PRACTICAL GUIDE FOR THE DISMANTLEMENT, CLEAN-UP AND REMEDIATION OF OUTFITTING CAMPS ON THE JBNQA/NEQA TERRITORY

July 2019

Kativik Regional Government
Renewable Resources, Environment, Land and Parks Department

TABLE OF CONTENTS

INTRODUCTION

The desire for a Practical Guide such as the present one came in the context of the implementation of the 2018 Quebec Northern Vitality Strategy (the "**Strategy**") by Makivik Corporation ("**Makivik**"), the Naskapi Development Corporation ("**NDC**"), and the Naskapi Nation of Kawawachikamach ("**NNK**"), as privileged actors regarding the dismantlement, clean-up and remediation ("**DCUR**") of outfitting mobile camp sites on the JBNQA/NEQA territories (the "**Territory**"). In conjunction with the reception by the Kativik Regional Government ("**KRG**") of a federally awarded envelope, Makivik, the NDC and the NNK have approached the KRG, considering their past experience in the restoration of abandoned mineral exploration sites, to develop a best practice approach regarding DCUR activities on abandoned outfitting camps on the Territory. The present document acts as the comprehensive response to such demand, developed in accordance with past KRG's expertise, and on-going land planning/environment responsibilities.

Mobile outfitting camps were introduced on the Territory in the early 1980's on an experimental basis, under the approval of the Hunting Fishing Trapping Coordinating Committee ("**HFTCC**") by virtue of a 1984-85 resolution, despite the concerns of the Inuit and Naskapi parties regarding potential negative impacts on the natural resources and environment, and on the dilution of their "right of first refusal" regarding new outfitting operations on the Territory. Although those installations, as authorized, were intended to be temporary, mobile shelters in order to follow the migrating caribou herds, as well as easily dismantled after each hunting season to ensure less of a footprint, more often than not permanent type installations were and are still found on these sites. These are currently considered as occupations without right under the Quebec laws and the Hunting, Fishing, Trapping Regime.

Some of these mobile camps are associated with a principal, permanent outfitting camp that possess a land lease agreement entered into with the Ministry of Energy and Natural Resources ("**MERN**"). These permanent camps are typically composed of several buildings that are used as kitchen facilities, bedrooms, bathrooms or equipment storage, as well as a dock and sometimes airstrip, along with heavy equipment on site, such as muskegs, generators, and ATVs.

Today, the Territory is faced with the reality of a diminishing migratory caribou population experienced by the two herds found on the Territory and which can no longer sustain the needs of the Native harvesters and the sport hunters. In 2018, the Québec Government closed the migratory caribou sport hunt on the Leaf River Herd following in the steps of its 2012 decision to close the sport hunt for the George River Herd. Additionally, since 1996, the HFTCC has enacted a moratorium on the establishment of new outfitting operations in Category III lands, thus only the transfer of existing facilities is currently allowed. This has resulted in a cease of operations for a number of outfitters, resulting in various levels of disrepair or abandonment at their various camp locations.

There is now a consensus between government officials, outfitters, and concerned communities that these abandoned outfitting camps need immediate intervention to address the outstanding environmental concerns posed by these camps. The threats to the watershed ecosystem, fish population and other wildlife that are an important source of food for the Inuit and Naskapi who

still use the Territory to practice their harvesting rights and other traditional activities are of special concern.

The restoration of these sites should focus on prevention of potential or further environmental degradation. By removing hazardous waste and potentially dangerous infrastructure (buildings, docks, shelters etc.), the goal would be to ensure the site does not have an impact on the local environment and wildlife, including fish and fish habitat, but also that it does not pose a danger to humans who may visit these sites, before dismantlement, or use them as shelter.

This guide is addressed to the interested stakeholders, already tasked to carry out the DCUR of outfitting camps, and any other party, including Inuit and Naskapi communities, who may decide or be mandated to participate in remediation efforts on abandoned outfitting camps in the Territory. It is important to note that the use of local knowledge can sometimes prove more reliable than any other documentation in a region where the Territory is well known by the concerned Nations. It is expected that Nations and their local population will be a vital source of information for issues related to weather and travel, but they are also expected to provide knowledge and expertise important to remedial efforts performed on abandoned sites. Both expert techniques and traditional knowledge should therefore be used throughout all stages of DCUR activities and related decision-making.

OBJECTIVES

The main objectives of this guide are:

- To carry out safe and effective DCUR activities at outfitting camp sites in accordance with applicable laws, regulations, funding agreements and contracts;
- To reduce threats to the fragile sub-arctic ecosystem, particularly where it impacts the food chain, human health, specific regimes and Aboriginal rights;
- To remove as much debris and hazardous materials from the land as environmentally and logistically possible. Any debris left as a result of outfitting activities is contrary to Inuit and Naskapi's respect for their homeland;
- To treat contaminated areas with the help of experts in order to restore its biodiversity;
- To transfer knowledge and to involve the Nations and their communities in the coordination, the prioritization and carrying out DCUR activities.

REMEDIAL MEASURES

The guide will provide general procedures concerning DCUR activities on outfitting camp sites following these steps:

I. Indication, location and evaluation of abandoned outfitting camps (preliminary phase)
II. Delimitation of the site
III. Remedial measures
IV. Treatment of materials
    i. Hazardous materials

ii. Non-hazardous materials

V. Transportation of materials to nearby communities (interim phase)

VI. Storage and transportation of materials to treatment centers (final phase)

VII. Recovery of debris, recycling

VIII. Treatment of contaminated soil

IMPORTANT: PROJECTS NORTH OF THE 55TH PARALLEL, ARE SUBJECT TO THE ENVIRONMNETAL AND SOCIAL IMPACT ASSESSMENT UNDER SECTION 23 OF THE JBNQA AND TITLE 2 OF THE ENVIRONMENTAL QUALITY ACT. CONTACT WITH THE KATIVIK ENVIRONMENTAL QUALITY COMMISSION AND THE MINISTRY OF ENVIRONMENT AND THE FIGHT AGAINST CLIMATE CHANGE ("**MELCC**") IS THEREFORE MANDATORY BEFORE ANY PROJECT BE CONDUCTE.

I. EVALUATION AND CHARACERIZATION OF OUTFITTING CAMP SITES

It will be important to work closely with the MERN and the Ministry of Forests, Fauna and Parks ("**MFFP**") to maintain, and update, if necessary, the database of outfitting camps in the Territory. Regarding mobile camp sites, coordination with the Steering Committee established in the context of the Strategy is deemed necessary.

Each indication of an outfitting camp should include its status provided by the MFFP (i.e. "built", "non-established", "abandoned") and its precise location on a map with GPS location; an approximate evaluation of the site surface area; assessment of site accessibility; as well as a complete and detailed inventory of the buildings, materials, equipment, residual materials and hazardous materials observed on site (see definitions below). **A visual detection of any presence of soil and water contamination is crucial to report at this stage**. Pictures, if possible, are to complete the site description. This information will support site inspections, characterization and logistical planning for the DCUR activities.

Residual Materials: is a generic term covering several major families of waste, including hazardous and non-hazardous material, biomedical waste, pesticides and used snow.

Hazardous Materials: is any substance which, by reason of its properties, poses a threat to health or the environment and which, within the meaning of the Québec *Regulation respecting hazardous materials* and attendant regulations, is explosive, gaseous, flammable, toxic, radioactive, corrosive, combustive or leachable, or any material or object that is deemed to be a hazardous materials. You can find a complete table the provide codes for the residual hazardous materials that are the most common or present problems at:
http://www.environnement.gouv.qc.ca/matieres/dangereux/rapport/exemple-en.htm

II. DELIMITATION OF THE SITE (PRELIMINARY PHASE)

Once an outfitting camp site is considered subjected to DCUR remediation, a delimitation of the site should be done by indicating its presence with public notice, ribbons, visible flags or other markers in order to avoid any public hazards. A quick inspection of the site will help determine the

presence of residual and/or hazardous materials, or other elements dangerous for public safety (i.e. for snowmobile circulation).

III. REMEDIAL MEASURES

Outfitting camps designated for DCUR activities should be remediated systematically in the following way:

a. Management and removal of all hazardous materials from the site;
b. On-site burning of buildings and shacks;
c. Recovery of recyclable materials where possible;
d. Treatment of contaminated soils;
e. Removal of non-combustible residual and/or hazardous materials.

Below is a detailed description of these activities.

IMPORTANT: In order to ensure DCUR activities are undertaken in accordance with relevant laws and regulations, it will be important to work closely with the MELCC considering their official mandate, responsibilities and inspection duties. Consequently, the MELCC must be informed and provided the necessary information regarding intended DCUR activities in order to obtain certificates of authorization for on-site activities (including burning of non-toxic materials and bio-remediation of contaminated soil). Furthermore, details concerning monitoring measures between all parties involved should be clear and effectively carried out on the Territory so that final inspections of restored sites are conducted with positive results.

IV. TREATMENT OF MATERIALS

i. Residual and Hazardous Materials

It is unacceptable for residual or hazardous materials to be abandoned or disposed of in the environment or as regular trash at a residual materials disposal site on the Territory.

Hazardous materials should be stored in appropriate, resistant and leak-free containers. These containers should be properly labelled to facilitate inventory, storage and transportation. Residual hazardous materials, such as batteries and paint, are covered under the *Transport of Dangerous Goods Regulations* ("***TDG Regulations***") and, as such, they must be stored in UN-certified containers. Appropriate storage and labelling practices for residual hazardous materials commonly found on the Territory are described below. **Furthermore, it is required to have trained personnel present on site to obtain the required disposal and transportation authorizations, the appropriate containers, to prepare hazardous materials for transport, and assume responsibility of them until delivery to an authorized hazardous waste management site**. The trained personnel can also instruct those involved in the DCUR activities regarding the proper handling and management of hazardous products. It is also suggested to have a spill kit available for fast recovery of an accidental spill to minimize the contamination of soil/water.

Drums found on outfitting camp sites may contain one or a mixture of **petroleum products** such as oil, fuel, gasoline and grease or other highly flammable or hazardous liquids or substances that could contaminate the ground and water. It is important to note that **heavy equipment and generators** may also contain these products and should therefore be emptied before being removed from site. As petroleum hydrocarbons are likely to be the main contaminants found at outfitting camp sites, their remedial should be a priority and are required to ensure the protection of the environment and wildlife. Remedial measures may be applied directly on site.

The condition of drums should be carefully evaluated so as to prevent any additional petroleum products from leaking while being handled. Any residual products will have to be placed in appropriately sealed drums and identified with hazardous materials labels (shown below). Full, or partially full drums can subsequently be safely carried off the site and transported to the nearest community (interim phase). Empty drums can be crushed either on site or in the community, even if they contain trace amounts of residue. However, before crushing these drums they should be washed with a chemical absorbent. All drums, once properly treated and labelled can be transported to an authorized hazardous waste management site. **It is prohibited to place barrels of any quantity or quality in municipal residual material disposal sites**.

Mixing hazardous materials is discouraged, however in certain circumstances it is unavoidable. In this case, labels (see below) should appear on all drums containing a **mixture of flammable liquids or if the contents are unidentifiable**. The liquid with the lowest flash point is indicated in brackets. Flash point (F.P.) is the temperature at which a product will ignite. A UN-certified container (such a barrel in good condition) is also required.

SHIPPING NAME: Waste – flammable liquid, n.o.s. (gasoline) F.P. 40°C
UN: 1993
CLASS: 3
UNIT NUMBER: 1 of 1
PROVINCIAL CODE: C02-3.0-L
GENERATOR: Northern Village of Kuujjuarapik
DATE: 2018-05-17

Used oil should be stored in closed plastic or metal drums. For transportation purposes, up to four drums may be secured to a pallet. The drums should never be stored directly on the ground. Labels (see below) should appear on all drums. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* (see page 8).

SHIPPING NAME: Waste – oil (not covered under the TDG Regulations)
UN: n/a
CLASS: n/a
UNIT NUMBER: 1 of 1
PROVINCIAL CODE: A01-0.0-L
GENERATOR: Northern Village of Quaqtaq
DATE: 2018-11-14

Batteries contain heavy metals that may leak and contaminate the ground and water. Batteries also contain corrosive materials. Vehicle batteries must be stored in a UN-certified container such as a Wrangler bag specifically designed for this purpose. Cover each battery post with a protective cap or tape. Store Wrangler bags in a designated container for residual hazardous materials or in a designated location at the local residual materials disposal site. Wrangler bags should never be stored directly on the ground. Labels (see below) should appear on all four sides of Wrangler bags. Once properly packaged, these products can be safely carried off the site and transported to an authorized hazardous waste management site. Note: Small, household batteries are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* (see page 8).

SHIPPING NAME: Waste batteries, wet, containing acid
UN: 2794
CLASS: 8
UNIT NUMBER: 1 of 1
PROVINCIAL CODE: E15-8.0-S
GENERATOR: Northern Village of Tasiujaq
DATE: 2018-08-29

Paint may contain toxic solvents or metallic elements. Oil paints are also highly flammable. Oil paint containers must be stored in a UN-certified container such as a Wrangler bag specifically designed for this residual hazardous material or in open drums. Store Wrangler bags in a designated container for residual hazardous materials or in a designated location at the local residual materials disposal site. Wrangler bags should never be stored directly on the ground. Labels (see below) should appear on all four sides of Wrangler bags. Note: These products are

covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* (see page 8).

SHIPPING NAME: Waste paint F.P. 35°C
UN: 1263
CLASS: 3
UNIT NUMBER: 1 of 1
PROVINCIAL CODE: D02-3.0-L
GENERATOR: Northern Village of Ivujivik
DATE: 2018-10-02

Solvents may contain carcinogens and are highly flammable. These products include paint thinner, varnish and degreasing compounds and must be stored in closed metal drums that are waterproof and in good condition. For transportation purposes, up to four drums may be secured to a pallet. The drums should never be stored directly on the ground. Labels (see below) should appear on all drums. A UN-certified container may also be required**. Avoid mixing solvents with used oils or petroleum products.**

SHIPPING NAME: Waste petroleum – distillates, n.o.s. (Toluene), F.P. 35°C
UN: 1268
CLASS: 3
UNIT NUMBER: 1 of 1
PROVINCIAL CODE: C02-3.0-L
GENERATOR: Northern Village of Kuujjuaq
DATE: 2018-03-23

Empty **Gas Cylinders** (i.e. oxygen, acetylene, propane) must be properly packaged and labelled before returning them to an authorized hazardous waste management site. They must be separated according to contents with their safety caps on and secured in crates with ¾ inch metal straps. Transportation regulations must be followed by completing a *Dangerous Goods Declaration* shipping name form and contacting the appropriate shipping company (i.e. marine, etc.).

Halogenated hydrocarbons. Household appliances, such as refrigerators, freezers and air conditioners, contain halogenated hydrocarbons. These appliances also contain coolant that produces chlorofluorocarbons ("**CFCs**"). CFCs collect in the atmosphere, contributing to the depletion of the ozone layer. Due to the remoteness of the outfitting camps and fragility of the

sub-arctic environment in which these sites are located, these types of appliances should be transported to an authorized hazardous waste management site without being crushed or disassembled so a certified technician can properly remove the halogenated halocarbons.

Hazardous household products. These products contain ingredients that may adversely affect safety, human health and the environment. Signal words and symbols indicate the type of hazard, such as *poison, corrosive, warning* and *caution*, and are found on a wide range of hazardous household products, such as bleach, antifreeze, furniture polish, insecticides, paint, mothballs, etc. Often hazardous household materials are handled like regular trash and sent to the local residual materials disposal site where they are burned, releasing toxic fumes into the air. These types of products removed from outfitting camps should be kept separate from regular trash and packaged in a safe and sturdy container such as Wrangler bag. **They should not be disposed of in a municipal residual material disposal site.**

Light bulbs (fluorescent tubes, mercury-vapour lamps and high-intensity discharge lamps) may contain mercury. Long-term exposure to mercury is dangerous for human health and the environment. Care should be exercised to avoid breaking **mercury-vapour lamps**, including fluorescent-compact lamps, on removal from their sockets. Breakage could result in the release of mercury into the environment. Fluorescent lamps should be kept in their original or replacement packaging, which is considered safe. A mobile fluorescent tube crasher with an air filter to capture mercury vapors could also be used on site where packaging and transportation of tubes is not possible or due to high volume. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* (see below).

Regulation Respecting the Recovery and Reclamation of Products by Enterprises

Any person, business or organization that uses hazardous materials is responsible for their proper management, including handling, packaging, storage, treatment and disposal in accordance with provincial and federal regulations.

In Québec, the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* obliges producers of 5 types of products (electronic products, batteries, mercury lamps, paint and paint containers, and oils, coolants, antifreeze, their filters and containers) to provide for drop-off centers, collection services, transportation of their products to treatment centers and information, awareness and education activities to inform consumers of their programs.

It is therefore advised that the project proponent be informed of the nearest drop-off centers for these products to negate the cost of transporting these goods to an authorized hazardous waste management site outside the Territory.

ii. Non-hazardous materials

Large volumes of non-hazardous debris and materials are likely to be found on site. Their management will be related to their capacity for burning without generating toxic substances.

Combustible, non-hazardous materials including wood as well as buildings constructed from wood, aluminum and mineral wool insulation, canvas, paper, cardboard, etc. Pursuant to section 22 of the *Environmental Quality Act*, an authorization from the MELCC is not required to burn shacks and buildings. Prior to burning any building, all hazardous material must be removed including emergency lights (lead and Ni-Cd battery cells), smoke detectors, fluorescent ballast and fire system accumulators (Ni-Cd battery cells). Non-combustible material should also be removed including heating stoves, refrigerators, stove-ovens, metal bed frames, fire extinguishers, etc. If burning in winter, it is suggested to remove snow from roofs to avoid extinguishing the fire. Material remaining after burning (tin, glass wool, iron and wire) is managed with the other waste at the site. A protocol for burning during outfitting camp dismantlement is provided in Appendix 1 of this document.

It is important to note that the Société de protection des forêts contre le feu (SOPFEU) requires an industrial fire permit to burn material on sites found within the Territory and requires a *Forest Work Authorization Application* to be completed. Depending on the scope and period of execution of the work, a protection plan may also be required. It is prepared by the SOPFEU and approved by the Forest Protection Branch.

If buildings on site are in good condition and the title of ownership of the land has lapsed, an interested community could declare its interest for using the buildings for traditional purposes. However, all dwellings, cabins and sheds should first be cleaned of waste. If the dwelling is in poor condition, unsafe and unsalvageable, the structure should be dismantled and its components dealt with according to the provided guidelines.

At most of the sites, **non-combustible non-hazardous material** represents the greatest quantity of debris (empty barrels, equipment parts, tools etc.) and is the least likely to be harmful to the environment or to jeopardize the health of animals and humans. Notwithstanding, such material adversely affects the appearance of the landscape. For this reason, wherever possible all waste will be removed from the sites and sent to a designated treatment facility.

It is important to note that due to their volume or weight, some abandoned heavy equipment may need to be dismantled on site before they can be safely removed. Vehicles, heavy equipment and large debris should be managed in such a way as to clean and secure sites against environmental and public threat.

Empty barrels previously washed with proper chemical absorbents and, where possible, some heavy equipment and non-combustible debris can be compacted prior to being removed from site. A mobile barrel crusher would be an invaluable purchase for DCUR activities at outfitting camps. The above procedures require the instructions of trained personnel who will elaborate and supervise a safe procedure concerning all the actions taken in the processing of the barrels (washing fluids and contaminated materials management).

V. TRANSPORTATION OF MATERIALS TO NEARBY COMMUNITIES (INTERIM PHASE)

The priority during the interim phase will be to transport contaminated materials (empty compacted barrels) and hazardous materials that are secured in appropriately packaged containers to the nearest community. The transfer of residue to undamaged containers, labeling and preparing the material for transportation should be carried out on site to eliminate potential contamination during transportation to the communities. Transportation itself can take place in either the summer by way of Twin Otter, helicopter and float plane, or in the winter if terrain and weather permits, by snowmobile/sled. It is suggested to have spill kit available near the hazardous waste storage sites.

VI. STORAGE, TRANSPORTATION AND TREATMENT OF MATERIALS (FINAL PHASE)

Once transported to the nearby community, the materials will be temporarily secured and properly stored at a location chosen by municipal authorities. During this final phase, the materials will be delivered by boat or train (or other manner) to the previously contacted authorized hazardous and/or residual waste management site for final elimination or treatment. The transportation, storage and management of the hazardous and residual materials and contaminated debris should be undertaken under the supervision of trained personnel until the materials are definitively treated.

The treatment and disposal of hazardous and residual materials is the final means for reducing and eliminating the risks posed to human health and the environment. It should be noted that the transportation costs of electronic products, batteries, mercury lamps, paint and paint containers, and oils, coolants, antifreeze, their filters and containers are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* if taken to a designated community drop-off site.

Residual hazardous materials transported to recycling, treatment, storage or disposal facilities must be properly sorted, packaged, labelled and recorded on the shipping (air, marine or land) manifest. Once the elimination and/or treatment of the hazardous materials is complete, a valid proof (invoice) of the procedure should be communicated.

VII. RECOVERY AND RECYCLING OF METAL DEBRIS AND EQUIPMENT

In some cases where the metal debris and equipment collected from the outfitting camps are still useable, it would be helpful if they could be claimed by residents of local communities either for reuse or recycling.

VIII. TREATMENT OF CONTAMINATED SOILS

Petroleum residue leaking into soil results in contamination of the local environment and, consequently affects the capacity to sustain soil micro-organisms and plant life. Remediation can

be achieved through soil bio-remediation. Such treatment involves the biodegradation of the petroleum compounds by native bacteria in the presence of the appropriate nutrients and water concentrations. This treatment has proved to be successful on other sites on the Territory and involves the following steps: 1) excavation of all contaminated soil, 2) placement of all contaminated soil on a moisture barrier, and 3) addition of nutrients, oxidizing agents and aeration ducts. Regardless of the scope of the contamination, only one treatment per site is necessary in this manner. On the other hand, monitoring of the treated soil should be performed on a regular basis throughout the duration of the cleanup project. Soil bio-remediation treatments should be performed on-site by trained personnel with the help of local communities. To be most effective, treatments should be carried out in the spring and summer when the soil has thawed. The MELCC will need to be contacted in order to apply for a certificate of authorization to undertake any on-site soil remediation.

ENVIRONMMENTAL PRECAUTIONS

It is important to note that low-impact activities are key to maintaining a minimal negative effect on the environment, but also to mitigate any impact on the harvesting rights of the Native beneficiaries. Heavy machinery will be limited to a drum crusher, if necessary, and the aircraft (or other modes of transportation) used to access the sites. There is no need to construct new roads or trails as existing ones shall be used. Workers will return to their respective communities at the end of each work-day so as to limit camping on site unless the camp itself is adequate and safe for a prolonged stay.

In addition, it is recommended that workers not be encouraged to engage in sport fishing. Notwithstanding, if sport fishing is practised, workers must comply with all applicable regulations. Finally, workers must be aware of the specific regulations applicable to sport fishing for Atlantic salmon, which may only be practised through an outfitter.

Finally, it is worth repeating that it is unacceptable for residual or hazardous materials to be abandoned or disposed of in the environment or as regular trash at a residual materials disposal site on the Territory. However, it should be noted that Schefferville operates an Eco-Centre that may offer residual or hazardous material disposal services (see page 14 for contact information).

HUMAN RESOURCES

Human resources for the project fall into a combination of the following two categories: 1) Proponents' selected resources, inclusive of a project coordinator and environmental or field technicians, and 2) Nation(s)/community resources.

A project coordinator would lead in the organization and implementation of the project including data collection, logistical planning, communicating with various partners and drafting reports and presentations. Normally the project coordinator is trained to supervise the transportation, storage and management of hazardous and residual waste on site.

Throughout the restoration project, field technicians are hired and provide leadership, professionalism and crucial knowledge regarding local landscape and transportation logistics

during the fieldwork on each of the sites. They can also provide a vital link between the coordinator and the local workers hired from the communities as well as the activities that transpire on each site. Experience acquired in other remediation projects suggests that it is absolutely necessary to have one and in some case two technicians on site to complete the cleanup according to the schedule and to allow for more coherent, logistical planning by the project coordinator.

Local workers are hired[1] to work on the project from the communities located closest to each site. This not only creates jobs, but it also contributes to increasing local know-how regarding contaminated site remediation and environmental project management. Therefore, community cooperation is extremely important and permits the hiring of individuals who are recognized in their communities. This kind of experience is also highly sought-after by mineral exploration companies for the cleanup of their sites and could therefore lead to future contracts. Furthermore, hiring locally will provide traditional knowledge and territorial information to the project.

Worker safety is also an important issue for those involved during DCUR activities on outfitting camps in the Territory. Most of the sites are in isolated locations that cannot easily be reached from nearby communities. In summer, workers are most often transported by helicopter or floatplane. Since the transporter does not always remain at the site, emergency planning is important. It is essential that each work team has an emergency plan and adequate communication systems to contact help, if necessary. The combined use of satellite phones and "SPOT" technology is highly recommended. Furthermore, HF radios that allows for transmission between pilot and field team(s) are useful as they permit an increased communication and ensures a greater safety when transporting equipment and during landing and take-off. Finally, drugs and alcohol should be prohibited on site to further ensure worker safety and social acceptability. It is suggested to have a first aid kit with Epipen, as well as extra protective gear available on the work site.

COMMUNICATIONS

Community Visits

Community visits will be a crucial part of the project, especially concerning data collection and establishing a work plan for site remediation. Visits and discussions with community members should be done at the preliminary phase to ensure all sites are accounted for and to discuss community involvement and vision for the project. Furthermore, project proponents should remain in contact with the communities involved during the progress of the project to maintain transparency and to answer questions or concerns. Normally this is done via telephone, email and personal meetings.

Radio

In Inuit and Naskapi communities, the local radio station is probably the most important mode of communication. It is used as a forum for discussion, story-telling, news, contacting people, as well as entertainment. In order to reach the majority of Inuit and Naskapi, public announcements on

[1] Note that the interested Nations indicated that this confirms their interpretation of Section 29 of the JBNQA/ Section 18 of the NEQA.

the radio should be made before, during, and after the project. People will be informed of the project's objectives and progress, as well as the results once the project has been completed.

Social Media
Social media has a very broad outreach in the Inuit and Naskapi communities, and is frequently used to convey general information, provide links and resources to obtain more specific information, and to invite community members to meetings or information sessions. The project can be made public online via any social media outlets the proponent feels necessary in order to reach the majority of the Inuit and Naskapi population, including the youth.

Reporting
It is recommended that a yearly activity report be sent to each of the partners involved in the DCUR activities. A final report could also be prepared at the end of the project to summarize the overall outcome of the efforts. Also, annual or bi-annual presentations could be made during community or regional meetings.

ESTIMATED ANNUAL BUDGET

The table below represents an estimated budget for the logistical planning and carrying out of DCUR activities on six (6) outfitting camps on a yearly basis. This includes the transportation and disposal of hazardous and residual materials from the community where it is stored to a recovery facility, either by ship (from Kuujjuaq to Montreal) or by train (from Schefferville to Sept-Iles). It also includes the purchase of equipment and material such as a drum compactor, tools, safety gear and packaging and labels for hazardous materials. The transportation of all project employees (i.e. Project Coordinator, Field Technician and workers) to and from each site, whether it be by helicopter, floatplane or snowmobile, as well as their salaries, are also included in the budget table. Finally, administration fees should also be considered when estimating costs including community outreach and translation of written materials in a minimum of 3-4 languages depending on sites' location (English, Inuktitut, Naskapi and/or French).

It will be necessary that a more detailed budget be provided for in any action plan covering the specific DCUR activities to be undertaken by a project proponent. Budgets will vary depending on volume of both residual and hazardous material to be removed, number of buildings to be dismantled, weather delays as well as transportation methods and distances travelled.

Table 1 Estimated Annual Budget for DCUR Activities on 6 Abandoned Outfitting Camps

EXPENSES		No. of units	Unit Cost ($)*	One-time Costs ($)	Annual Costs ($)
Transportation/Disposal of Hazardous & Residual Materials					
	Recovery Facility				15,000
	Transportation (*ship or train)*				40,000
Equipment/Materials					
	Drum Compactor	1		30,000	
	Mobile Dock	1		5,000	
	Tools				5,000
	Safety Gear				2,000
	Wrangler Bags	50	24	1,200	
	Haz. Mat. Labels	100	5	500	
Transportation					
	Airfare (PC)	6 trips	2,000/trip		12,000
	Float plane/Helicopter	30 days	7,000/day		180,000
	**Snowmobile	10 days			10,000
Human Resources					
	Project Coordinator	1	600/day		36,000
	Field technician	1	300/day		15,000
	Local workers	4	200/day		26,000
	Travel Expenses				10,000
Administration					
	Translation				5,000
	Community Outreach				5,000
	Administrative fees (10%)				35,000
ESTIMATED BUDGET				**36,700**	**396,000**

*Standard competitive rate in the Nunavik region
**If necessary

CONCLUSION

This document can serve as a guide whenever DCUR activities are contemplated for abandoned outfitting camp sites. The document presents a safe and effective methodological approach related to the handling and storage of hazardous products, the dismantlement of infrastructure, and the transportation of materials in order to diminish existing environmental impacts. Consequently, the remediation of the sites will improve public and environmental safety and will respect the unique land guardianship of the Nations concerned.

Each site will require an individual analysis to determine the optimal approach to implementing a clean-up strategy. Residents of nearby communities who have visited the sites know the area well and should be directly involved in this process. Trained personnel should understand the specific challenges of working in the region and provide the necessary knowledge to carry out the safe and effective remediation of these outfitting camps. The objective of the remedial measures applied to the subarctic environment of the region north of the 55th parallel is to return the ecosystem as close as possible to its original condition. This practical guide considers the sensitivity of the environment and the impact of such remedial measures.

CONTACTS

For further information about residual and hazardous materials management and the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*, contact the Québec government:

Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC)
Centre de contrôle environnemental du Québec (Environmental Control Department) for Abitibi-Témiscamingue and Nord-du-Québec
Emergency Coordinator: Guy Vallières
Guy.Vallieres@environment.gouv.qc.ca
819-763-333, ext 250
For communication in English: Francine Chagnon
francine.chagnon@environnement.gouv.qc.ca
819-763-3333, ext 311
Emergency Line: 1-866-694-5454

Direction de l'analyse et de l'expertise régionale (Regional Analysis Department) for Abitibi–Témiscamingue and Nord-du-Québec
For communication in English: Michel Larose
michel.larose@environnement.gouv.qc.ca
819-763-3333, ext. 297

For regional information, please contact the Kativik Regional Government:
Kativik Regional Government
Renewable Resources, Environment, Lands and Parks Department
Environmental Specialist: Véronique Gilbert
Environmental Technician: Monica Nashak
enviro@krg.ca
819-964-2961 Toll free: 1-877-964-2961
Environmental Consultant: Nancy Dea
nancyldea@gmail.com
819-350-0735

Other Contacts:

Kativik Environmental Quality Commission:
Executive Secretary: Michèle Séguin-Letendre
819 929-3086
secretariat@keqc-cqek.ca

Tricomm Ecocentre
550 Chemin de la Gare, Schefferville, G0G 2T0
418-585-2471 ext.6
schefferville.ecocentre@gmail.com
Contact: Paulay-Anne Nadeau, Waste Management Coordinator

SOPFEU
819-824-4100 (Val D’Or Branch)

Appendix 1
Burning Protocol

According to the MCS dismantling and rehabilitation project, here are some details concerning our working protocol for the burning phase realization, and that, of course, with an optic of optimal rehabilitation for the environment.

This dismantling protocol will help us to avoid the creation of buried landfill site (LETI). In addition, we will ensure that our interventions are done in compliance with the laws and regulations in Northern Quebec region and according to the effective agreement particularities.

This protocol is mainly composed of the elements defined in the preliminary information form developed by the Steering Committee. Concerning the occupant's personal belongings, they will be burned whenever possible (ex.: mattresses with little value for others) or recovered and transported to an authorized place or offer to the community with a spirit of valorizations, and giving a second life if there is any interest.

To ensure that the site is rehabilitated in a period corresponding to the regional climatic conditions and representative of the different habitats (shrub and tree layer), we developed a procedure that takes into account the local biodiversity and that includes the main rehabilitation elements of this natural environment.

For each dismantled MCS, there will be only one burning site. That process will have the advantage to limit the multitude burning sites of each individual structures (buildings, shelters, sheds, etc.), and reduce the vegetation cutting (protection area).

This burning site will mainly be selected in function of the building location in order to optimize the safety of the burning activity. The following factors will be considered:

- Dominant wind;
- Shrubs and arboreal layer proximity;
- Mitigation positioning;
- Protection of lakes and streams, including keeping vegetation between the ashes and bodies of water in place;
- Safety protocol for workers;
- Safety protocol for the environment;
- On site fire pumps set-up, operational at all times.

Residual materials (nails, others) remaining in the burning site will be removed, and then be placed in identified transport bins to be moved and disposed in a place authorized for this purpose.

The burning site will be planted with representative plants of the environment, selected in the immediate area, but collected here and there and not in one place. Where possible and available,

topsoil will be added around the plants planted at the burning site to ensure their survival and rapid recovery.

It is important to emphasize that the inert materials (cement blocks, bricks, tiles, cement powder bags, etc.) will be arranged in a trench located on site, further away from the lakes, to avoid even more important impacts to the environment by airlifting them to disposal sites.

Non-hazardous combustible materials, including wood and buildings made of wood, insulating wool, paper, cardboard, etc., may be burned on site. It was recognized and agreed by the Steering Committee members that the intentional burning, if done properly, is a less environmentally damaging method because it reduces the volume and weight of materials to be transported by aircraft and thus, significantly reduce greenhouse gas released into the atmosphere.

The burning steps will be as follows:

- Before burning, ensure that all non-combustible debris and hazardous materials (e.g. motor oil, fuel oil, batteries, paint, gasoline, propane tank, etc.) are picking up and transported for recovery or disposal in an authorized place, in compliance with the residual materials regulation, so as not to leave a trace on the MCS.

- It is recommended to remove the occupant's personal belongings from the site prior to burning, and to keep a fire zone approximately 15 metres wide free of vegetation to allow the burning;

- It is forbidden to use used oils or other hazardous waste materials to start or fuel burning camp;

- After burning, non-combustible residues that could not be removed beforehand (screws and nails, etc.) must be recovered with appropriate equipment;

- The burning activity must be carried out according to the prescribed periods in compliance with the laws and regulations and following an authorization issued by SOPFEU;

- During the burning activity, a member of the dismantling team will be assigned exclusively to fire monitoring, which also covers the maintenance of the site's safety zone (prevention watering).

Work protocol for dismantling (burning) and rehabilitation

Pre-location of the site having the following characteristics:

- Proximity to major buildings to facilitate the movement of building materials (woody material) as well as security for workers;

- Optimal location according to the forest layer to minimize tree cutting and the dangers of spreading fire;

- The burning site area (selected building) will be proportional to the site storage capacity under dismantling and should not at any time have an area greater than 24 square metres (4m x 6m) and a maximum depth of about 30 centimetres;

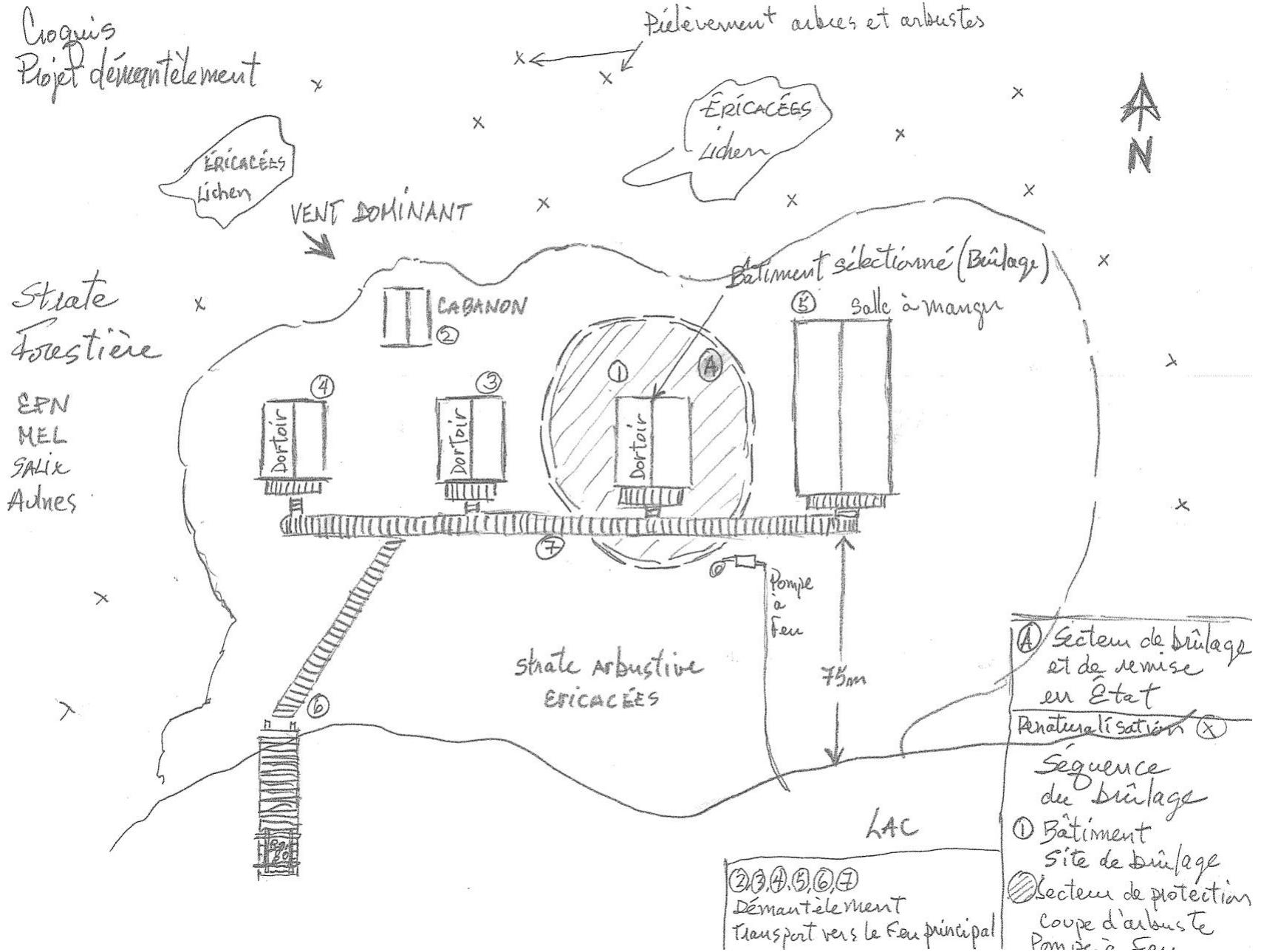
- The dismantling and burning sequence takes into account the different ground elements in place and this, in order to minimize our impact on the environment, but also, of course, to mitigate any risk of fire (see the attached sketch for the details of the burn protocol);

- The ashes and remaining woody debris will be arranged to facilitate naturalization of the site. A final check will also be carried out in order to collect any residual material potentially harmful to the environment;

- All the plants collected will come from the site and will be introduced during the rehabilitation operation. A judicious arrangement (staggered) of the different bouquets of shrubs and small trees taken will be made after the positioning of the ashes and the woody residue;

- Before revegetation of the site, ash and residue will be watered copiously in order to foster vegetation regrowth. A sediment barrier in the form of a trench transverse to the slope of the land could be positioned just downstream of the burning site to prevent runoff or leaching to aquatic habitat if the slope exceeds 5%.

It is important to mention that our protocol for the ashes burial and the last woody debris, as well as their restoration is an integral part of the requirements specification of the various partners of the Quebec Outfitters Federation.


Croquis
Projet démantèlement
Prélèvement arbres et arbustes
ÉRICACÉES
Lichen
ÉRICACÉES
Lichen
N
VENT DOMINANT
Strate
Forestière
EPN
MEL
SALIX
Aulnes
CABANON
Bâtiment sélectionné (Brûlage)
Salle à manger
Dortoir
Dortoir
Dortoir
Pompe
à
Feu
75m
strate arbustive
ERICACÉES
LAC
A Secteur de brûlage et de remise en Etat
Renaturalisation X
Séquence du brûlage
① Bâtiment site de brûlage
Secteur de protection
Coupe d'arbuste
②③④⑤⑥⑦
Démantèlement
Transport vers le Feu principal