

1996 Southampton island caribou harvest

Summary report

1.0 Introduction

This summary report was prepared by _____ with assistance from _____ and representatives of the Department of Economic Development & Tourism who supplied the financial data respecting the 1996 harvest. The purpose of this report is to document in summary form the conduct of the 1996 harvest and to make recommendations to improve the operation from both a financial and logistical perspective. This report is intended for use primarily by the Board of Directors of Tunnuq Harvest Company Ltd. but should also serve as an information base for representatives of Government and the private sector who have an interest and/or involvement in the caribou harvest.

2.0 Background

The first federal export grade harvest of Southampton Island Caribou occurred in the spring of 1995. The organizational characteristics of that harvest were:

- GNWT Department of Renewable Resources was responsible for determining numbers of animals to be harvested
- GNWT Department of Economic Development & Tourism developed the business plan for the project and provided financial assistance and management support
- Agriculture Canada provided meat inspection services
- _____ was contracted to provide project management for the operation of the portable abattoir
- Tunnuq Harvest Company Ltd. was incorporated as the commercial entity responsible for the project
- The product was marketed through Arctic Canada Foods (ACF), a crown corporation like entity of the GNWT.

The results of the 1995 harvest were:

- 2356 animals were harvested and approximately 120,000 lbs. of streamlined carcasses were shipped to market
- The harvest was conducted over 35 harvest days and an average of 127 animals were harvested per day
- The price paid was \$3.00/lb. less ACF commissions and trim check adjustments
- Project benefits accrued as follows -- 27% local employment/contract services, 72% total Territorial benefits of which 28% went to contractors from southern Canada
- The 1995 operation accrued a \$245,642.00 loss.

The 1995 harvest was successful in many areas:

- The final product (streamlined carcasses) was deemed to be excellent quality
- Jobs were created in an area where traditional skills were required
- The groundwork was laid for continuing and improving the operation of a portable abattoir.

From a local Coral Harbour perspective, there were also some short comings to the 1995 operation:

- Too much emphasis was placed on “outside expertise” for project planning and management

- The employment benefits accruing locally were low in comparison to the contract fees paid to
- Insufficient consideration was given to the weight of equipment purchased -- many equipment items are too heavy to allow for efficient mobility
- Some of the equipment purchased could have been rented locally which would benefit both the project (less capital investment, reduced maintenance responsibility) and the residents of Coral Harbour (income from rentals, etc.).

2.1 Management Restructure

During the process of organizing for the 1996 harvest, the Aiviit HTO and Tunnuq Harvest Company Ltd. made significant changes in an effort to increase the level of local control over the project and the benefits accruing to residents of Coral Harbour. Changes of note include:

- The HTO formally conferred management authority to Tunnuq Harvest Company Ltd. and the following interim Board of Directors was appointed
- Tunnuq contracted the services of _____ as advisors
- _____ services were terminated and _____ of Grandview Farms was retained to manage the abattoir and train local residents for the operation of the abattoir
- ACF was replaced by Grandview Farms as the marketing agent for the harvest.

Although the 1996 operation was characterized by many tense moments and “panic” situations the harvest did proceed to a relatively successful conclusion.

3.0 1996 Operation

In the sections that follow, the 1996 operation is reviewed and where appropriate recommendations are made for consideration by the Tunnuq Board of Directors and representatives of Government having an interest in the project.

3.1 Marketing Arrangements

During January through March of 1996, Tunnuq representatives, with assistance from Economic Development & Tourism staff, made a concerted effort to negotiate acceptable terms with ACF for the proceeds of the 1996 harvest. These efforts did not result in a sales agreement because:

- Tunnuq could not accept the net price (price/lb. less commission = \$2.85/lb.) offered by ACF
- Tunnuq could not accept ACF’s position that a trim check adjustment would be made by the final buyer -- this was viewed as an open ended provision
- Tunnuq could not accept responsibility for storage charges at the final destination
- Tunnuq was predisposed to finding an alternate buyer because of dissatisfaction with the approach taken by ACF.

During the same period, Tunnuq explored other marketing options including a sale to Scandia Mat Canada -- this sales agreement could not be concluded because of federal inspection problems with the export of streamlined carcasses to an ECU country (Sweden). Finally, a sales agreement was concluded with Grandview Farms, an Ontario Company specializing in wild game products. The essential terms of the Grandview sales agreement were:

- A price of \$3.05/lb. and no provision for commissions nor trim check adjustments
- A test marketing arrangement for remnant parts
- Provision of project management services by Grandview as to the operation of the abattoir -- price = \$15,000
- Provision for training of local people in the operation of the abattoir
- The posting of a \$150,000 letter of credit by Grandview to assist Tunnuq with securing an operating line of credit
- A formula for Tunnuq being paid the full value of the product shipped to Grandview on a time payment basis.

Compared to the 1995 sales agreement with ACF the 1996 sales agreement offered significant advantages:

- Net price \$0.20/lb. higher than that offered by ACF
- Additional revenues from the sales of remnant parts
- Provision of management services at a cost significantly lower than that incurred in 1995
- A commitment to training local residents in all aspects of the abattoir operation
- No hidden and open ended deductions for storage fees, trim check adjustments and the like.

Disadvantages of the Grandview sales agreement were:

- Tunnuq had to secure an operating line of credit were as ACF was prepared to fund a line of credit of \$150,000 -- this disadvantage is offset to a large extent by the posting of a letter of credit by Grandview
- Payment to Tunnuq is made over time and thus Tunnuq absorbs the cost of carrying a line of credit for some months.

Marketing Recommendations

1. *Proceed to negotiate terms & conditions of a sales and project management agreement with Grandview Farms for the 1997 harvest year*
2. *Consider the advantages and provisions of a longer term sales agreement to provide stability to the relationship and to provide the confidence necessary for Grandview to aggressively pursue market alternatives*
3. *Do not in the short term consider alternate marketing arrangements (i.e. ACF) unless satisfactory terms can not be negotiated with Grandview -- Tunnuq's energies would be better focused on solving managerial and operational problems.*

3.2 Project Management

The Southampton Island Caribou harvest involves a number of Government and private sector entities coordinating their efforts to meet the demands of a challenging project -- challenging from a logistics and people coordination perspective. As Tunnuq assumes an ever greater degree of control over the project, it will be necessary for relationships with the various Government Departments involved to change and adapt to current circumstance and capability. Encouraging the development and ultimate expansion of Tunnuq must be viewed as a priority by all involved.

For Tunnuq to assume an ever increasing degree of control and independence from Government and private sector assistance, the management capabilities of the organization will require development. By all accounts, Tunnuq performed admirably given the tight time frames and logistical problems faced during the 1996 harvest. However, some shortcomings, largely related to attention to administrative detail, have been sighted by outside participants in the process.

For the immediate term, it is assumed, and likely necessary, that the various Governmental agencies involved in the project will continue to have a presence. As well, over the long term the roles of GNWT, Renewable Resources and Agriculture Canada will remain, although the emergence of the public Government of Nunavut creates some uncertainty with respect to the GNWT, Department of Renewable Resources.

Finally, it should be anticipated that over the near term (2 to 3 years) the management of the abattoir will require the contracting of outside expertise (e.g. the function performed by _____ in 1996).

Recommendations Respecting Project Management

- 1. Formalize the relationship of Tunnuq with the HTO so that the commercial aspects of the HTO's activities fall within the purview of Tunnuq*
- 2. Confirm the appointment of the Tunnuq Board of Directors and amend the articles of incorporation as necessary to achieve a sound legal corporate structure*
- 3. Make provision for key staff and advisory appointments to be fairly compensated for their time*
- 4. Secure the services of _____ with respect to abattoir management and staff training for a minimum of 2 to 3 years*
- 5. Convene a workshop/working group comprising representatives of Tunnuq, _____, GNWT Renewable Resources, GNWT Economic Development & Tourism and possibly Agriculture Canada to discuss shortcomings and formulate strategies to overcome those shortcomings in future*
- 6. Develop a monitoring and evaluation mechanism to track progress and identify performance targets and the achievement of same.*

3.3 Operational Considerations

The following sections highlight specific operational aspects associated with the harvest and identify recommendations for improvement.

3.3.1 Timing of Harvest

Ideally, harvest operations would commence in mid winter (i.e. mid to late February). However, organizational constraints delayed the start of the 96 harvest until the later part of March. Never-the-less, the 1996 harvest lasted 30.5 days, with 20 days of harvest, 10 days where operations were shut down because of weather and 0.5 days where operations were suspended because of other operational difficulties. Further, during the 20 days of full operation, a majority of those operable days were during less than optimal weather conditions -- GPS navigation allowed hunting during fog, white out conditions, snow without wind and blowing snow.

Recommendations Respecting Timing of Harvest

Start operations by mid February to maximize probability of satisfactory weather conditions and to allow a maximum cushion to extend operations as necessary to achieve harvest goals.

3.3.2 Selection of Site

Criteria used in siting the harvest camp include:

- A high animal population density within 16 kilometer radius of camp -- essential as animals require delivery to streamlining facility at camp within one hour of kill
- The site has to be on a lake for access to water
- The site should be no further than 64 kilometers from Coral Harbour to allow for relatively efficient transportation of equipment and animals to and from camp
- If possible, the route from town to campsite, and the 16 kilometer radius from campsite, should be relatively free of rocks to minimize wear of snowmobiles and kamotiks.

Ideally, the site used in 1995 would have been used again. However, during the animal reconnaissance period prior to mobilization, the 1995 site was found to have a low animal population density -- explanations for this might be snow conditions, instinctive animal movement because of population pressures or the presence of wolves in the area. Thus, a site to the northwest was selected and it can safely be concluded that the relatively low numbers harvested in 1996 is attributable to a combination of low animal population density in the area and very adverse weather conditions during the harvest period.

Recommendation Respecting Site Selection

Pre mobilization reconnaissance should be done by hunters involved in previous years harvests as their experience in assessing the density of animals, surrounding conditions and other factors critical to efficient operations will maximize the probability of selecting a "good" site. This reconnaissance should proceed well in advance of proposed operational start dates.

3.3.3 Mobilization

Mobilization of the portable camp requires an intense period of work much of which appears unnecessarily repetitive -- floor modules for tents are built, transported and assembled at the campsite which in turn leads to disassembly, transportation and storage at demobilization. This area of the operation can and should be improved, especially as regards the floor system, to allow for a much more efficient start and finish to the operation.

In 1996, mobilization occurred from March 1 through March 13 and involved 136 man days to complete.

Recommendation Respecting Mobilization

Complete floor modules, not requiring additional assembly or disassembly, suitable for repeated use, should be built for each tent. The floor modules should be equipped with air barriers, painted with a high grade floor paint to minimize contamination and possibly insulated.

3.3.4 Generator & Abattoir heater

Weight and shear volume of supplies and equipment overwhelm the mobilization and demobilization crew. The gen set and abattoir heaters require 8 men each to place into the power/heater house which is constructed, and subsequently dismantled at demobilization, on site.

Recommendation Respecting Generator & Abattoir Heater

A permanent power/heater house should be built on a skid and the gen set and heater should be permanently mounted inside -- hauling a complete unit would require two or three snowmobiles but would greatly reduce annual labor requirements and improve efficiency in mobilization and demobilization.

3.3.5 Kitchen Improvements

The kitchen/dining facility is a steel frame with a canvas covering -- the canvas overlaps section over section. Wind penetrates this canvas covering causing temperatures inside the facility to be uncomfortably cold, even in early spring. With future operations being scheduled for a mid winter start, it is likely that the existing kitchen tent will be unsuitable.

Recommendation Respecting Kitchen Tent

The kitchen tent should be replaced with a weatherhaven tent which is much better than the existing facility in terms of insulation and durability. has a large weatherhaven previously used as an abattoir tent -- this tent could be expanded and altered to be suitable for a dining/kitchen facility.

3.3.6 Shower facility

The camp requires a shower facility to improve peoples stay at camp and eliminate quick trips, which often result in an overnight stay at home and a manpower shortage at early morning startup, 40 miles across the tundra. Agriculture Canada recommended this for the 1996 harvest but this recommendation could not implemented.

Recommendation Respecting Shower Facility

A shower facility should be purchased prior to the next harvest.

3.3.7 Camp Maintenance

Camp maintenance includes refueling of tanks for space heaters on a daily basis. The fuel is hauled by contract haulers from town to camp. The tanks for the heaters are filled from 45 gal. drums, a difficult task as the heavy drums have to be rolled up snow banks.

Camp clean-up involves piling garbage nearby the kitchen and then hauling the garbage to town. Water is drawn from the lake by way of pitcher and bucket almost constantly to keep up with demand. This creates an excessive burden on the camp maintainer.

Recommendations Respecting Camp Maintenance

- 1. To improve fuel handling efficiency, a small sled should be built to accommodate hauling drums near the fuel tanks. As well, the fuel transfer pumps should be equipped with a long fill hose to reduce the amount of handling of fuel drums*
- 2. The contract fuel haulers should be given the responsibility of refueling the various fuel tanks at camp. This would free up the camp maintainer to other important aspects of the operation (i.e. filling in for absent processing workers)*
- 3. Garbage should be sorted to burnables and non burnables to minimize the amount of garbage hauled to town.*

A system should be developed to draw water for the camp. A small water pump, self priming and located in the power house, would seem worthy of experimentation. The inlet hose must be designed for immediate draining after use to prevent freezing.

3.3.8 Streamlining Process

There are two key components in the production of caribou in streamline form:

- The flow of animals supplied by hunters
- The efficiency of streamline processors (abattoir workers) -- for a detailed review and recommendations regarding the actual streamlining process please refer to report titled "Tunnuq Caribou Harvest, 1996"

It is difficult to coordinate the delivery of animals to the abattoir as the success per hunt ratio varies greatly per individual hunter. However, the efficiency of hunters as a team can and should be improved by considering the elements involved in hunting success. Further, it is imperative that a steady flow of animals be received at the abattoir -- not a bunching of animals all at once.

A second area of difficulty in minimizing the discrepancies of animals supplied by hunters is the rate of pay for hunter services. Although the more successful hunters receive greater pay -- pay is calculated on a per diem basis for equipment and on a per animal basis for animals delivered to the abattoir -- hunters with a low daily kill rate still receive moderate to high incomes. This system appears to be a disincentive to achieving high numbers of kills per day while costs to Tunnuq are high because each hunter, whether producing or not, basically consumes the same level of gasoline for snowmobiles.

Rejection of animals occurs primarily because of poor placement of the shot. Gut shot animals are of little value and cost more to dress than can be recovered. Poor shots also are a factor in the discrepancies of kill rates among hunters. This issue should be addressed in combination with that identified above related to the hunter payment system.

Recommendations to Improve Production of Streamlined Carcasses

1. *Hunters equipment (snowmobile, kamotik and rifle) should be maintained in optimum condition.*
2. *Make of rifle scope should be standardized to meet or exceed the quality offered by one of the better manufacturers (i.e. Leupold)*
3. *Hunters should be encouraged to own and know how to use a GPS (perhaps a training program should be arranged locally).*
4. *A system should be instituted to track which animal is delivered by which hunter (i.e. a tagging system)*
5. *The use of hunter services should be based on a minimum performance level (minimum kill level as a function of time). Hunters not maintaining that standard of performance, recognizing the learning curve associated with bringing on a new or less experienced hunter, should be replaced.*
6. *Shooting success could be improved by instituting a limit minimum per batch of ammunition policy where hunters would be charged for using more ammunition than that set by policy -- this would control and hopefully decrease ammunition expenses.*

3.3.9 Packing & Transportation of Product and Supplies

Caribou, in streamlined form, are packaged along with a tag certifying Agriculture Canada approval in plastic meat grade bags at the final stage of the abattoir. The packaged product is then laid on tarps on the ground by the packers. When the contracted meat haulers arrive at camp, the product is then packed in a tarp lined aluminum bin mounted on a kamotik, transported over the tundra and then repacked into combo bins at the airport. Difficulties associated with this process include:

- The food grade plastic bags tend to fall apart because of the cold temperature causing a contamination risk and loss of Agriculture Canada tag

- While laying on the ground, the packaged product is subject to burial resulting from blowing snow
- The combo bins at the airport are subject to snow contamination because they are not properly warehoused
- Double handling of meat increases labor time and costs

Recommendations Respecting Transportation of Meat

1. *New packaging material, able to withstand the cold, should be obtained*
2. *More aluminum bins should be purchased so that packaged meat can be packed immediately at the end of the final stage of processing, eliminating risk of burial by snow and double handling of meat at this stage*
3. *A warehouse should be erected at the airport and the existing warehouse in Coral Harbour should be relocated to the airport*

The process of resupply of basic camp items was informally delegated to the meat haulers on the pickup leg when the haulers went to camp with no load. The problem encountered was that most times the haulers forgot to purchase supplies for the camp as it was an annoyance with no increase in pay for the task.

Recommendation Respecting Camp Resupply

Contract haulers duties and rate of pay should be adjusted to include camp resupply.

3.3.10 Demobilization

1996 demobilization occurred from April 30 to May 11 and took 85 man days to complete. The first difficulty encountered during demobilization was snow buried tents and equipment. A great deal of time was spent shoveling snow and locating equipment. By the time each tent was recovered, a crater 10 feet deep remained.

The second major problem encountered was recovery of the floor modules. During mobilization floor modules were laid on the ice for ease of leveling. Subsequently, heat from the tents melted the ice directly beneath the floor and in the end, the floors were frozen fast to the lake.

Authority at camp was undermined as the demobilization crew was not made aware of a change of foremen for the demobilization stage. With authority in question, some difficulty was encountered in delegation of duties and in the end, several of the demobilization crew members walked off the job.

Weight of equipment was a major factor in the efficiency of the demobilization process as was the case in mobilization.

Finally, inadequate storage facilities in Coral Harbour, some floor modules and empty propane cylinders had to be stored outside, necessitated inefficient storage of equipment -- this has obvious implications for mobilization.

Recommendations Respecting Demobilization

1. *Equipment at camp should be stored in one area as much as possible if indoor storage is not feasible*
2. *6x6 beams should be utilized for placement of floors to prevent direct contact with ice and eliminate risk of floor freezing onto lake*

- 3. In future, all capital replacements should be purchased on the basis of weight as a high priority factor in the purchase decision*
- 4. Acquire additional storage at the airport, to allow for storage of meat prior to delivery by air and for storage of equipment at the final stage of harvest operations*
- 5. Demobilization roles and responsibilities should be clearly stated to crew to prevent any question on management authority.*

4.0 Financial Aspects of 1996 Operation

An operating statement, as prepared by _____, ED&T, for the 1996 harvest is presented below. It is important to note that the \$50,000 cash surplus has been calculated on the basis of an additional \$75,000 from the Department of Renewable Resources -- this funding was advanced by Renewable Resources but is actually an advance on their contribution for 1997. As well, the statement is based on projections to December 31, 1996 and thus may require adjustment as final receipts and disbursements are accounted for.

From an overall perspective and in consideration of the reduced volume experienced because of bad weather, the financial aspects of the 1996 operation should be viewed as favorable. As can be expected, the largest single expenditure is freight and the second largest is contract fees. It is important to recognize that the contract fees did not all flow to outside contractors but rather, with the exception of \$15,000 paid to Grandview Farms, this category represents payments to local contract personnel.

Recommendations Respecting Finance

- 1. From an operational perspective it is imperative that Tunnuq maintain daily records that provide an accurate and up-to-date picture of the financial aspects of the operation to this end, Tunnuq's bookkeeper should receive support/training as necessary to maintain an accurate record..*
- 2. Arrangements with the bank for an operating line need to be confirmed well in advance of the commencement of operations to prevent the situation of 1996 where NSF checks were issued.*
- 3. Although the assistance of ED&T staff is appreciated, it will be necessary for the financial function to be taken locally in due course. This process (it may be a year or two in duration) should be initiated on a phased basis (i.e. ED&T involvement but transfer expertise locally) for 1997.*

TUNNUQ HARVEST OPERATING STATEMENT
1996 Federal Caribou Harvest
(projected to Dec. 31, 1996)

RECEIPTS:

Grants & contributions	284,000
Sales	323,300
Other income (backhaul)	<u>38,881</u>
TOTAL RECEIPTS	646,181

DISBURSEMENTS:

Administration	3,637
Professional Fees	2,702
Liability Ins.	3,154
Comm Exp	81
Honoraria	2,275
Interest & Bank Charges	<u>5,000</u>
Sub-Total	16,849
Supplies	22,645
Equip rental	38,850
Salaries & benefits	78,524
Contract fees	111,649
Travel & Accom	31,283
Food	19,797
Inspection	4,811
Fuel & oil	24,070
Repairs & Maintain	1,937
Packaging	12,781
Misc.	<u>1,500</u>
Sub-Total	348,029
Freight on meat	155,128
Equipment purchase	51,249
Freight on equip purchase	<u>25,000</u>
Sub-Total	231,377
TOTAL DISBURSEMENTS	596,255
CASH BALANCE	49,926

5.0 View to the future

The potential and opportunities offered to residents of Coral Harbour through the operation of Tunnuq Harvest Company Ltd. can and should be increased. In addition to the caribou harvest operation Tunnuq should explore other revenue producing activities such as sport hunting, fishing, etc. By taking an expanded view to the future of Tunnuq the company would be in a better operational position because activities would be year round not just a short burst for the caribou harvest -- year round operations would allow for continuity of staff and company management and additional local employment, etc.

Recommendations Respecting a View to the Future

- 1. Tunnuq should continue to improve efficiency of harvest field operations*
- 2. The possibility of a final processing facility in Coral Harbour should be examined.*
- 3. Local individuals should receive training in processing operations*
- 4. By products should be marketed aggressively*
- 5. The feasibility of other commercial ventures should be explored with a view to utilizing the equipment owned by Tunnuq to develop other operations (e.g. sport fishing camp)*
- 6. Capital improvements should be prioritized and funding allocations identified to phase in capital improvements over a period of time that conforms to cash availability.*

6.0 Summary of Recommendations

Marketing Recommendations

- 1. Proceed to negotiate terms & conditions of a sales and project management agreement with Grandview Farms for the 1997 harvest year*
- 2. Consider the advantages and provisions of a longer term sales agreement to provide stability to the relationship and to provide the confidence necessary for Grandview to aggressively pursue market alternatives*
- 3. Do not in the short term consider alternate marketing arrangements (i.e. ACF) unless satisfactory terms can not be negotiated with Grandview -- Tunnuq's energies would be better focused on solving managerial and operational problems.*

Recommendations Respecting Project Management

- 1. Formalize the relationship of Tunnuq with the HTO so that the commercial aspects of the HTO's activities fall within the purview of Tunnuq*
- 2. Confirm the appointment of the Tunnuq Board of Directors and amend the articles of incorporation as necessary to achieve a sound legal corporate structure*
- 3. Make provision for key staff and advisory appointments to be fairly compensated for their time*
- 4. Secure the services of _____ with respect to abattoir management and staff training for a minimum of 2 to 3 years*
- 5. Convene a workshop/working group comprising representatives of Tunnuq, Grandview Farms, GNWT Renewable Resources, GNWT Economic Development & Tourism and possibly Agriculture Canada to discuss shortcomings and formulate strategies to overcome those shortcomings in future*
- 6. Develop a monitoring and evaluation mechanism to track progress and identify performance targets and the achievement of same.*

Recommendations Respecting Timing of Harvest

Start operations by mid February to maximize probability of satisfactory weather conditions and to allow a maximum cushion to extend operations as necessary to achieve harvest goals.

Recommendation Respecting Site Selection

Pre mobilization reconnaissance should be done by hunters involved in previous years harvests as their experience in assessing the density of animals, surrounding conditions and other factors critical to efficient operations will maximize the probability of selecting a “good” site. This reconnaissance should proceed well in advance of proposed operational start dates.

Recommendation Respecting Mobilization

Complete floor modules, not requiring additional assembly or disassembly, suitable for repeated use, should be built for each tent. The floor modules should be equipped with air barriers, painted with a high grade floor paint to minimize contamination and possibly insulated.

Recommendation Respecting Generator & Abattoir Heater

A permanent power/heater house should be built on a skid and the gen set and heater should be permanently mounted inside -- hauling a complete unit would require two or three snowmobiles but would greatly reduce annual labor requirements and improve efficiency in mobilization and demobilization.

Recommendation Respecting Kitchen Tent

The kitchen tent should be replaced with a weatherhaven tent which is much better than the existing facility in terms of insulation and durability. Tunnuq Harvest Company has a large weatherhaven previously used as an abattoir tent -- this tent could be expanded and altered to be suitable for a dining/kitchen facility.

Recommendation Respecting Shower Facility

A shower facility should be purchased prior to the next harvest.

Recommendations Respecting Camp Maintenance

- 1. To improve fuel handling efficiency, a small sled should be built to accommodate hauling drums near the fuel tanks. As well, the fuel transfer pumps should be equipped with a long fill hose to reduce the amount of handling of fuel drums*
- 2. The contract fuel haulers should be given the responsibility of refueling the various fuel tanks at camp. This would free up the camp maintainer to other important aspects of the operation (i.e. filling in for absent processing workers)*
- 3. Garbage should be sorted to burnables and non burnables to minimize the amount of garbage hauled to town.*

A system should be developed to draw water for the camp. A small water pump, self priming and located in the power house, would seem worthy of experimentation. The inlet hose must be designed for immediate draining after use to prevent freezing.

Recommendations to Improve Production of Streamlined Carcasses

- 1. Hunters equipment (snowmobile, kamotik and rifle) should be maintained in optimum condition.*
- 2. Make of rifle scope should be standardized to meet or exceed the quality offered by one of the better manufacturers (i.e. Leupold)*
- 3. Hunters should be encouraged to own and know how to use a GPS (perhaps a training program should be arranged locally).*
- 4. A system should be instituted to track which animal is delivered by which hunter (i.e. a tagging system)*

5. *The use of hunter services should be based on a minimum performance level (minimum kill level as a function of time). Hunters not maintaining that standard of performance, recognizing the learning curve associated with bringing on a new or less experienced hunter, should be replaced.*
6. *Shooting success could be improved by instituting a limit minimum per batch of ammunition policy where hunters would be charged for using more ammunition than that set by policy -- this would control and hopefully decrease ammunition expenses.*

Recommendations Respecting Transportation of Meat

1. *New packaging material, able to withstand the cold, should be obtained*
2. *More aluminum bins should be purchased so that packaged meat can be packed immediately at the end of the final stage of processing, eliminating risk of burial by snow and double handling of meat at this stage*
3. *A warehouse should be erected at the airport and the existing warehouse in Coral Harbour should be relocated to the airport*

Recommendation Respecting Camp Resupply

Contract haulers duties and rate of pay should be adjusted to include camp resupply.

Recommendations Respecting Demobilization

1. *Equipment at camp should be stored in one area as much as possible if indoor storage is not feasible*
2. *6x6 beams should be utilized for placement of floors to prevent direct contact with ice and eliminate risk of floor freezing onto lake*
3. *In future, all capital replacements should be purchased on the basis of weight as a high priority factor in the purchase decision*
4. *Acquire additional storage at the airport, to allow for storage of meat prior to delivery by air and for storage of equipment at the final stage of harvest operations*
5. *Demobilization roles and responsibilities should be clearly stated to crew to prevent any question on management authority.*

Recommendations Respecting Finance

1. *From an operational perspective it is imperative that Tunnuq maintain daily records that provide an accurate and up-to-date picture of the financial aspects of the operation to this end, Tunnuq's bookkeeper should receive support/training as necessary to maintain an accurate record..*
2. *Arrangements with the bank for an operating line need to be confirmed well in advance of the commencement of operations to prevent the situation of 1996 where NSF checks were issued.*
3. *Although the assistance of ED&T staff is appreciated, it will be necessary for the financial function to be taken locally in due course. This process (it may be a year or two in duration) should be initiated on a phased basis (i.e. ED&T involvement but transfer expertise locally) for 1997.*

Recommendations Respecting a View to the Future

1. *Tunnuq should continue to improve efficiency of harvest field operations*
2. *The possibility of a final processing facility in Coral Harbour should be examined.*
3. *Local individuals should receive training in processing operations*
4. *By products should be marketed aggressively*
5. *The feasibility of other commercial ventures should be explored with a view to utilizing the equipment owned by Tunnuq to develop other operations (e.g. sport fishing camp)*
6. *Capital improvements should be prioritized and funding allocations identified to phase in capital improvements over a period of time that conforms to cash availability.*

