 100 ppm bleach solution.

1-2. Cleaning Frequency: Processing area floors and walls and the cooler chains, floors, and walls are cleaned at the end of each production day. Light fixtures, rails, & hoist chains are cleaned at least twice a season.

1-3. If light fixtures, chains or rails are in need of cleaning, remove item and clean using the Cleaning Procedures described in step 1-1.

1-4. The abattoir operator will monitor abattoir entryways during production to assure that pests/animals cannot enter the abattoir.

Operational Sanitation

2-1. The objective of the mobile abattoir Operational Sanitation program is to prevent contamination of carcasses and edible offal during processing.

2-1.1 No person with illness, or open/infected wounds is allowed to handle foods or food-contact surfaces. Cuts will be covered with a band-aid and then a disposable nitrile glove. Gloves will be changed if torn or have come in contact with unsanitary conditions.

2-1.2 Everyone shall begin the day wearing clean garments. Protective gear shall be worn which include water-proof aprons, steel-toed boots, and a hard hat. Disposable gloves will be worn over protective (sanitized) chainmail gloves.

2-1.3 No person inside the mobile abattoir may use tobacco, chew gum, eat, or drink.

2-1.4 Operators may not wear jewelry or cosmetic items that could contaminate product.

2-1.5 Hand wash facilities shall be maintained and properly supplied.

2-2. Processing will be performed under sanitary conditions to prevent direct contamination and cross contamination of carcasses and edible offal.

2-2.1 Clean and sanitize equipment, tables, and other product contact surfaces throughout the day as needed to prevent contamination of food products.

2-2.2 Everyone shall wash hands properly after entering or re-entering the abattoir, before and after putting on disposable gloves, after picking anything up off the floor, and before applying the final lactic acid carcass spray and moving the clean carcass into the cooler.

2-2.3 Scabbards and knives shall be completely submerged in the deep

sanitizing unit before beginning each processing day and between each animal processed.

2-2.4 Between animals, after sharpening, or whenever a knife comes in contact with a source of contamination, clean the blade, rinse with potable water and immerse in one of the sanitizers.

2-2.5 Remove debris from the saw blade with warm water after each use. Sanitize the saw blade in the deep sanitizing unit before each use.

2-2.6 Remove the majority of debris and excess water on the floors at regular intervals using the broom and/or squeegee to move material from the floor to the viscera door.

2-2.7 Rinse the walls, floors, tables and equipment as needed between animals. Avoid spraying the floor while a carcass is in the processing room to prevent aerosolizing contaminates up onto the carcass.

2-2.8 Monitor frost build-up in the condenser unit of the cooler. If necessary, adjust the defrost periods to prevent freezing of the condenser unit. More frequent monitoring and adjustments may be necessary during the warmer summer months. Remove accumulations of water in the cooler in a sanitary manner. Use a cleaned and sanitized squeegee that is designated for this use. Record results on the SSOP Inspection checklist. If corrective actions are necessary, perform and document them on the Corrective Actions form, then date and initial the form.

2-2.9 Check cooler temperature daily. Coolers should be at 4° C or colder.

2-3. Monitoring and Recordkeeping of Operational Sanitation

2-3.1 The Abattoir Operator is responsible for ensuring that personal hygiene practices, people and product traffic patterns, sanitary product handling procedures and cleaning procedures are maintained. **Record results on the SSOP Inspection Checklist at least once per processing day. If an inspected action is being done, enter the appropriate symbol (✓). If a deviation is noted, enter the (X) symbol in the SSOP Inspection checklist, and then describe the problem and the corrective actions taken to fix it.**

2-3.2 Any time any person in the abattoir sees operational sanitation problems, it is their responsibility to stop production if necessary, and notify the person involved. Determine the cause of the contamination and take corrective action.

2. <u>Post-Operational Sanitation</u>

All equipment and other surfaces that could contact carcasses or meat as well as walls and floors shall be cleaned and sanitized at the end of the day in which it was used.

3-1. Physically remove debris by hand or with tools such as scrubbers, broom and/or squeegee.
3-2. Observe equipment for missing parts or parts/surfaces that are worn to the extent that debris will accumulate and cause contamination. Replace or repair parts/surfaces and document what was done.
3-3. Rinse all surfaces, walls, floors, and equipment (Note: equipment may include personal protective gear, ladder, broom/squeegee, cradle, neck tray, ladle, scalder/dehairer, knife and saw sanitizers, chains, roller hooks, & winch controls) with warm potable water to remove remaining debris.
3-4. Apply detergent to surfaces and scrub. The long-handled brush is used for walls and hand-held scrubbers are used on small equipment. (Note: it is recommended to clean floors first and then clean walls and other surfaces from top to bottom.)
3-5. Rinse all surfaces with potable water.
3-6. Sanitize all surfaces and equipment with bleach that is mixed to >100 ppm.

All cleaning and sanitizing chemicals shall be properly labeled and stored separately in the mechanical room of the abattoir.

Daily Checklist: Pre- Op, Operational, & Post-Op

Date: By:

Pre-Operational (If not required, NA)	✓ = acceptable X = unacceptable	Deviations & Corrective Action (If X)	✓ = acceptable X = unacceptable
Overnight temperatures >-10°C			
Parked level with safe access to all doors. Steps installed.			
Water tanks full. Generator and water heater fuel checked.			
Hoses, lines, & valves connected. Pressure pump and water heater plugged in & turned on.			
Food contact surfaces: cleaned and sanitized after previous operations.			
Equipment and facilities clean and in good operating condition.			
Sanitizers full, plugged in and at temperature. (>82°C)			
Protective gear: clean & on.			
Hand soap and paper towels.			
Band-aids and/or chainmail covered with disposable gloves. (record number)			
Tags, zip ties, weasand clips, & bags prepared.			
Cooler condenser and fan on. Temperature (=< 4°C)			
Lighting functioning and adequate			
Winch hoists operating properly.			
Cables, wheels, hooks, and cradle or scalder/dehairer checked prior to loading.			

Operational (If not required, NA)	✓ = acceptable X = unacceptable	Deviations & Corrective Action (If X)	✓ = acceptable X = unacceptable
Hands cleaned as required.			
Scabbards & knives cleaned and sanitized between animals.			
Knives sanitized as needed.			
Saw sanitized before each use and cleaned after each use.			
Debris and excess water regularly removed from floor.			
Frost build-up in cooler condenser monitored.			

Post-Operational (If not required, NA)	✓ = acceptable X = unacceptable	Deviations & Corrective Action (If X)	✓ = acceptable X = unacceptable
Debris physically removed.			
Equipment and surfaces in good repair.			
All surfaces, walls, floors, & equipment rinsed.			
Detergent applied to all surfaces and scrub with brush.			
All surfaces, walls, floors, & equipment rinsed.			
Sanitizing solution of 100 ppm bleach prepared.			
All surfaces, walls, floors, & equipment sanitized.			
Personal equipment cleaned & sanitized.			
Sanitizing chemicals properly labelled and stored.			
Supplementary water hoses and pump clean, sanitized and stored.			
Water heater and pressure pump shut off and unplugged.			
Generator shut off.			
When potential to freeze overnight, all hoses, water lines and connectors disconnected and drained.			
Doors secured.			

Water Handling SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that water used in the mobile abattoir is potable.
Frequency:	When abattoir water tanks are filled.
Equipment:	Potable water hoses, hose splitter, pump, tanks, solution of 100 ppm bleach
Procedure:	Remove hoses and pump from hose bin. Spray hose end connectors with solution of 100 ppm bleach. (9 mL (2 tsp) of household bleach in 4.5 litres (1 gal) of warm water) Connect potable water hoses to potable water source through dedicated water pump. Keep the pump off the ground so the fan motor doesn't stir up contamination. Use care to ensure no dirt or other contamination is allowed to enter the hose or pump during use or storage. Fill tanks. Rinse pump and hoses and spray with bleach sanitizing solution. Place in hose bin and store in mechanical room of abattoir.
Deviations	If there are any deviations from this procedure, water and/or tanks may be contaminated. Tanks must then be sanitized. Tanks will be sanitized once yearly regardless of contamination. Fill tanks (each is 455 L – 100 gal) with water and 511 mL (2 cups) household bleach per tank. Disinfect lines and fixtures by turning on taps until there is water at each outlet. Close taps. Let sit 12 hours then drain. Refill with potable water.

Loading/Unloading the Scalding/Dehairing Unit SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that the scalding/dehairing unit is safely loaded/unloaded.
Frequency:	When the scalding/dehairing unit is required to process swine.
Equipment:	Scalding/Dehairing unit, hoists, tracks, jacks with wheels, clevis, shackle chains
Safety Equipment:	Hard hat, steel-toe boots
Procedure:	**Loading**: Use attached jacks on wheels to raise scalding/dehairing unit (S/D unit) to same level as processing room floor. Push S/D unit into processing room as far as front jacks will allow. Remove front jacks. Use shackle chain to attach to hoist nearest the cooler to clevis on front of S/D unit. Pull S/D unit into processing room as far as rear jacks will allow. Use hoist nearest the door to connect to rear of S/D unit. Use hoists in tandem to centre the S/D unit within the processing room. Wash tracks and place one track horizontally across the front and the other across the back to prevent the S/D unit from moving during travel and to prevent damaging the doors. **Unloading**: Remove tracks from front and back of S/D unit and position on level ground behind processing room. Push the S/D unit out far enough to attach the rear jacks

	with wheels. Position wheels squarely in the tracks. Continue to pull S/D unit out far enough to attach the front jacks with wheels. Pull S/D unit out until lip of S/D platform is directly over the edge of the processing room door. Lower the jacks to firmly seat the platform to lower edge of door opening. Adjust jacks to level the S/D unit. **Alternate:** If a second truck will be attending a slaughter event requiring the scalding/dehairing unit, the S/D unit can be loaded and secured with chains to a flat-deck trailer. Load the unit so that the platform is flush with the back of the trailer. Then, just back the trailer up to the abattoir for use and pull away when no longer needed.
Deviations	Improper loading/unloading of the scalding/dehairing unit may damage the unit or the abattoir processing room.

Scalding/Dehairing Unit Setup SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that the scalding/dehairing unit (S/D unit) is set up ready for use.
Frequency:	When the S/D unit is required to process swine.
Equipment:	S/D unit, propane, power cord, hot water
Procedure:	Inspect the S/D unit to ensure it is level, clean, and undamaged and ready for use. Engage and seal the drain. Fill with hot (49°C) water by running hose from inside the processing room to the S/D unit until water level is 2.5 cm (1 inch) over the top of the rollers. Connect power cord from under mechanical room overhang to control box and from control box to S/D unit. Connect chimney and propane. Open propane valve and turn on machine. (It will often take several firing sequences before enough propane is in the lines to fire. Push the red button to reset as necessary and listen to ensure propane is lit.) In cold weather, it may be necessary to gently heat the control box to establish or maintain function. The S/D unit is ready for use when the temperature of the water is 62°C. (This will usually take 20 – 30 minutes when starting with hot water from the abattoir, or >60 minutes when starting with cold water.
Deviations	Improper setup delays the start of operations.

Scalding/Dehairing Unit Use SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that the scalding/dehairing unit (S/D unit) is properly used to scald and dehair appropriately sized swine. Pigs must be between 20 kg (45 lb) and 180 kg (400 lb).
Frequency:	When the S/D unit is required to process swine.
Equipment:	S/D unit, roller lifter bar, knife, bell scraper, hand-held meat hook, spreader, chains, hair/skin scoop
Safety Equipment:	Hard hat, steel-toe boots
Procedure:	Pigs that are larger than 180 kg (400 lb) should be skinned rather than using the S/D unit to prevent stalling and damage to the unit. Pigs that are smaller than 20 kg (45 lb) can get stuck between the rollers causing damage to the carcass and a potential hazard for the operator during removal. Pigs that are too small for the S/D unit can be manually dipped and hand scraped. The water in the S/D unit should be at 62°C for ideal scalding. Pigs between 20 kg (45 lb) and 180 kg (400 lb) take approximately 4 minutes in the S/D unit at this temperature to remove the majority of the hair and first layer of skin. The S/D unit is set to automatically stop after 4 minutes. When the machine stops, visually inspect for proper hair removal or pop a dewclaw to check whether scalding/dehairing was sufficient. The S/D unit can be run

	for another minute and manually stopped if necessary. If there is excessive noise from the S/D unit while in use, stop the machine and check to be sure the carcass/leg is not stuck between the rollers. When scalding/dehairing is complete, open the lid and bring the rear cover over to fully expose the scalded pig. Turn the rollers briefly so the carcass is on its back with all four legs up. Use the meat hook as needed to remove all hoof and dewclaw covers. Use a knife or bell scraper to remove any remaining hair around the hind legs and front knees. Attach chains around hind legs between the hock and hoof to a spreader on the hoist. Anchor the meat hook in the carcass (hoof joint or stick hole) so that when the carcass is hoisted, excessive swing is prevented to ensure the safety of the hoist operator. Between every second animal, lift the rollers and use the hair/skin scoop to remove as much dirt, hair, and other material as possible at the bottom of the machine. This will minimize scorching the bottom of the tank and will keep scalding/dehairing functioning as effectively as possible.
Deviations	Improper use of the scalding/dehairing unit results in incomplete hair removal or over-scalding and damage to valuable meat.

Scalding/Dehairing Unit Cleanup SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that the scalding/dehairing unit (S/D unit) is adequately cleaned after use.
Frequency:	When the S/D unit is required to process swine.
Equipment:	S/D unit, pressure washer, soap, brush
Safety Equipment:	Disposable gloves
Procedure:	Turn propane off, turn off power and disconnect power cord and propane lines. Move the S/D unit to a satisfactory location to empty out the dirty water. Ensure unit is sloped towards the drain. Carefully open drain. Scoop out as much of the dirt and hair at the bottom of the tank. Use a pressure washer to clean the inside of the machine and then the outside. Turn the rollers while working to remove all skin and hair stuck in the paddles. Replace drain plate and tighten into place. Wrap electrical cord and propane hose around machine and through handle to secure for travel. Perform end-of-day check on condition of cords, hoses, & paddles. Repair/replace as necessary.
Deviations	Improper cleaning and maintenance of cords, hoses and paddles delays the start of the next day's operations. Re-clean as necessary.

Blood Recovery for Edible Product SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that blood is collected in such a way that it is clean and safe for human consumption, the blood collection knife is sterilized before use and must not come into contact with external surfaces of the skin.
Frequency:	When blood collection is requested by the owner or with permission of the owner for creating products containing blood for human consumption.
Equipment:	Knife, blood collection knife (with tube), 7 or 10 lb bag
Safety Equipment:	Steel-toe boots
Procedure:	Blood will only be collected from animals that are clean – minimal dirt or debris on the hide – and appear healthy during antemortem inspection. Using a clean, sharp sterilized knife, make a small incision in the skin below the suprasternal notch. Insert the blood collection knife through the incision into the thoracic cavity and drain blood into a new #7 or #10 plastic bag. The blood collection knife should not come into contact with the hide at any point. Do not remove the knife until all blood needed has been collected. Ensure the bag does not come into contact with the hide or the ground during collection. Tie off the bag immediately after collection. Use a second bag to cover the first to prevent leakage. Store collected blood in the cooler in a separate container from other organs. Blood can be used fresh within 24 hours of collection or frozen for later use. The blood collection knife must be immediately washed after collection to remove all visible blood, rinsed, and

	sanitized with hot water (>82°C) before reuse. There is no anticoagulant product such as salt or vinegar added nor stirring done on the kill floor. When sausage or other products with blood as an ingredient are made, a blender is used to anti-coagulate the blood. Products made with blood must be fully cooked before consumption.
Deviations	If there are any deviations from this procedure, blood will not be saved as inspected product. If an animal is condemned on the day blood has been collected and it is not possible to identify which blood came from which animal, all blood collected that day will be disposed of with the other offal.
Records	Slaughter record form

Cattle or Yak Stunning and Bleeding SOP

Yukon Mobile Abattoir

Responsibility:	Farmer
Purpose:	To humanely render a cow or yak insensible and to ensure animal does not regain consciousness. Effective bleeding is important for meat quality.
Frequency:	Each animal (cattle or yak)
Equipment:	22 caliber (or larger) gun or captive bolt, knife
Safety Equipment:	Hearing protection, steel-toe boots
Procedure:	Ensure the head is well restrained before using the captive bolt. Position the shot at the crossover point between lines drawn from the inside corner of each eye to the top of the ear on the opposite side and aim down the length of the spine. Shackle between the foot and hock to hoist. Use a sanitized knife to cut through the hide from the underside of the throat to the brisket. The sticking knife must be immediately washed after sticking to remove all visible blood and sanitized with hot water (>82°C) before reuse. Insert the knife at a 45° directly below the brisket and sever the carotid arteries and jugular veins.
Deviations	Improper sticking may cause the animal to regain consciousness or affect the quality of the meat. Re-stun if needed and re-stick.
Records	Slaughter record form

Elk Stunning & Bleeding SOP

Yukon Mobile Abattoir

Responsibility:	Farmer
Purpose:	To humanely render an elk insensible and to ensure animal does not regain consciousness. Effective bleeding is important for meat quality.
Frequency:	Each elk
Equipment:	22 caliber (or larger) gun, knife
Safety Equipment:	Hearing protection, steel-toe boots
Procedure:	Because the head of elk must be removed and sent for testing, elk are shot high in the neck to sever the spinal cord and render the elk insensate. Shackle between the foot and hock to hoist. Use a sanitized knife to cut through the hide from the underside of the throat to the brisket. The sticking knife must be immediately washed after sticking to remove all visible blood and sanitized with hot water (>82°C) before reuse. Insert the knife at a 45° directly below the brisket and sever the carotid arteries and jugular veins.
Deviations	Improper sticking may cause the animal to regain consciousness or affect the quality of the meat. Re-stun if needed and re-stick.
Records	Slaughter record form

Swine Stunning & Bleeding SOP

Yukon Mobile Abattoir

Responsibility:	Farmer
Purpose:	To humanely render a pig insensible and to ensure animal does not regain consciousness. Effective bleeding is important for meat quality.
Frequency:	Each pig or wild boar
Equipment:	22 caliber (or larger) gun or captive bolt, knife
Safety Equipment:	Hearing protection, steel-toe boots
Procedure:	Direct the shot at the mid-line of the forehead, 2.5 cm (1 inch) above the level of the eyes and directed down the length of the spinal cord. Shackle the hind leg and hoist the animal off the ground. Insert clean, sanitized knife directly below the brisket and in at a 45° angle. Swipe left and right to sever the carotid arteries and jugular veins. The sticking knife must be immediately washed after sticking to remove all visible blood and sanitized with hot water (>82°C) before reuse.
Deviations	Improper sticking may cause the animal to regain consciousness or affect the quality of the meat. Re-stun if needed and re-stick.
Records	Slaughter record form

Sheep or Goat Stunning & Bleeding SOP

Yukon Mobile Abattoir

Responsibility:	Farmer
Purpose:	To humanely render a sheep or goat insensible and to ensure animal does not regain consciousness. Effective bleeding is important for meat quality.
Frequency:	Each sheep or goat
Equipment:	22 caliber (or larger) gun or captive bolt, knife
Safety Equipment:	Hearing protection, steel-toe boots
Procedure:	Ensure the head is well restrained before using the captive bolt. Direct the shot at the front of the head just above the eyes and aim down the spine. (Alternately, if necessary, the shot may be placed immediately behind the base of the horns and aimed toward the mouth.) Shackle the hind leg and hoist the animal off the ground. Hold an ear and insert a sanitized knife directly behind the jaw even with the base of the ear. Pull the knife outward to sever the carotid artery and jugular vein. The sticking knife must be immediately washed after sticking to remove all visible blood and sanitized with hot water (>82°C) before reuse.
Deviations	Improper sticking may cause the animal to regain consciousness or affect the quality of the meat. Re-stun if needed and re-stick.
Records	Slaughter record form

Rabbit Stunning & Bleeding SOP

Yukon Mobile Abattoir

Responsibility:	Farmer
Purpose:	To ensure that rabbits are humanely stunned and bled. Proper bleeding ensures the animal does not regain consciousness and is important for meat quality.
Frequency:	Each rabbit
Equipment:	Captive bolt gun, knife
Safety Equipment:	Ear protection, steel-toed boots
Procedure:	Restrain the rabbit by grasping the skin at the scruff of the neck. Ensure rabbit body is supported. Aim captive bolt gun so that the concussion damages the brain stem and cortex. Use a sharp knife to slit the rabbit's throat cutting both the carotid artery and the jugular veins.
Deviations:	Improper stunning or incorrect handling may cause stress to the animal. Retrain on proper procedure.
Verification:	Slaughter record form

Cradle Placement (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To safely lower cattle, yak or elk into skinning cradle.
Frequency:	Each beef, yak or elk
Equipment:	Cradle, hoists, shackles
Safety Equipment:	Hard hats, hearing protection, steel-toe boots
Procedure:	Ensure floor is clean underneath the cradle. Place cradle equidistant from the sides and so that the support leg of cradle is not ahead of the floor drain. Shackle back legs between hoof and hock to back hoist (nearest the cooler) and front legs between hoof and knee to front hoist (nearest the door). Raise animal above level of top of cradle. Place wire cradle supports on cradle if necessary for narrow animals. Communication between operator of front hoist and rear hoist is essential. Lower animal into cradle ensuring that it is centred and stable. Neck should settle between the front supports with the head outside the cradle. Wash fecal contamination from anus and tail before any incisions are made. Wash hands, apron and equipment.
Deviations	Lift and re-lower if animal is not placed properly in cradle.

Skinning (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To remove the hide from the carcass in such a way as to minimize contamination or damage.
Frequency:	Each animal (cattle, elk or yak)
Equipment:	Scabbard, skinning knife, legging knife, 6” knife
Safety Equipment:	Hard hat, steel-toe boots, mesh glove (covered by disposable glove).
Procedure:	Cut through the hide at the knee where the leg bends with the blade of knife facing upward. Rinse and sanitize the knife. Remove front legs by applying downward pressure with your non-knife hand and placing the knife between the carpals and metacarpals. (Done correctly, this should be a smooth joint.) Skin the hind legs from inside out around the hock and down the inside of the legs to the midline. Rinse and sanitize the knife. Skin around shank and Achilles tendon. Expose the joint ensuring the hair side of hide is large enough to fall downward away from the carcass surface. Cut through the hock joint and break away from the body to outside of the carcass. Open midline by starting at the stick hole with the knife blade up. Cut down to the pubis while pulling the knife upward to prevent cutting the stomach. Open a midline cut from the stick hole to the chin and reflect the skin back from the jaws and neck to expose the neck muscles.

	Cut through the larynx and esophagus and remove the head by cutting between the occipital and atlas joint and hang on the inspection hook. Wash the exposed surfaces of the head ready for the inspector. Reflect the hide back from the midline incision starting where the back leg incision meets the midline. Use long, smooth strokes to cut between the fascia and the skin to minimize exposure of muscle. Continue with one section until the flap of hide is large enough to ensure than when it is let go, it will fall away from the freshly exposed carcass. Continue down the length of the animal working your way to the front legs on either side. Skin the top of the brisket down to the armpit of the front legs. Pull the hide (45° angle) without letting it touch the front leg stub. Cut through the loose section which was removed from the brisket and when you reach the armpit, flip the knife and cut with the blade upwards to the stub of the front leg. Once this is open, switch to the legging knife to skin out the remainder of the leg. Continue to skin down to the edge of the cradle. The remaining hide will be removed once the carcass is hoisted.
Deviations	Improper skinning causing contamination is a food safety issue and damage to the carcass or the hide can cause a loss of revenue for the producer. Corrective action is to trim all contamination and further training on proper procedures.

Udder or Pizzle Removal (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To remove the udder or pizzle to prevent contamination of the carcass.
Frequency:	Each animal (cattle, elk or yak)
Equipment:	Knife
Safety Equipment:	Hard hat, steel-toe boots, steel mesh glove (covered by disposable glove).
Procedure:	**Udder**: If udder is infected, it must be removed before skinning. Otherwise, remove after skinning. Use knife to cut around the base of the udder where it meets the flank. Continue lifting the udder and cutting the attached tissue until the udder is removed, taking care not to cut into the carcass or abdominal cavity. Clean and sanitize knife. Clean apron and hands. **Pizzle**: Pick up the pizzle near the navel and lift, cutting the tissue underneath to allow it to be freed from the carcass. Take care not to cut into the carcass or abdominal cavity. Pull the pizzle up and back towards the rump while continuing to cut the connective tissue. Expose the end and cut to remove the pizzle from as close to the carcass as possible. Clean and sanitize knife. Clean apron and hands.
Deviations	Improper removal of the udder or pizzle may cause contamination of the carcass. Corrective action is to trim all areas contaminated.

Opening the Brisket (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To open the brisket to have access to the weasand (esophagus) and to open up the thoracic cavity in preparation for eviscerating.
Frequency:	Each animal (cattle, elk or yak)
Equipment:	Well saw, knife
Safety Equipment:	Hard hat, steel-toe boots, steel mesh glove (covered by disposable glove), hearing protection.
Procedure:	Using a clean, sanitized knife, trim 2.5 cm (1 in) of fat on either side of the midline split. Cut straight down into the top of the brisket to open the tissue on the brisket down to the bone from the sternum to the neck. Sanitize the saw and starting from the end closest to the neck, open the brisket. Use care not to go beyond the end of the sternum to prevent accidental opening of the stomach. Wash visible debris from the saw.
Deviations	Improper opening of the brisket can make it difficult to eviscerate the animal.

Rodding & Clipping the Weasand (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To separate the esophagus (weasand) from the trachea and other tissue then to clip the weasand to allow removal through the diaphragm and chest without causing contamination.
Frequency:	Each animal (cattle, elk or yak)
Equipment:	Weasand rod, knife, weasand clip
Safety Equipment:	Hard hat, steel-toe boots, steel mesh glove (covered by disposable glove).
Procedure:	Use a knife to separate the weasand from the trachea on the neck near the brisket. Wrap the weasand onto the sanitized weasand rod. Hold the trachea and push the rod in towards the stomach to separate the tissues from the weasand. Pull the rod back and attach a weasand clip to the weasand. Use the rod to push the weasand clip in to seat the stomach. Completely separate the trachea and remaining part of the weasand from the neck. Clean the weasand rod.
Deviations	Improper clearing and clipping of the weasand can cause contamination resulting in corrective trimming and loss of product.

Half-Hoist & Bunging (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To partially lift the carcass off the cradle
Frequency:	Each animal (cattle, elk or yak)
Equipment:	gambrel, hoist, neck tray, 7 lb or 10 lb bag, zip tie, skinning knife, 6” knife
Safety Equipment:	Hard hat, steel-toe boots, mesh glove (covered by disposable glove)
Procedure:	Cut the fatty tissue between the Achilles tendon and bone on both hind legs to provide holes for the gambrel. Insert gambrel ends into the holes just created and hook to the rear hoist. Lift the hoist until the back of the carcass is high enough to expose the rump so that bunging can occur at approximately eye level. Continue skinning the hide remaining on the rump. Work down and towards the dorsal midline of the carcass to allow easier hide removal from the tail. Cut the hide around the anus where there is no hair. Ensure the anal sphincter remains intact. Use a 7# or 10# bag over one hand and grasp the skin around the anus. Use a 6” knife to cut tissue all around to free the anus and neck of the bladder, then push tissue apart by hand. Fold bag over anus and rectum and secure with zip tie. Lower the bag containing anus and rectum into the pelvic cavity. Wash and sanitize the knife. To skin the tail, cut a piece of hide about 2.5 cm (1 in) at

	the top of the tail to use as a handle. Then, skin a strip all the way down the tail from this point. To complete the tail skinning, grasp the hide firmly and pull in a downward motion to free the tail. Cut off the tail by cutting through the cartilage of the vertebrae closest to the carcass. Place tail on inspection table. Wash and sanitize knife and wash hands.
Deviations	Improper hoisting may cause the carcass to shift in the cradle which may result in contamination. If contamination occurs, the affected areas will be trimmed.

Full Hoist and Eviscerate (Cattle, Elk, or Yak) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To fully hoist the carcass and eviscerate cattle, elk, or yak.
Frequency:	Each animal (cattle, elk, or yak)
Equipment:	Legging knife, neck tray
Safety Equipment:	Hard hat, steel-toe boots, steel mesh glove (covered with disposable glove)
Procedure:	Continue lifting carcass until front legs clear the floor. (If animal is particularly long, use s-hooks to raise front legs so they do not touch the floor.) If needed, keep the neck tray under the carcass to prevent the neck from touching the floor. Make a cut along the midline of the abdominal wall starting at the pelvic area down to the sternum. If possible, hold the knife with the blade to the outside to prevent accidental puncture of the intestines. Otherwise, use a mesh-gloved hand to protect the intestines while the abdominal cut is made. Use downward pressure on the rumen and cut the tissue along the spine while pulling contents forward and out. The weight of the viscera assists in its removal. Remove the liver and kidneys and place on the inspection table. Cut the diaphragm and remove the contents of the thoracic cavity. Place the heart on the inspection table and the remaining pluck on the floor.
Deviations	Improper evisceration may cause contamination. Any contamination which occurs will be trimmed.

Shaving and Eviscerating (Pigs & Wild Boar) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure pig is clean and all hair removed prior to evisceration and to remove viscera in a way which prevents contamination.
Frequency:	Each pig carcass
Equipment:	Skinning knife or bell scraper, small propane torch, legging knife
Safety Equipment:	Hard hat, steel-toe boots, mesh glove (covered with disposable glove)
Procedure:	Wash foam and loose hair from scalded/dehaired carcass after removal from scalding/dehairing unit. Use skinning knife or bell scraper to completely remove all remaining hair. Singe fine hairs with hand-held propane torch paying particular attention to hair in ears and around eyes and snout for heads that will be kept for human consumption. Completely wash carcass from hind feet to head while scraping to remove all foreign material. Split brisket by inserting knife 3-finger-width below last nipple and cut through sternum towards the stick hole. For boars or barrows, dissect the pizzle and sheath free while being careful not to apply pressure to or cut the preputial pouch and remove entire structure at base. Divide the hams down the centre of the medial juncture to the pelvic bone. Split the aitch bone with the tip of the knife to ensure not to cut the bung. Loosen the bung by pointing the tip of the knife downward and around the anus (and vulva in gilts). Pull

	the rectum forward and out. Insert the knife so the blade points outwards and split the abdominal wall down the midline to connect to the sternum. Flip the knife and continue the split on either side of the trachea to the bottom of the chin. Grasp the viscera and support the intestines with the forearm while separating viscera from kidneys. Use the knife to sever the blood vessel near the top of the liver and roll stomach and intestines forward and out. Remove the liver and kidneys and place on inspection table. Cut around the diaphragm and pull the pluck downward while making two cuts, one on either side of the first ribs, to free the pluck. Cut down the inside of the jawbone and free the tongue. Place the entire pluck with tongue on the inspection table. Release the leaf fat by inserting fingers beneath the layer of fat where it adheres to the abdominal wall near the diaphragm. Pull the fat slowly up and out and leave it attached at the pelvis.
Deviations	Inadequate cleaning and scraping can result in skin that is not suitable for human consumption. Improper evisceration may cause contamination of the carcass which must be trimmed.
Records	Slaughter record form

Skinning & Eviscerating (Sheep or Goats) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure sheep or goat is skinned prior to evisceration and to remove viscera in a way which prevents contamination
Frequency:	Each animal (sheep or goat)
Equipment:	Hoist, chains, spreader, knives
Safety Equipment:	Hard hat, steel-toe boots, mesh glove (covered with disposable glove)
Procedure:	**Skinning:** Skin the lower portion of both hind legs, remove at hock, and suspend using sanitized chains from spreader bar on hoist. Start skinning by leaving 1 cm (1/2 inch) of hairless skin around anus. Pull skin from rump, along flanks and over the back using a fist between the hide and carcass to minimize cuts in the tender skin. Turn hide inside out and pull until knee joint is exposed. Cut off and discard front legs at knee joint. The head (with horns) is removed at the atlas occipital joint. **Eviscerating:** Make a midline incision from the pelvis to the sternum. Cut around the anus with a sharp knife. The abdominal organs and thoracic organs may be removed in one operation. Place organs which will be saved for human consumption on the inspection table.
Deviations	Improper skinning may damage valuable hides or meat. Improper eviscerating may cause contamination which must be trimmed.

Splitting (Bison, Yak, Elk, Swine, and UTM cattle) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To split the carcass down the centre of the backbone to expose the complete spinal cord for removal and so that the carcass is evenly split in half.
Frequency:	Each large carcass (except OTM cattle)
Equipment:	Well saw
Safety Equipment:	Hard hat, ear protection, steel-toe boots
Procedure:	Sanitize saw. Place the saw on the aitch bone and saw directly down the midline of the vertebrae of the spine. Check regularly to ensure the feather bones are equal on each side of the split. Continue to saw down to the neck for cattle, elk, or yak at which time they will be placed on rollers on the rail. For pigs, either remove the head as for sheep or goats, or continue the split right through the head, leaving one-half of the head on each side. Wash the saw immediately after splitting and replace on the stand.
Deviations	Improper splitting may cause damage to primals or make it difficult to remove the spinal cord. If the entire spinal cord is not visible, it may be necessary to use the saw to open the centre of the vertebrae so the spinal cord may be completely removed.

Rollers (All Species except Rabbits) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To safely hang the carcass on the rail so it can be moved into the cooler for weighing and chilling.
Frequency:	Each carcass
Equipment:	Rollers (trucks) with hooks, ladder, knife, hoist
Safety Equipment:	Hard hat, ear protection, steel-toe boots
Procedure:	Use a sanitized knife to create an incision between the Achilles tendon and the hind leg bone. Sanitize hooks and rollers before climbing the ladder. Insert hooks from inside to outside. Prevent rollers from touching the carcass while swinging the rollers up onto the rail. When rollers are firmly seated on the rail, lower the carcass using the hoist and remove the gambrel.
Deviations	Improper placement of the rollers may cause the tendon to break or the carcass to fall resulting in contamination or possible injury.

Splitting (OTM cattle) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To split the carcass so that the carcass is evenly split in half while removing the spinal column completely.
Frequency:	Each OTM cattle (over thirty months)
Equipment:	Well saw, knife, hoists, neck tray
Safety Equipment:	Hard hat, ear protection, steel-toe boots
Procedure:	Sanitize the Well saw. With carcass on rollers on the rail, reflect meat back from spine on the inside and the outside of the carcass. Place the saw on one side of the aitch bone and saw directly down through the ribs where they attach to the spine. Stop after three ribs (the mid-point) and repeat for the other side. Remove the section of spine from the midpoint to the aitch bone and place in SRM designated container. Make small incisions two ribs below the standard quartering location (2 ribs down) and insert sanitized long hooks. Attach each long hook to hoists front and back. Remove hind quarters and roll out of the way. Use hoist to lift carcass clear of the floor and neck tray to a more convenient cutting height. Continue cutting with Well saw on either side of the spine to completely remove remaining spinal column. Place in SRM designated container. Wash the Well saw immediately after splitting and replace on the stand. Hang front quarters using long hooks on the rail with sanitized rollers and hooks.
Deviations	When OTM cattle carcasses are not being transported, alternate is to stain the spinal column with blue dye and completely remove spinal column as it is cut into primals.

Final Trim, Wash & Lactic Acid Spray SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure the carcass is free of all contamination before entering the cooler.
Frequency:	Each side of each carcass
Equipment:	Water hose, knife, spray bottle with 2% lactic acid solution
Safety Equipment:	Hard hat, steel-toe boots, mesh glove (covered with disposable glove).
Procedure:	Visually inspect the carcass for any contamination that needs to be removed. Lift and check underside of front legs, neck, and all other surfaces of the carcass. Trim to remove blood clots, bone splinters, hair, fecal contamination or any other extraneous material. Pump the front legs several times to remove excess blood from the chuck area. Wash the carcass with hot water working from the top down. Ensure thorough washing particularly of the rump, inside of legs, and the bone dust from splitting. Once meat inspector has completed their inspection, spray 2% lactic acid over all parts of the carcass, wash hands and move carcass into the cooler. Record weight on slaughter record form.
Deviations	Improper washing and/or trimming reduces shelf-life. Retraining on proper procedure to follow if done improperly.
Records	Slaughter record form

Dressing & Evisceration (Rabbit) SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure that rabbits are skinned, eviscerated and cooled in such a way that it is clean and safe for human consumption.
Frequency:	Each rabbit
Equipment:	Slip chain, knife, organ rack, food grade bins
Safety Equipment:	Hard hat, steel-toe boots, mesh glove
Procedure:	Suspend rabbit from hoist using a slip chain on one hind leg. Remove head at occipital joint and three loose paws at carpal joints. Cut skin around hock joint and extend cut across lower part of body. Remove tail and pull skin down and forward over body. Wash carcass. Use a sanitized knife to make a cut around anus and from the lower abdomen to the mid-point of the lowest rib. Remove viscera and pluck and place on inspection table. Wash carcass, apply lactic acid (2%) and hang on organ rack in cooler for initial cooling. When chilled, move to food grade containers within the cooler for transport.
Deviations:	Improper skinning/eviscerating may cause contamination remaining on the carcass. Remove contamination and retrain on proper procedure.
Verification:	Slaughter record form

Demobilization SOP

Yukon Mobile Abattoir

Responsibility:	Operator
Purpose:	To ensure sensitive equipment is protected from power surge and water lines and valves are protected from ice formation.
Frequency:	Each slaughter day
Equipment:	Phillips screwdriver
Safety Equipment:	none
Procedure:	Check fuel levels in generator and propane tank. Fill if necessary. Open both hot and cold water taps on wall in processing room. Shut off and unplug on-demand water heater and water pump. Shut off generator. Open all drain valves to drain water tanks and water pressure pump. **In addition, when temperatures are expected to fall below 0°C:** Remove and drain 3 hoses attached to foot control valves of the hand wash sink in processing room. Pull lines away from the shelf to allow complete drainage. Remove spray nozzle and shake to empty of water. Hang on edge of sink. Disconnect bungee cord from ceiling and stretch out curly hose to completely drain. Disconnect and drain water intake lines and back-flow

	prevention valves.
Deviations	If water is left in any lines when freezing temperatures occur, ice can build up in lines causing rupture or preventing water from flowing. Power fluctuations which occur when generator is stopped or started can damage sensitive electronics in the on-demand water heater.

MSDS for Sanitizing Agents

Material Safety Data Sheet - BLEACH

#1700, 407 2ND STREET S.W., CALGARY, ALBERTA T2P 2Y3
TELEPHONE: (403) 269-2242 FAX: (403) 269-2251
1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – ChExSS – Chemical Exposure

SECTION 1: IDENTIFICATION OF PRODUCT

Product Name: BLEACH
Chemical Family: Hypochlorite Solution
WHMIS Classification: E Workplace Hazard: Corrosive liquid
Product Use: Bactericide
TDG Classification: 8
Packaging Group: III
PIN: UN1791

SECTION 2: HAZARDOUS INGREDIENTS

Ingredients Percent CAS Number LD_{50} (Rat/Oral) LC_{50} (Rat/Inhal)
Sodium Hypochlorite, Solution 7 – 13 7681-52-9 8910 mg/kg >10,000 mg/mÑ

SECTION 3: TOXICOLOGICAL PROPERTIES

Route of entry: Skin Eye Contact Inhalation Ingestion
Effects of acute exposure: Not available
Effects of chronic exposure: Not available
Exposure limits: Not available
Irritancy of product: Causes irritation of the mouth, nose and throat. Repeated and/or prolonged exposures may cause productive cough, running nose, bronchopneumonia, pulmonary edema and reduction of pulmonary function. If mixed with acids or warmed to temperatures greater than 40 degrees Celsius, Sodium hypochlorite solutions release chlorine gas. This gas can cause severe irritation of the nose and throat. Exposures to high levels of chlorine gas may result in severe lung damage.
Sensitization to product: May cause dermatitis, prolonged or repeated contact may cause skin sensitization.
Carcinogenicity: Not carcinogenic based on current evidence
Reproductive toxicity: Not a reproductive toxin based on current evidence
Teratogenicity: Not teratogenic based on current evidence
Mutagenicity: Not mutagenic based on current evidence
Name of toxicological synergistic products: No information available

SECTION 4: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash skin with water for at least 30 minutes, using soap if available. Obtain medical attention immediately
Eye contact: Wash eyes with water for a minimum of 20 minutes or until no evidence of the chemical remains. Hold eyelids open during flushing. Seek immediate medical attention.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion: Rinse mouth with water. Do not induce vomiting. Immediately dilute by drinking large quantities of water. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

SECTION 5: PHYSICAL DATA

Physical state: Liquid

Appearance and odour: Green to yellow – clear solution, strong chlorine odour
Odour threshold: Not available
Specific gravity: 1.17
Vapor pressure (mmHG): 12.1 @ 20°C
Vapor density (Air=1): Not available
Evaporation rate: Not available
Boiling point (°C): Not available
Freeze/Melting point (°C): -15
pH: <12
Co-efficient of water/oil distribution: Soluble in water

SECTION 6: FIRE AND EXPLOSION DATA

Conditions of flammability: Not flammable
Means of extinguishing: Use extinguishing media appropriate for surrounding fire, DO NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents) since an explosive compound can be formed.
Flash point: Not available
Upper flammable limit: Not available
Lower flammable limit: Not available
Auto-ignition temperature: Not available
Hazardous combustion products: No information available
Explosion data-sensitivity to mechanical impact: Not available
Explosion data-sensitivity to static discharge: Not available

SECTION 7: REACTIVITY DATA

Chemically unstable (conditions): Unstable.
Product incompatible with: Unstable at temperatures above 40°C, and in contact with acid. Incompatible with strong acids, ammonia, oxidizable materials, nickel, copper, tin and iron.
Conditions of reactivity: Elevated temperatures and contact with incompatible materials.
Hazardous decomposition products: Chlorine (by reaction with acids), oxygen (by reaction with nickel, copper, tin, manganese, iron) sodium chlorate with increased temperature. Solutions decompose when exposed to sunlight giving off oxygen gas. However, the amount of oxygen produced us not sufficient to cause combustion.

SECTION 8: PREVENTATIVE MEASURES

Personal protective equipment: Wear a NIOSH approved full face piece respirator for acid gases or a self-contained breathing apparatus for air concentration levels up to 5 ppm. NIOSH approved supplied air respirator when airborne concentrations exceed exposure limits. Impervious gloves. Neoprene, Nitrile or rubber gloves. Neoprene coated apron or chemical resistant clothing. Impervious boots Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Do NOT wear contact lenses.
Specific engineering controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere. Ventilation should be corrosive proof.
Procedures for leak/spills: Absorb with an inert dry material and place in an appropriate waste disposal container. Spilled material may cause floors and contact surfaces to become slippery. Dike and contain land spills; contain water spills by booming. Ventilate area.
Waste disposal: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. Empty containers retain product residue (liquid and/or vapour) and can be dangerous. Do not expose such containers to heat, flame, sparks, static electricity or other sources of ignition; they may explode. Do not dispose of package until thoroughly washed out. Dispose of container according to national or local regulations.
Handling procedures and equipment: Avoid handling when the skin is moist, wet or abraded. Use good personal hygiene. Use appropriate personnel protective equipment. Use with adequate ventilation. Containers, which have been exposed to heat, may be under internal pressure. These should be cooled and carefully vented before opening. When diluting, add this product to water in small amounts to avoid spattering. Never add water to this material.

Storage requirements: Equipment for storage, handling or transportation should not be made of: tin, copper and it alloys, nickel and its alloys and iron. Some metals accelerate the decomposition of Sodium Hypochlorite. Store below 29ºCelsius. Do not freeze. Store in a cool dry, well-ventilated area, away from heat and ignition sources. Store away from organic chemicals, strong bases, metal powders, carbides, sulfides, and any readily oxidizable material. Keep away from direct sunlight. Storage area should be equipped with corrosion-resistant floors, sumps and should have controlled drainage to a recovery tank.
Special shipping information: Not applicable.

SECTION 9: PREPARATION

Date updated: June, 2008
Prepared by: Product Safety Committee
All the recommendations and suggestions herein concerning this product are based upon tests and data believed to be reliable, however it is the user's responsibility to determine the safety, toxicity and sustainability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Q'Max Solutions Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Q'Max Solutions Inc. assume any liability arising out of use by others. Nor is the information herein to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

Material Safety Data Sheet – DISHWASHING LIQUID

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Eco-Friendly Dishwashing Liquid
Manufacturer's Name: Bio Spectra Address: 5605 avenue de Gaspé, Suite 401, Montréal (Québec) H2T 2A4
Phone: 514-509-7225 Emergency phone: CANUTEC : 613-996-6666 Bio Spectra (adm.) : 514-509-7225
MSDS Number: NA
Chemical Name: NA
Chemical Formula: NA
Date of MSDS Preparation: October 23, 2013
Chemical Family: NA
Product Use: Hand dish detergent

SECTION 2: HAZARDS IDENTIFICATION

Low hazard for usual handling.
Delivery state: Viscous liquid
Odour: Characteristic odour
Colour: Semi-transparent gel
Routes of entry: Skin contact
Classification and labelling: None. (Not regulated under WHMIS or EU Directive 1999/45/EC or GHS).
Potential Health Acute Effects:
Inhalation: May cause slight respiratory irritation.
Skin contact: May cause slight irritation.
Eye contact: May cause slight irritation.
Ingestion: May be harmful if swallowed in large quantities.
Potential Chronic Health Effects: None known

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name Concentration (% w/w) CAS Number Toxicity Data LD50 (oral, rat) Toxicity Data LC50 (rat) Water Coco glucoside Myristyl glucoside Lauryl glucoside Sodium chloride Sodium gluconate Sodium citrate Fragrance 60

SECTION 4: FIRST AID MEASURES

Eye Contact: Wash eye with water for 15 minutes immediately after contact. Call a physician.
Skin Contact: Rinse with water if contact occurs. Remove and wash contaminated clothing.
Ingestion: Call a physician immediately.
Inhalation: If symptomatic, move to fresh air. Get physician attention if symptoms persist.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties: Not flammable (> 50% water v/v)
Fire Fighting Instruction: NA
Extinguishing Media: NA
Flash Point & Method: NA
Lower Explosion Limits: NA
Upper Explosion Limits: NA
Autoignition Temperature: NA
TDG Flammability Classification: NA
Hazardous Combustion Products: NA
Mechanical Impact: NA
Rate of Burning: NA
Explosive Power: NA
Static Discharge: NA

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear adequate personal protective clothing and equipment.
Engineering Controls: NA
Leak and Spill Procedures: Small quantities can be flushed to sanitary sewers, if permitted by local regulations.
Waste Disposal: Landfill or flush small quantities to sanitary sewers, if permitted by local regulations.

SECTION 7: HANDLING AND STORAGE

Handling Procedures and Equipment: Avoid contact with eyes. Avoid ingestion.
Fire and explosion protection: Keep away from excess heat, spark and open flames.
Storage Requirements: Store in cool and dry place. Avoid excess heat.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Indication for system design: Ensure adequate ventilation.
Personal protective measures:
Gloves: NA
Respiratory: NA
Eye: Safety glasses
Footwear: NA
Other: NA

SECTION 9: PHYSICAL / CHEMICAL PROPERTIES

Physical State: Liquid
Appearance & Colour: Semi-transparent gel
Odour: Characteristic odour
Specific Gravity: Similar to water
Vapor Pressure: Similar to water
Vapor Density: **Similar to water**
Evaporation Rate: Similar to water
Boiling Point: Similar to water
Freezing Point: Similar to water
VOC Content: ND
Percent Volatiles: ND
pH: 9.5
Density (g/cc): ND
Coefficient of Water / Oil: ND

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable product
Conditions to Avoid: NA
Reactivity / Incompatibility: NA
Hazardous Decomposition: NA
Hazardous Polymerization: NA

SECTION 11: TOXICOLOGICAL INFORMATION

Oral Toxicity Data: (rat, mg/kg)
Dermal Toxicity Data: (rabbit, mg/kg)
Inhalation Toxicity Data: (rat, ppm) LD50 (measured): ND LD50 (measured): ND LC50 (measured): ND LD50 (calculated): > 5 000 LD50 (calculated): > 5 000 LC50 (calculated): ND
Skin and Eye Irritation Data: Irritation to eyes may occur.
Mutagenic Effects Data: NA
Carcinogenic Effects Data: NA
Reproductive Effects Data: NA

SECTION 12: ECOLOGICAL INFORMATION

Acute fish toxicity: LC50 > 100 mg product / L Method: ingredient based calculation Acute bacterial toxicity: EC50 > 100 mg product / L Method: ingredient based calculation Ultimate biodegradation: Readily and rapidly degradable. All organic substances contained in the product achieve >60% BOD/COD or CO2 liberation, or >70% reduction in tests for ease of degradability. Threshold values for “readily degradable” (e.g. OECD method 301) are reached
Waste Disposal: Landfill or flush small quantities to sanitary sewers, if permitted by local regulations. Rinse and recycle bottle, if recommended by local regulation.
Transport information: Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR, CFR and TDG.

SECTION 15: REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR), and the MSDS contains all the information required by the CPR. DSL
Inventory Status: All of its components are currently listed on DSL, as described by Canadian Environmental Protection Act. TSCA 12(b)
Components: None SARA 313
Toxic Chemicals: None SARA 302
Extremely Hazardous Substances: None CERCLA
Hazardous Chemicals: None
WHMIS Hazard Class: None

SECTION 16: OTHER INFORMATION

The information in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or any process. Sources Used: General chemical references found in related MSDS Prepared by: Bio Spectra. Phone : 514-509-7225 Date: October 23, 2013

Legend NA - Not Applicable w/w - weight/weight ND - Not Determined w/v - weight/volume NV - Not Available v/v - volume/volume
The information contained in this Material Safety Data Sheet is provided by Bio Spectra free of charge. While believed to be reliable, it is intended for use at your own risk. Bio Spectra assumes no responsibility for events resulting from, or damages incurred from, its use.

Material Safety Data Sheet – LACTIC ACID

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Lactic acid
Synonyms: 1-Hydroxyethanecarboxylic acid; 2-Hydroxypropanoic acid; 2-Hydroxypropionic acid; Milk acid; DL-Lactic acid; Racemic lactic acid; alpha-Hydroxypropionic acid; 2-Hydroxy-2-methylacetic acid.
Company Identification: Fisher Scientific, 1 Reagent Lane, Fair Lawn, NJ 07410
For information, call: 201-796-7100 Emergency Number: 201-796-7100 For International CHEMTREC assistance, call: 703-527-3887

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

CAS# 50-21-5 lactic acid 85-90% EINECS/ELINCS 200-018-0
CAS# 97-73-4 Lactic anhydride 10-15% EINECS/ELINCS 202-604-1

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Appearance: colourless to slight yellow liquid.
Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns.
Target Organs: Eyes, skin, mucous membranes.
Potential Health Effects
Eye: Causes eye burns. Causes redness and pain. May cause chemical conjunctivitis and corneal damage.
Skin: Causes skin burns. Causes redness and pain.
Ingestion: Causes gastrointestinal tract burns.
Inhalation: Causes chemical burns to the respiratory tract. May cause systemic effects.
Chronic: Chronic exposure may cause effects similar to those of acute exposure.

SECTION 4: FIRST AID MEASURES

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

SECTION 5: FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.
Extinguishing Media: Cool containers with flooding quantities of water until well after fire is out. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: > 112 deg C (> 233.60 deg F)
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available. **Upper:** Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 1

SECTION 6: ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

SECTION 7: HANDLING AND STORAGE

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Store protected from moisture.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits: none listed
Personal Protective Equipment:
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance: colorless to slight yellow
Odour: odourless
pH: <1
Vapor Pressure: 0.0813 mm Hg @ 25ºC
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 122ºC @ 15 mm Hg
Freezing/Melting Point: 17-33ºC
Decomposition Temperature: Not available
Solubility: Soluble.
Specific Gravity/Density:1.2
Molecular Formula: $C_3H_6O_3$
Molecular Weight: 90.08

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Hygroscopic: absorbs moisture or water from the air.
Conditions to Avoid: Excess heat, exposure to moist air or water.
Incompatibilities with Other Materials: Metals, strong oxidizing agents, strong reducing agents, strong bases, nitric acid, iodides.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

RTECS#: CAS# 50-21-5: OD2800000; CAS# 97-73-4 unlisted.; LD50/LC50:; CAS# 50-21-5; Draize test, rabbit, eye: 750 ug Severe; Draize test, rabbit, skin: 5 mg/24H Severe; Draize test, rabbit, skin: 100 mg/24H Moderate; Oral, mouse: LD50 = 4875 mg/kg; Oral, rat: LD50 = 3543 mg/kg; Skin, rabbit: LD50 = >2 gm/kg; CAS# 97-73-4:
Carcinogenicity: CAS# 50-21-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65; CAS# 97-73-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Mutation in bacteria.
Neurotoxicity: No information found
Other Studies: No information found

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Fish: Pseudomonas putida:

SECTION 13: DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. RCRA P-Series: None listed. RCRA U-Series: None listed.

SECTION 14: TRANSPORT INFORMATION

Shipping Name: Corrosive liquid, Acidic, Organic
Hazard Class: 8
UN Number: UN3265
Packing Group: II
Additional Info: N.O.S.

SECTION 15: REGULATORY INFORMATION

Hazard Symbols: C
Risk Phrases: R 34 Causes burns.
Safety Phrases:

- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Canada - DSL/NDSL: CAS# 50-21-5 is listed on Canada's DSL List. CAS# 97-73-4 is listed on Canada's NDSL List.
Canada – WHMIS: This product has a WHMIS classification of E. Canadian Ingredient Disclosure List: CAS# 50-21-5 is listed on the Canadian Ingredient Disclosure List.

SECTION 16: ADDITIONAL INFORMATION

MSDS Creation Date: 9/02/1997
Revision #5 Date: 8/03/2004
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Yukon Mobile Abattoir Procedures Manual

Compiled in 2020

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