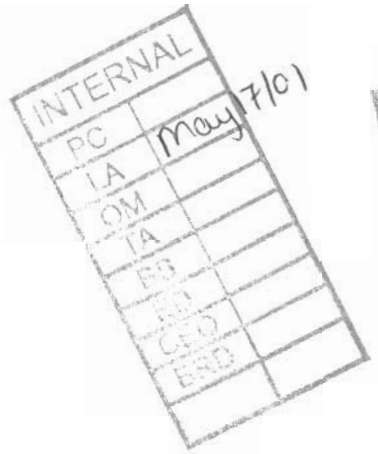

Water Licence Application
Supplementary Questionnaire
for Municipalities

GENERAL

1. Date: October 26/00

2. Applicant: Kimmirut
Municipality

3. Contacts: Tommy Akavak
Name of Contact
Acting SAO
Position
(867) 939-2247
Telephone #
(867) 939-2045
Fax #

4. Municipal Status: ☐ Village ☐ Town
☑ Hamlet ☐ Settlement Corporation

5. Is this a ?
☐ New Application
☑ Renewal -▸ Water Licence # NSL4-1441

II. ATTACHMENTS

1. Attach up- to- date detailed map(s) showing the locations of the:

a. water intake;
b. water storage and treatment facilities;
c. fuel and chemical storage;
d. sewage treatment facilities (lagoon, honey bag pit, wetland);
e. wastewater treatment area and discharge outlets;
f. solid waste disposal areas and drainage patterns;
g. hazardous waste disposal area;
h. access roads;
i. existing water bodies/courses and any changes to these water bodies/courses that have or may occur as a result of water use or waste disposal facilities, locations of environmental monitoring sites. (Outline drainage basin);
j. Areas around the community used for recreation, camping, fishing, etc.
k. abandoned and/or restored water treatment, sewage, and solid waste disposal facilities.

Are maps attached? ☑ Yes ☐ No
If no, please indicate when they will be available.

Who has provided or prepared these maps ?
Municipal Lands Office, Kimmirut

III. WATER SUPPLY

Water Source

1. Type of source: ☑ Lake ☐ River ☐ Well ☐ Other _____

2. Name of water source and alternative, if any.

_____ Primary Source

_____ Secondary Source

3. Usual break-up & freeze-up period: June (Break-up) November (Freeze-up)

Water Storage

1. Type of water storage facility. (check where applicable)
   ☐ Reservoir/Pond ☐ Storage tank ☑ None
   ☑ Other _____ Description

2. If "reservoir" checked:
   Is the reservoir lined? ☐ Yes ☑ No

   What type of liner? _____ When was it installed? _____

Water Treatment

1. What is the quality of the water, and provide water quality results.

Summer:	☑ good	☐ fair	☐ poor
Fall:	☑ good	☐ fair	☐ poor
Winter:	☑ good	☐ fair	☐ poor
Spring:	☑ good	☐ fair	☐ poor

Describe.

_____

_____

3. Type of water treatment.
   ☑ Filtration and chlorination
   ☐ Chlorination only
   ☐ None
   ☐ Other _____ Description

Water Use And Distribution

1. Volume of water use:

Distribution	Estimated number of people on the system **A**	Estimated average water consumption (Litres/capita/day) **B**	Total water consumption (Litres/day) **A x B**
PIPED			
TRUCKED		780,000 L	780,000 L
		TOTAL	780,000 L

General Condition of the water supply facilities

1. General condition of the:

   a. Water supply facility
   ☑ Satisfactory ☐ Unsatisfactory
   If unsatisfactory, explain.

   b. Storage facility
   ☑ Satisfactory ☐ Unsatisfactory
   If unsatisfactory, explain.

   c. Distribution system
   ☑ Satisfactory ☐ Unsatisfactory

   If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* for the water supply system?
   ☑ No ☐ Yes
   If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

2. Are changes needed to the water supply, storage or treatment facilities? Describe. No .

Identification

Are there signs identifying drinking water sources presently used by the municipality ?
☐ No ☑ Yes

IV. SEWAGE DISPOSAL

1. What type(s) of sewage treatment is used ?
   ☑ Lagoon
   ☐ Mechanical system
   ☐ Wetland
   ☐ Honey bag
   ☐ Combination/Other: describe

Lagoon *(if applicable)*

1. Has there been any operating problems with the lagoon?
   ☑ Yes ☐ No
   If yes, describe
   Sewage lagoon is being re-located and we will have a new sewage lagoon in the year 2001. Work underway.

Mechanical System *(if applicable)*

1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).

2. Are sludges produced ?
   ☐ Yes ☑ No

If yes, describe how the sludges are disposed of:

_____

_____

Wetland*(if applicable)*

1. Describe the Wetland wastewater treatment system.

_____

_____

_____

_____

Honey Bag Pit

1. Does the municipality use a honey bag pit?

☐ Yes ☐ No

If yes, describe the location, drainage, and operation/maintenance of the site:

_____

_____

Commercial, Industrial and/or Hazardous Wastes

1. Are there any sources of commercial or industrial *liquid* waste being discharged or deposited to the wastewater treatment system that may affect the quality of the effluent or leachate produced? *(The municipality should be aware that any commercial or industrial discharge has to be approved by the municipality)*

☐ Yes ☑ No

If yes, indicate sources, types and quantities.

_____

_____

Sewage Discharge

1. Are fish, shell fish and other wildlife harvested in or near the discharge area ?

☐ Yes ☑ No

If yes, indicate species harvested, and level of harvest.

_____

_____

General Condition of the sewage treatment facilities

1. General condition of the: Satisfactory

a. Sewage collection system
☑ Satisfactory ☐ Unsatisfactory
If unsatisfactory, explain.

b. Discharge control system
☑ Satisfactory ☐ Unsatisfactory
If unsatisfactory, explain.

c. Dams, diversion dykes, berms
☐ Satisfactory ☐ Unsatisfactory NIL
If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* in the sewage treatment facilities?
☐ No ☑ Yes
If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.
Relocation of sewage lagoon in the works

2. Does the municipality or residents believe changes are needed to the sewage treatment facilities? Describe.
Relocation work already underway.

Abandonment and Restoration

1. List and describe abandoned or restored sewage treatment facilities.
Indicate their location on a map.
None.

Identification

Are there signs identifying past and present sewage disposal sites ?
☐ No ☑ Yes

V. SOLID WASTE DISPOSAL

1. Briefly describe how solid wastes are collected and delivered to the disposal area.
Stake truck collects garbage in town

2. Is the solid waste site fenced? ☑ Yes ☐ No

3. Is the fence adequate? ☐ Yes ☑ No

If no, describe
fence not all around solid waste dump.

Waste Reduction

1. Does the municipality burn garbage ?
☑ Yes ☐ No
If yes, describe how and when this is done.
Garbage is collected three times a week and burned at the end of the day.

2. Has the municipality considered measures for waste reduction such as recycling or reuse?
☑ Yes ☐ No
If yes, describe
Municipality had a pop can recycling program but that is been discontinued.

Animal Carcasses Pit

1. Does the municipality have an area for the disposal of animal carcasses ?
☐ Yes ☑ No
If yes, describe the location, drainage and operation/maintenance of the site

Bulky Scrap Metal Waste Disposal Area

1. Does the municipality have a scrap metal or bulky waste disposal area?
☑ Yes ☐ No
If yes, briefly describe its location and operation plan.
Scrap metal or bulky waste disposal area is on the eastern side of the dump about 150 feet away from the solid waste disposal site

Commercial, Industrial and/or Hazardous Wastes Disposal Area

1. Are there any commercial or industrial waste being discharged or deposited in the solid waste disposal area? *(The municipality should be aware that any discharge of commercial or industrial waste has to be approved by the municipality)*

☑ Yes ☐ No

If yes, please indicate sources, types and quantity.

Waste oil is dumped in open 45 drums & burned.

We are taking measures to store old batteries in metal storage containers

2. Will the municipality use a hazardous waste disposal area?

☑ Yes ☐ No

If yes, describe its:

a. Location

Near the present scrap metal dump.

b. Structure

Metal storage container.

c. Operation and maintenance (describe special handling/disposal methods for these wastes)

Once metal storage container is full, we would like to ship it down south to a proper hazardous waste disposal facility.

General Condition of the Solid Waste Disposal Area

1. General condition of the:

a. Solid waste disposal area

☑ Satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

Modifications

1. Are there any changes planned for the solid waste disposal area?

☑ No ☐ Yes

If yes, attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

2. Are changes needed to the solid waste disposal area? Describe.
We need more fencing around disposal area.

Abandonment and Restoration

1. List and describe abandoned or restored solid waste facilities.
Indicate their location on a map.
NIL

Identification

Are there signs identifying past and present solid waste disposal sites ?
☑ No ☐ Yes

VI. INSPECTION AND MONITORING

1. When were municipal facilities inspected by:
☑ Indian and Northern Affairs Inspector Date: Sept. 11/00
☐ Municipal and Community Affairs Date:
☐ Other: Date:

2. Is there a system in place for reporting spills?
☑ Yes ☐ No
If yes, describe.
There is an 800 number to report skills or we deal with our local Wildlife Officer to report spills

3. Is there a contingency plan for clean up of spills?
☐ Yes ☑ No
If yes, describe.

4. Have any spills occurred in the past five years?
☐ Yes ☑ No
If yes, describe and show on a map the locations of the spills. What action has been taken to clean the affected areas?

Monitoring Program

1. Is water sampling and analysis done ?

☐ No ☑ If Yes, answer the questions a to e

a. Briefly describe how samples are taken and sent to the laboratory.

Samples are taken from the water truck and selected houses and the water samples are taken to the local nurse. She ships them to Iqaluit? for analysis.

b. Briefly describe any monitoring done for wastewater effluent and leachate.

None.

c. Who is responsible for water sampling ?

Mikidjuk Lyta
Name

Acting Building Maintainer
Position

(867) 939-2256
Telephone #

(867) 939-2256
Fax #

He is taken water and sanitation courses
Level of training

d. Laboratory performing analysis of samples.

Bonnie Segal
Name

Iqaluit, NT
Address

(867) 979-7656
Telephone #

?
Fax #

e. Are any changes planned in the water quality monitoring program?

☐ Yes ☑ No

If yes, describe.

VII. PUBLIC CONCERNS

1. What concerns does the municipality or residents have regarding the municipal water supply or

waste disposal facilities? List the concerns and describe what steps have been taken to address those concerns.

There had been concerns about the location of the sewage lagoon and the Community Government department has now started ~~to~~ the relocation to a new site.

VIII. PUBLIC HEALTH *(To be filled by the Regional Environmental Health Officer)*

1. Date: Oct. 31/00

2. Municipality: KIMMIRUT, NT

3. Contact: Bonnie Segal
Environmental Health Officer Contact
(867) 979-7656
Telephone #
Fax #

4. Have there been any problems or health/environmental concerns with drinking water ?
☐ Yes ☑ No
If yes, describe

5. Have there been any problems or health/environmental concerns with sewage disposal/treatment?
☑ Yes ☐ No
If yes, describe Present sewage lagoon is located on a high elevation and there is a creek near the present sewage lagoon.

6. Have there been any problems or health/environmental concerns with solid waste disposal?
☑ Yes ☐ No
If yes, describe
Garbage and plastic bags have blown into the water lake.

Monitoring Program

1. Does the Regional Health Board perform water quality sampling?
☐ No ☑ If Yes, answer questions (a) to (e)

a. Briefly describe the sampling methodology.
Water samples are sent to the Iqaluit lab for analysis

b. Briefly describe any monitoring of wastewater effluent and leachate.
None.

c. Who is responsible for sampling ?

M. Kidjuk Lyta
Name
A/ Building Maintainer
Position
(867) 939-2256
Telephone #
(867) 939-2256
Fax #
foreman's training completed
Level of training

d. Laboratory performing analysis of samples.

EHO / Shawn Mackie
Name
Iqaluit
Address

Telephone #

Fax #

e. Are any changes planned in the water quality monitoring program?
☐ Yes ☑ No
If yes, describe.

IX. TECHNICAL INFORMATION *(Assistance from the Regional Municipal and Community Affairs Office)*

1. Date: May 2/2001

2. Municipality: Kimmirut

3. Contact: Doug Sitland / Frank Pearce
MACA Representative/Position
(867) 975-5300
Telephone #
(867) 979-5811
Fax #

4. Population (according to most recent census results): 419

5. Estimated growth rate over next 5 years: 460

6. Has any baseline data collection and evaluation been undertaken with respect to the physical, biological, and chemical characteristics of the main water bodies in the area?
☑ No ☐ Yes
If yes, provide details below:

Prepared by	Title	Completion Date
Tommy Akavak	A/SAO	May 7/2001

If no, are such studies being planned?
☑ No ☐ Yes (If yes, when and by whom):

7. Have Elders been consulted in the collection of baseline data on main water bodies in the area?
☑ No ☐ Yes.
If yes, specify.

8. Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project?

☑ No ☐ Yes
If yes, provide details below.

Prepared by	Title	Completion Date

If no, are such studies being planned?
☑ No ☐ Yes. If yes, specify: _____

Attachments

1. Attach detailed plan or drawing(s) of the present *solid waste disposal area*. Include the following information:

   a. details of pond size and elevation;
   b. details of all retaining structures (dimensions, materials of construction, etc.);
   c. details of the drainage basin, and existing and proposed drainage modifications;
   d. details of all decant, siphon mechanisms etc., including sewage treatment facilities;
   e. details regarding direction and path of wastewater flow from the area;
   f. distance from watercourses and fish bearing waters;
   g. location and construction of liners;
   h. leachate and groundwater collection systems; and
   i. control structures.

2. Attach detailed plan or drawing(s) of the present *sewage treatment system*. The drawing(s) should include the following:

   a. details of all retaining structures (dimensions, materials of construction, etc.);
   b. details of the drainage basin, and existing and proposed drainage modifications;
   c. details regarding direction and path of wastewater flow from the area;
   d. indications of the distance from watercourses and fish bearing waters;
   e. all sources of seepage presently encountered near these areas, including volumes (m^3/day) and directions.

Are drawings for the solid waste disposal area and sewage treatment system attached?
☑ Yes ☐ No
If Yes, who has provided them ? Water Board

If no, indicate when they will be available

Hydrology

1. Effects on surface water flow:

Are any stream channels altered? ☐ Yes ☑ No

Is the natural storage or water level of any lake or pond changed? ☐ Yes ☑ No

Are there changes in water flow downstream of the project? ☐ Yes ☑ No

Is a storage reservoir created in a natural channel? ☑ Yes ☐ No

If yes to any of the above, briefly describe the expected change in flow or storage:

No expected change in flow

2. Drainage Area:

What is the drainage area? 1 km^2

What is the average elevation of the drainage basin? 500 metres

Is the drainage basin outlined on an attached map? ☐ Yes ☑ No

Describe the drainage basin characteristics, (vegetation, general soil type, lakes, swamps and permafrost areas, etc.)

Sand and soil

3. Channel characteristics:

Is the course of any channel changed? ☐ Yes ☑ No

If yes, describe measures to maintain stream bed and bank stability.

4. Will the cross-section of any watercourse be changed? ☐ Yes ☑ No

If yes, describe the change and its effect on the flow capacity of the channel.

Water Supply

1. What is the rate of withdrawal from the source? 5 m^3/day.

2. Is water drawn from the source ☑ intermittently ☑ continuously

3. If it is drawn intermittently, during what month(s) is it drawn? _____

4. For what period is it drawn (days/weeks/months)? Monday to Saturday

5. What is the rate of flow of source (if river) or size (if lake)? 1 Km long (approx.)

6. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.
Kimmirut is a small community and it has none or minimal effects on the lake

Water Intake

1. Please provide short descriptions of the following:
   a. freshwater intake facility
   Water Fill Station

   b. operating capacity of the pumps
   good

   c. intake screen size
   small

Water Storage

1. Type of water storage facility (check where applicable)
   ☐ Reservoir/Pond ☐ Storage tank ☐ None
   ☑ Other Water Fill Station (pumps from lake)
   Description

2. If "reservoir":
   Is the reservoir lined? ☐ Yes ☐ No
   What type of liner? _____ When was it installed? _____

3. Is a dam or dyke being used to store or alter the flow of water? ☐ Yes ☑ No

4. What are the dimensions of the dam or dyke?
   Length: _____ Width: _____ Height: _____
   U/S slope: _____ D/S slope: _____

5. Does the proposed dam create a reservoir in a natural watercourse?

☐ Yes☐ No

If yes, what is the storage capacity and surface area of the reservoir?

_____ m^3 _____ ha.

6. Will the dam or dyke affect fish migration or movement ?

☐ Yes ☐ No

If yes, describe all measures for compensation of fish habitat lost due to the dam or dyke, and mitigation for fish migration or movement.

_____

_____

Water Treatment

1. Indicate the capacity of the treatment facility. _____ L/min

2. What is the capacity of the water storage facility._____ m^3

3. Describe the method of water treatment (i.e., backwash, flocculation, sedimentation, chemicals used), and provide the results of the most recent bacteriological and chemical analysis. Attach a diagram, if possible.

_____

_____

4. Are there any changes planned in the water treatment facilities?

☑ No ☑ Yes

If yes, attach a copy of the plan or indicate changes and include an implementation schedule. Include excerpt from MACA Capital Plan if available.

_____

_____

_____

Sewage Disposal

1. Indicate the level of sewage treatment:

☑ primary ☐ secondary ☐ tertiary

Pre-treatment (if applicable): ☐ screening ☐ maceration

Lagoons (if applicable): ☑ anaerobic ☐ aerobic ☐ facultative

2. Indicate the capacity of the sewage treatment facility 6 m^3

3. Based on current population projections, the facility will meet the needs of the community until the year Yes .

4. Average depth of the wastewater lagoon 5 m.

5. What is the design freeboard? _____ m.

6. Indicate the retention time of the sewage while in the treatment facility_____ days.

7. Indicate the estimated rate of discharge of wastewater_____ L/sec.

8. Indicate the location of the discharge point_____.

9. Is the discharge: ☐ seasonal ☐ continuous
If the discharge is seasonal, during what month(s) is it done? _____
What is the duration of the discharge (days/weeks/months) ? _____

10. Are there any changes planned in the sewage disposal facilities?
☐ No ☑ Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.

Include excerpt from MACA Capital Plan if available.

_____

_____

_____

Solid Waste Disposal

1. Indicate the capacity of the disposal area _____ m^3

2. The *average* depth of the solid waste disposal site _____ m.

3. The current facility will meet community needs until the year _____.

4. Do any natural watercourse enter the solid waste disposal area? What methods are used to decrease the amount of runoff water entering these areas?

_____

_____

5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions.

Source	Volume (m^3/day)
_____	_____
_____	_____
_____	_____

6. Please describe any diversions of watercourses:

7. Are there any changes planned in the solid waste disposal facilities?
☑ No ☐ Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.
Include excerpt from MACA Capital Plan if available.

Other

1. Describe any additional details on the existing municipal facilities which should be considered by the Nunavut Water Board during it review.