# **Response to Information Requests Consolidated Gold Win Ventures Inc.**



November 2006



Rescan<sup>™</sup> Environmental Services Ltd. Vancouver, British Columbia



# Response to Information Requests Consolidated Gold Win Ventures Inc. EA 0506 005

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### 1. IR'S - MACKENZIE VALLEY ENVIRONMENTAL REVIEW BOARD



#### IR's - Mackenzie Valley Environmental 1. **Review Board**

#### **IR Number: 1.10**

Source:	Mackenzie Valley Environmental Impact Review Board
To:	Consolidated Goldwin Ventures
Subject:	Project Description

#### Preamble

Descriptions of the proposed development submitted by CGV have helped to clarify the proposed development. However, between the information submitted during the preliminary screening and in this EA, some inconstancies remain. These must be resolved in order for the Review Board and EA parties to understand exactly what is being proposed.

In section 5 of Land Use Permit application MV2004C0038, CGV indicated that it wished to drill one to three holes. In the attached Modified Developer's Assessment Report (Table 1-1), CGV states that it will drill one to two holes at each of eight sites. In the MVLWB staff report of December 21, 2004, the work is described to include one to three holes at each of eight sites. In the July 25, 2005 letter from CGV to the YKDFN, the work is described as "a few short holes in up to three areas".

#### Request

• For each claim area, please describe the maximum number of drill holes proposed.

Claim Area	Maximum Number of Drill Holes Proposed
JJ Claim (F73158)	3 holes
Cleft Claim (F73159)	3 holes
FC 2 Claim (F76305)	3 holes
FC 3 Claim (F76306)	3 holes
FC 5 Claim (F76308)	3 holes
GSL 10 Claim (F75700)	3 holes
Moose 3 Claim (F81773)	3 holes
Moose 4 Claim (F81774)	3 holes
Moose 5 Claim (F81775)	3 holes

#### Table 1-1 Maximum Number of Drill Holes per Claim Area

IR Number:	1.11
Source:	Mackenzie Valley Environmental Impact Review Board
To:	Consolidated Goldwin Ventures
Subject:	Project Description

#### Preamble

In the Land Use Permit application, CGV states that drilling will "in most instances likely be on ice or shore line". However, the CGV's Modified Developer's Assessment Report states that drilling will be "confined to limited areas on ice well offshore". The September 26, 2005 letter from CGV to the Review Board states that drilling would probably be "on or near the shores or Great Slave Lake, Moose Lake and Zigzag Lake", but is unclear whether "near the shores" means on the land or water side of the shoreline. Even though later drill targets in this program will only be identified based on the results of the first drill holes in each area, CGV should at least know exactly where its first drilling targets in each area are located.

#### Request

#### • For each claim area, itemize which of your first drilling targets are on ice or land.

The approximate drill locations for each claim group are shown on the attached maps. At this time CGV can only provide approximate drill locations because the full geological and geophysical assessment of the area has not been completed. To determine the precise location of the drilling targets, field work is required to take into consideration the topography, brush and water bodies around the general area to maximize efficiency and minimize impact of the drill hole. Due to the limited funds available to the company and the uncertainty of the permitting process, this work can not be completed until a Land Use Permit is in place.

Upon the issuance of a Land Use Permit magnetic surveying and a physical inspection will be initiated to delineate the locations of the drill targets. The exact locations will then be determined through the results of the defining work, archaeological survey, discussions/consultation with the YKDFN and site visits with an YKDFN elder. Once all the drill sites are delineated, maps and drill targets will be submitted.

# • Please describe in as much detail as possible where your first drilling targets are located.

See above IR 1.11 (a).

• Please describe in as much detail as possible the location of drill targets in the Moose Claim area.

There are three potential drill targets in the moose claim area which may receive up to a maximum of three exploratory drill holes in each target area. Each of these proposed drill targets are located on-land and depicted in the attached map. See IR 1.11 (a) for exact drill location detail.

IR Number:	1.12
Source:	Mackenzie Valley Environmental Impact Review Board
To:	Consolidated Goldwin Ventures
Subject:	Project Description

#### Preamble

Even though exploration later drill targets in this program will only be identified based on the results of the first drill holes in each area, CGV should at least know exactly where its first drilling targets in each area are located.

In the Land Use Permit application, CGV states that drilling will "in most instances likely be on ice or shore line". However, the CGV's Modified Developer's Assessment Report states that drilling will be "confined to limited areas on ice well offshore". The September 26, 2005 letter from CGV to the Review Board states that drilling would probably be "on or near the shores or Great Slave Lake, Moose Lake and Zigzag Lake", but is unclear whether "near the shores" means on land the land or water side of the shoreline.

CGV has not yet submitted a map of drill targets in the ZZL claim. For all other areas except the Moose Claim area, maps submitted by CGV with the September 26<sup>th</sup> letter provide a general idea of the rough locations of drill targets. No targets for the Moose claim are identified.

In its September 15<sup>th</sup> 2005 letter to CGV, the Review Board asks for "a short verbal description (beyond coordinates) of the location of each drill hole". In response, CGV provided in its letter for September 26<sup>th</sup> a list of factors it will consider when choosing drill hole locations, but no descriptions of specific target areas.

#### Request

• For each claim area, please describe the maximum number of drill holes proposed.

See table under IR # 1.10 (1).

• Please describe in as much detail as possible where your first drilling targets are located.

See IR # 1.11 (a)

• Provide a map and description for drill targets on the ZZL claim.

See IR # 1.11 (a). Refer to the attached map for the approximate drill location on the ZZL Claim.

#### IR Number: 1.13

Source:	Mackenzie Valley Environmental Impact Review Board
To:	Consolidated Goldwin Ventures
Subject:	Project Description

#### Preamble

In the Modified Developer's Assessment Report, CGV states in section A-1 that the program will take two to three months. In sections D-1 and D-2, it states that the work will take three to four weeks. In section H-2, it states that the program will occur in winter only. In the July 25, 2005 letter to the YKDFN, CGV describes activities that will occur during summer.

#### Request

#### • Please describe the timing planned for the proposed development.

The project will take 2-3 months including site selection, organizing work and contractors, field work, and evaluation of data from field. The actual drilling itself will take 3-4 weeks.

#### IR Number: 1.14

Source:Mackenzie Valley Environmental Impact Review BoardTo:Consolidated Goldwin Ventures

Subject: Project Description

#### Preamble

In Land Use Application MV2004C0038, CGV states that "drill cuttings will be blended into area till". In the Modified Developer's Assessment Report, CGV states in section E-2 that cuttings will be "placed into an approved depression well removed from waterbodies".

#### Request

• Will drill cuttings be blended into area till, placed into a "suitable depression", or both? Please clarify.

All drill cuttings from on-ice drilling will be removed and transported to Yellowknife for approved disposal. All drill cuttings from on-land drilling will be placed in a natural depression, or as regulated by the Land Use Permit.

• If CGV plans to place cuttings into "an approved depression well removed from waterbodies", whose approval is CGV referring to?

CGV was referring to the approval of the DIAND inspector for the Land Use Permit.

• If CGV plans to place cuttings into "an approved depression well removed from waterbodies", what is the minimum distance in meters that CGV considers to be "well removed" from surface waters?

The minimum distance CGV considers to be well removed from surface waters would be thirty meters of the normal high water mark of any water body.

## 2. IR'S – PRINCE OF WALES NORTHERN HERITAGE CENTRE



# 2. IR's – Prince of Wales Northern Heritage Centre

IR Number: 1.15

Source:	Prince of Wales Northern Heritage Centre, GNWT
To:	Consolidated Goldwin Ventures
Subject:	Archaeological Site Data

#### Preamble

Recent correspondence from the proponent (Item 3: CGV Developer Response with Development Details) states that there are "no indicated or known, or perceived archaeological sites within 0.5 km of the property boundaries of most of the areas (greater on the Cleft, JJ, ZZL and most of the FC and Moose Claims). Those around Jackfish Cove are noted and all are not in areas of interest." Based on the Modified Development Assessment Report for Consolidated Goldwin Ventures Inc. Preliminary Exploration Program (p.24), included with land use permit application MV2004C0038, this information appears to have been obtained at a public meeting held in Dettah on April 2, 2003.

The Prince of Wales Northern Heritage Resource Centre is aware that, since this public meeting, new archaeological studies have been undertaken in the general area of the proposed exploration project. As a result of these studies, several new archaeological sites have been recorded and are contained in the NWT Archaeological Sites database. Particularly relevant to this exploration project are several archaeological sites recorded in the Moose Bay and Jackfish Cove areas.

It is unclear from the proponent's submission, whether they are aware of the exact locations of these archaeological sites. The development maps indicate that at least one drill target and a potential trailer camp are planned for Moose Bay, where there are three recently recorded archaeological sites. In addition, there are two known archaeological sites within the Moose Claim, for which the drilling targets are currently undefined.

This information request is intended to ensure that the proponent is aware that the database is subject to change as archaeological studies are conducted and that proponents are able, subject to license agreement with the Prince of Wales Northern Heritage Centre, to access site specific data in order to avoid known archaeological sites. As per the Mackenzie Valley Land Use Regulations, archaeological sites must be avoided by at least 30 m.

#### Request:

• Does the proponent plan to access the NWT Archaeological Sites database on an annual basis to obtain the locations of all archaeological sites in their development areas?

CGV will access the NWT Archaeological Sites database on an annual basis to obtain the locations of all archaeological sites within their development areas.

In August 2006 CGV was in the process of attaining an archaeologist to complete an archaeological survey of the area to ensure the potential drill locations are of no archaeological or spiritual significance. Although, through a discussion held with Rachel Crapeau, Manager of Land and Environment for YKDFN (August 23, 2006), CGV was informed that the YKDFN want to attain their own archaeologist, as opposed to the company attaining an archaeologist. Therefore, CGV is attempting to set up a Memorandum of Understanding with the YKDFN to consult with them and work with their archaeologist to determine potential drill sites of no significance. However, this process is proving to be lengthy and timelines are uncertain of when a Memorandum of Understanding will be formed, therefore CGV would still like to attain their own archaeologist to complete a survey as soon as feasible (weather permitting).



#### **IR's – Department of Fisheries and Oceans** 3.

IR Number:	1.16
Source:	Department of Fisheries and Oceans
To:	<b>Consolidated Goldwin Ventures</b>
Subject:	Fish Habitat and Impact Mitigation

#### Preamble

Our review of the application and scope of the proposed work does not provide specific delineation of the drill sites within specific bodies of water. On page 7 of the "Modified Development Assessment Report" that was submitted with the application, it is stated that "drill site areas are located on land or near the main shoreline of Great Slave Lake, Moose Lake or various other ponds and lakes."

DFO understands that the company cannot provide site specific information at this stage of exploration. However, the company should describe the process they will use to protect fish habitat once potential drill sites are determined. Mitigation such as drilling in areas frozen to the substrate or in deep water is not described.

#### Request

Please describe the process that will be employed to identify sensitive fish habitat • such as spawning shoals when potential drill sites are delineated and the process that will be used to determine the volume or depth of water in various other lakes and ponds.

Through the delineation of drill site locations on water, a visual inspection will be carried out on the lake for spawning shoals and a depth estimate. If required, a bathymetric survey will be conducted to determine the presence of spawning shoals, and the volume and depth of the lake.

#### Please describe specific mitigation measures.

On ice drilling will only occur during the frozen months and will only be located on areas frozen to the substrate or areas greater than 11 m deep.



# 4. IR's – Yelloknives Dene First Nations

#### IR Number: 1.17

Source:	Yellowknives Dene First Nation
To:	Consolidated Goldwin Ventures
Subject:	Consultation

#### Preamble

In the opinion of YKDFN (as expressed in its proposed IR submission),

Mr. Lawrence Stephenson outlines what it calls "consultation efforts." The Yellowknives Dene do not consider Mr. Stephenson's effort to be consultation. The demonstrated efforts do not even meet the minimum threshold of discussion.

It is important to emphasise that Mr. Stephenson has not communicated with the YKDFN or its consultants. That is unfortunate because exploration and mining companies working in the NWT that have made a genuine effort to consult the YKDFN have been able to do so. We have found members of the Chamber of Mines to be an informed group and generally consultative and encourage Mr. Stephenson to draw on the Chambers knowledgeable members.

#### Request

• Provide the Review Board with Consolidated Goldwin Ventures' policies with respect to "consultation with First Nations" as it applies in the NWT.

CGV recognizes the cultural, spiritual and historical significance of the area proposed for exploration, and thus the importance of consultation with the First Nations. Therefore CGV has formally requested consultation with the YKDFN and is attempting to set up a Memorandum of Understanding to begin the consultation process. As well CGV has hired Rescan Environmental Services to ensure that the First Nations are properly consulted.

• Has Consolidated Goldwin Ventures chosen not to consult the YKDFN because, in its opinion, such consultation is the responsibility of the government of Canada?

CGV does not believe that consultation is the responsibility of the Government. CGV believes that the onus of consultation is on the developer, and has therefore attained Rescan to carry consultation with the First Nations.

• Provide the Review Board information about what Consolidated Goldwin Ventures is willing to commit to with regard to on-going meaningful consultation with the YKDFN.

In discussions with Rachel Crapeau, Manager of Land and Environment for YKDFN, and YKDFN's consultant, Louis Azzolini, the YKDFN are willing to be consulted if CGV will enter a Memorandum of Understanding with the YKDFN. To this end CGV is

attempting to set up a Memorandum of Understanding with the YKDFN to begin consultation. CGV regards meaningful consultation to consist of:

- meetings with CGV's president of the company and the chiefs and council to discuss CGV's program, and discuss concerns that the YKDFN have regarding the program, as well as to seek and consider the advice that the YKDFN provide respecting the presence of heritage resources
- site visits with a YKDFN elder to determine adequate drill locations \_
- working with YKDFN's archaeologist to determine exact drill hole locations
- working with the YKDFN over the life of the Land Use Permit to ensure protection of heritage resources.
- Provide information about what other First Nations Consolidated Goldwin Ventures has consulted in the NWT and in Canada within the last five years.

Date/what	Who	Outcome
Feb. 2003/ Letter explaining exploration program	North Slave Metis Alliance, Yellowknife Dene First Nation, Lutselk'e Dene First Nation, Yellowknife Metis National Local #66, Rae-Edzo Metis National Local # 64, Rae-Edzo First Nation, Deninu K'ue First Nation, Fort Resolution Metis.	Received reply from Lutsel K'e Dene expressing concerns about process and treaty rights. Proposed meeting in March; no response received.
April 2,2003/ Public meeting	All Local concerned First Nations	4 hour meeting, various issues raised which resulted in the project being referred from the MVLWB to the MVEIRB
April 2004/ Site visit	Dettah First Nation representatives and elders	Trip to area of GSL 10 claim (amended LUP) to show area of proposed hole – No problem seen, all were happy with location.
October 13, 2004/ Letter explaining exploration program	North Slave Metis Alliance, Yellowknife Dene First Nation, Lutselk'e Dene First Nation, Yellowknife Metis National Local #66, Rae-Edzo Metis National Local # 64, Rae-Edzo First Nation, Deninu K'ue First Nation, Fort Resolution Metis,	Phone contact from one band to re send or email
October 13, 2004/ email	Dettah First Nation	Email sent requesting fax number and time to send – no response
Summer 2004/ Meeting	Max Braden and Glen Macdonald and First Nations Representatives	Various discussions with outlining work areas – no negative responses

### Table 4-1 **Consultation Record**

• Provide the Review Board information about what Consolidated Goldwin Ventures understands its role to be in the consultation and communication process with First Nations during the regulatory process (*e.g.*, land use permit and water licensing process)

CGV understands its role in the consultation process with the YKDFN during the regulatory process is to start communication/consultation with the YKDFN regarding their application, and to seek and consider the advice that the YKDFN provide respecting the presence of heritage resources.

• Provide information about what regulatory authorities were contacted in the NWT before applying for the development authorizations (*e.g.*, Was DFO contacted? Was Indian and Northern Affairs contacted?)

Before applying for the development authorizations, WCB was contacted regarding a drilling permit, and well DFO was contacted regarding drilling on lake approval. As well the drilling proposal was discussed in detail at the 2003 public meeting held in Dettah.

IR Number: 1.18

Source: Yellowknives Dene First Nation

To: Consolidated Goldwin Ventures

Subject: Cultural Impacts

#### Preamble

In the opinion of YKDFN (as expressed in its proposed IR submission),

Consolidated Goldwin Ventures... suggests there is no culturally important or heritage sites identified in the areas where (it) proposes work. That is not the case as noted by the Prince of Wales Heritage Centre. The developers are asked to respond to the following questions.

#### Request

• Respecting the cultural significance of the proposed development areas and the associated cultural landscape, are the developers prepared to accommodate YKDFN needs regarding the full protection of the areas?

CGV is prepared to accommodate the YKDFN needs regarding the full protection of significant cultural areas.

• Over the years, cultural, economic and social factors have led to the development of distinct cultural landscapes in and around the proposed development areas. Through centuries, the local inhabitants perpetuated this cultural landscape through subsistence interaction with the natural resources through consensus-driven institutions. The YKDFN has recently experienced profound changes in its social, cultural, administrative and technical conditions. Are the developers prepared to work with the YKDFN over an extended period of time in order to

ensure the resulting cultural landscape continues to reflect the local identity of the place and residents and represents the regional characteristics of YKDFN?

CGV is prepared to work with the YKDFN over an extended period of time to ensure protection of heritage resources; hence the reason CGV is willing to enter a Memorandum of Understanding with the YKDFN.

• Does Consolidated Goldwin Ventures accept that the areas where it proposes to undertake development have value at a cultural landscape level? If Consolidated Goldwin Ventures concludes the areas do not have a significant cumulative cultural landscape value, provide information used to arrive at that conclusion.

CGV accepts that the areas where drilling is proposed have cumulative cultural landscape value.



#### 5. IR's – Indian and Northern Affairs Canada

IR number:	1.19
Source:	Indian and Northern Affairs Canada (INAC)
To:	<b>Consolidated Goldwin Ventures</b>
Subject:	Camp sewage and greywater disposal

#### Preamble

The Land Use Permit (LUP) application mentions the possibility of a small camp setup (4-6 people) at Moose Bay on Great Slave Lake. If a camp is established on the ice INAC needs clarification on how/where sewage and greywater from the camp will be disposed of. The original LUP application states in section 9-B that sewage and greywater will be allowed to "settle and returned to natural state". The Modified Development Assessment Report (MDAR) states that all wastes will be transported back to Yellowknife. If waste is to be disposed of in the area of the camp the following should be noted: (a) waste should undergo a minimum of primary treatment to remove all suspended solids and floatable materials; (b) there should be no discharge of floating solids, garbage, grease, free oil or foam; (c) discharge of the effluent should take place in a diffuse manner to self-contained areas with minimal slope; and (d) all discharges must occur at least 100m from any waterbody. The preferred method of wastewater treatment for the camp would be a secondary or tertiary treatment system that would allow for the treated waste to be spread to the land surface.

#### Request

Provide details on the method of sewage and greywater waste disposal at the proposed temporary work camp at Moose Bay on Great Slave Lake.

If the camp is to be used the sewage and Greywater will be disposed of in the manner as suggested by INAC:

- waste will undergo a minimum of primary treatment to remove all suspended solids \_ and floatable materials;
- there will be no discharge of floating solids, garbage, grease, free oil or foam;
- discharge of the effluent should take place in a diffuse manner to self-contained areas with minimal slope; and
- all discharges will occur at a minimum of 100m from any waterbody.

IR number:	1.20
Source:	Indian and Northern Affairs Canada (INAC)
To:	<b>Consolidated Goldwin Ventures</b>
Subject:	Temporary camp location on ice

#### Preamble

Consolidated Goldwin Ventures Ltd. has proposed setting up a temporary work camp on the ice at Moose Bay on Great Slave Lake. Situating a work camp on an ice surface can be problematic and precautions should be taken to minimize risk involved. A plan for camp site location, including minimum measurements of ice thickness, should be noted in the application. In addition, heated cabins will have an effect on the integrity and thickness of the ice surface. Cabins should be positioned to allow convective cooling beneath the cabin. An emergency plan should be established and all workers should be informed of protocol for dealing with ice associated dangers.

#### Request

Provide details of the location for camp and services. In addition, include a plan for dealing with ice associated dangers.

At this point it is unknown if a camp will be required. If possible the operations will be helicopter supported and mobilized from Yellowknife. However if a small camp is required, it will be a small 4-6 person camp for the duration of 3-4 weeks (maximum 186 person days). A camp plan will be submitted and will include the location and layout of the camp, minimum measurements of ice thickness an emergency plan addressing the protocol for dealing with ice associated dangers (see Appendix 1: Safety Plan For Operations On Ice). If heated cabins are to be used on the ice surface, they will be positioned to allow convective cooling beneath the cabin.



# Appendix 1

# Safety Plan for Operations on Ice Consolidated Gold Win Ventures Inc.

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#### Introduction 1.

Consolidated Gold Win Ventures is planning to conduct an exploratory diamond core drilling program on identified areas mainly to the north and east of the Drybones Bay Area of Great Slave Lake, NWT. The project will take 2-3 months including site selection, organizing work and contractors, field work, and evaluation of data from field. The actual drilling itself will take 3-4 weeks.

To support the drilling a temporary winter access road, drill sites and a camp may be required to be constructed on ice surfaces. The winter access road and drill sites will by constructed in accordance with existing NWT guidelines for the construction, maintenance and closure of winter roads.

The purpose of this plan is to provide a safety guide for recognizing and dealing with ice associated dangers.

### 2.1 Ice Thickness

Prior to use, the ice will be measured to determine whether its effective thickness is adequate to support the expected load. Table 2.1-1 depicts the required ice thickness for various loads.

	•	
	Weight	Ice Thickness
Ice Strength for Travel	242,500 lb. (121 t)	50 inches (127 cm)
	154,000 lb. (77 t)	40 inches (102 cm)
	100,000 lb. (50 t)	32 inches (81 cm)
	55,000 lb. (28 t)	25 inches (64 cm)
	22,000 lb. (11 t)	15 inches (38 cm)
	17,600 lb. (9 t)	14 inches (36 cm)
	7,700 lb. (4 t)	10 inches (25 cm)
Ice Strength for	242,500 lb. (121 t)	90 inches (229 cm)
Stationary Loads	154,000 lb. (77 t)	70 inches (178 cm)
	100,000 lb. (50 t)	60 inches (152 cm)
	55,000 lb. (28 t)	43 inches (109 cm)
	22,000 lb. (11 t)	30 inches (76 cm)
	17,600 lb. (9 t)	24 inches (61 cm)
	7,700 lb. (4 t)	18 inches (46 cm)

Table 2.1-1 Guide to Required Ice Thickness

Expressed in inches and centimetres

Weights and ice thickness measures rounded to nearest whole

#### 2.1.1 Stationary Loads

With a stationary load the ice surface will sag continuously and may fail, depending on the strength of the ice cover. The safe bearing capability for stationary loads is considered to be 50 percent less than that for moving loads.

#### 2.1.2 Ice Failure Under Stationary Loads

The sequence of failure for stationary loads is as follows:

- radiating cracks form at the bottom of the cover immediately beneath the load (and ultimately propagate through the cover);
- circular cracks form at the upper surface of the cover at some distance from the load (noticeable sagging of the ice may occur);
- the ice shears in a circle immediately adjacent to the loaded surface (failure may be imminent).

Stationary loads will be moved under any of the following conditions:

- when radial cracks develop;
- if noticeable sagging is observed;
- if the rate of sagging increases;
- if continuous cracking is heard or observed;
- if water appears on the surface of the cover.

### 2.2 **Operation Precautions**

The following precautions will be taken when testing for ice thickness or crossing ice covers:

- All persons involved in the drilling program will be familiar with the hazards involved, the precautions to be taken and the basic rescue techniques required in case of a breakthrough.
- Single persons or single vehicles will not be permitted to venture onto an ice cover when there is no help at hand.
- When testing for ice thickness, persons on foot will either carry long poles, to be used as an aid to rescue in case of a breakthrough, or be securely roped together, with minimum spacing of 50 feet (15 m).
- Light vehicles used during test periods and initial build-up should be equipped with an extended frame of logs to provide support if the vehicles break through the ice cover.
- A vehicle speed of 15 km/h will be followed in order to avoid the effects of the hydrodynamic wave.
- Equipment required for rescue operations, such as "mats" (chained or wire-linked small logs or heavy planks as a platform for rescue vehicles) jacks, hoists, *etc.*, should be available near by.
- For a period of 24 hours after a marked drop in temperature, or following the removal of snow from the ice cover during periods of low temperature, loads will be reduced by 50 percent and night-time travel should be discouraged.

#### 2.3 The Use of Snowmobiles on Ice Covers

#### 2.3.1 **Operation Precautions**

The following precautions will be taken when using a snowmobile on ice covers:

- Where there is an alternative, single machines will not be operated unaccompanied over ice covers.
- If single machine operation is unavoidable, the manager of operations should be notified of the route to be taken, the destination and probable time of return.

- Operations should not be conducted over ice covers less than 6 inches (15 cm) thick. •
- Operators will be made aware of and avoid locations where currents or springs may cause dangerous thinning of the ice cover.
- Fog may indicate the proximity of open water; if encountered speed will be reduced and great care taken.
- When unexpectedly encountering open water operators will be instructed to take the normal action is to slow down, brake gently and turn away; otherwise, turn as sharply as possible. If a turn cannot be made in time or a skid results, the operator should roll off the machine.
- Glare from the sun and ice may obscure obstacles or dangerous areas; anti-glare sun glasses will be worn under these conditions.
- Operations at night or at high speeds will be restricted to well-marked and known safe trails or crossings.
- Unless essential, snowmobiles will not be operated on ice bridges or roads with other types of traffic.
- Operators will be advised to avoid operating over slush or water-covered ice; but if • unavoidable, ensure that the tracks are cleared of ice and slush.

#### 2.4 Maintenance

The ice road and ice under the camp and drill sites will be kept clear of excessive snow, and the snow banks kept well back, with slopes of no more than a ratio of 1 to 5. The weight of snow banks can weaken the ice underneath and form relatively deep ditches by slow sagging, and therefore will be leveled out if higher than 3 feet (1 m) or two thirds of the ice thickness, whichever is the larger.

A covering of 3 to 4 inches (7.5 to 10 cm) of compacted snow will be left on the ice surface to provide traction as well as a cushion.

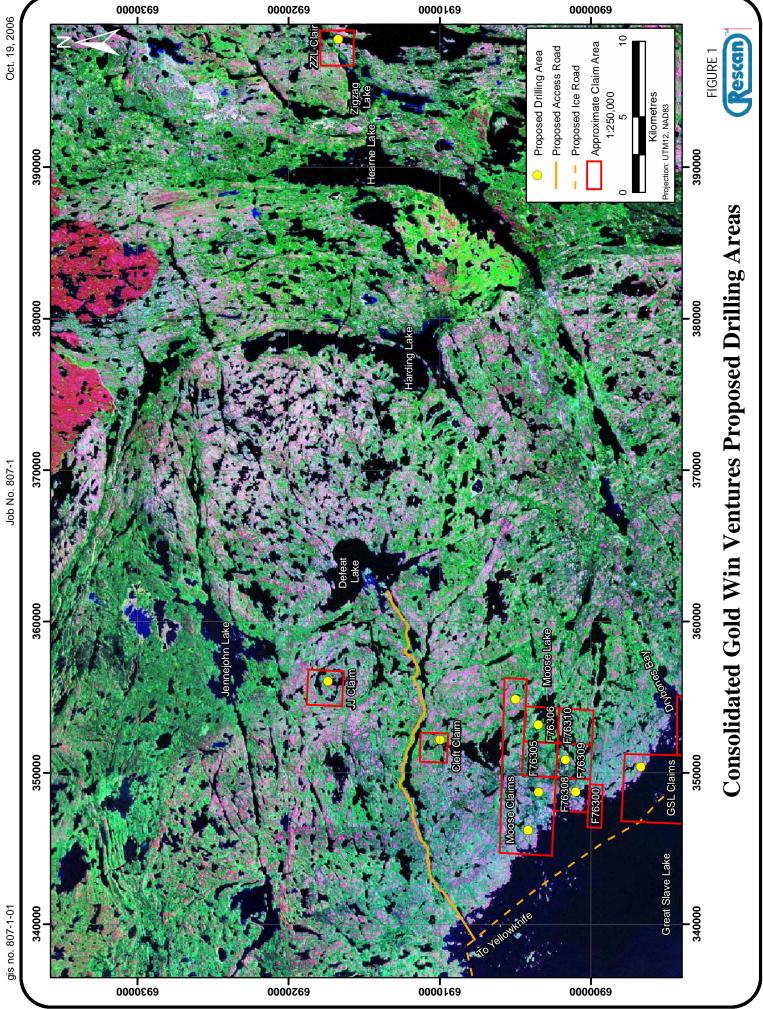
Any heated camp tents will be positioned to allow convective cooling beneath the tent, and a covering of 3 to 4 inches (7.5 to 10 cm) of clean snow will be left under the tent to provide a thermal barrier. Ice conditions under the tent frames and around the camp will be inspected daily.

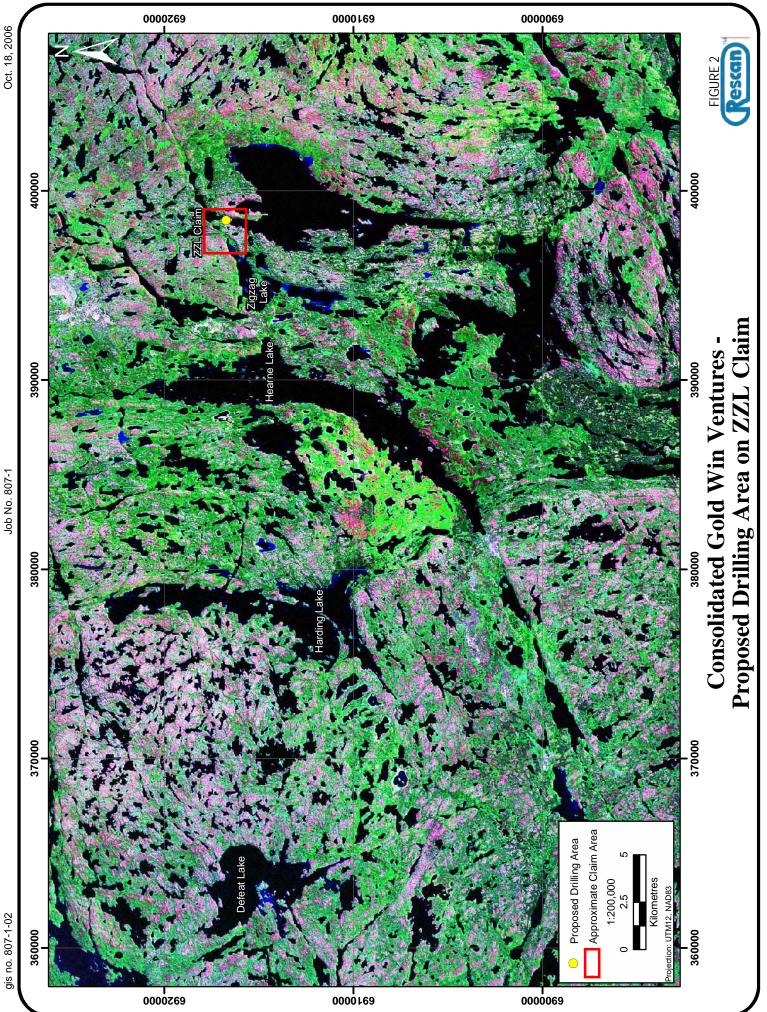
To avoid the absorbance of solar radiation, the surface of the ice will be kept clear of dirt or other dark material, such as oil spots. Puddles of water also absorb heat from the sun and will be "repaired" by filling with snow.

A daily inspection of the ice cover will be checked for cracks, and its thickness measured as outlined in Table 2.1-1. Any wet cracks will be repaired immediately and loads reduced until the refreezing process is completed.



## FIGURES





Oct. 18, 2006

gis no. 807-1-02

