Nunavummi Qaujisaqtulirijikkut /Nunavut Research Institute
Box 1720, Iqaluit, NT XOA OHO phone: (819) 979-4108 fax: (819) 979-4681 email: slcnri@nunanet.com

Reviewer Recommendation Form: Land &/or Water based Research

Applicant Name:	**Malcolm Stephenson**
Project Name:	**CanZinco Limited, Environmental Effects Monitoring Field Study**

Review Panel Name:	**Executive Director NWB**
Region:	**Strathcona Sound**

Research Discipline: Contaminants

Panel Comments:

Requested Terms or Conditions:

Recommend Approve ☐ Recommend Reject ☐	Annual ☐ or Multi-year ☐	Signature	Title:	Date

7/23/2004

DISTRIBUTION

Please find enclosed a copy of an application for a *Science Research License* from **Malcolm Stephenson**, **c/o, Jacques Whitford Limited.**

Malcolm Stephenson's research is titled ***"CanZinco Limited, Environmental Effects Monitoring Field Study"*** and is proposed to take place from July 30, 2004 to August 30, 2004.

As per the **Scientists' Act** of Nunavut, community consultation is required before a Science Research Licence can be issued. The documentation is provided for your information and review. A ***Reviewer Recommendation Form*** is enclosed for your response by August **30, 2004.**

Thank you for your continued assistance. Please contact our office if you have any questions or concerns regarding the above.

Renee Malcom

per Mary Ellen Thomas
Manager, Research Liaison

encl.

cc: Environmental Assessment Screener NIRB
Lands Adminstrator QIA
Executive Director NWB
Director of Wildlife Management NWMB
Mayor SAO Arctic Bay
Chariperson HTO Arctic Bay
Area Manager DFO
Executive Director NPC

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ᑎᑎᕐᑲᓂᐊᕐᕕᒋᑦ ᐳᓚ 1720, ᐃᖃᓗᐃᑦ, ᓄᓇᕗ X0A 0H0, ᐅᖃᓘᑦ: (867) 979-6734, ᓱᑲᔪᒃᑯᑦ: (867) 979-4681, ᖃᕆᑕᐅᔭᒃᑯᑦ ᑎᑎᕐᓇᓕᐊ: iqrcnri@nunanet.com
ᖃᕆᑕᐅᔭᒃᑯᑦ ᓴᕿᔮᕐᑎᑕᖏᑦ / Web site: www.nunanet.com/~research

Nunavut Arctic College

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www.nunanet.com/~research

may not be used for Scientific purposes

SCIENTIFIC RESEARCH LICENCE APPLICATION
(Land, Freshwater & Marine Based Research)

SECTION 1: APPLICANT INFORMATION

1. Applicant Information	
Applicant's full name, title, and mailing address:	Dr. Malcolm Stephenson c/o Jacques Whitford Limited 711 Woodstock Road, PO Box 1116 Fredericton, NB E3B 5C2
Fax:	506-452-7652
Phone:	506-457-3200
Email:	malcolm.stephenson@jacqueswhitford.com
2. Supervisor Information	
Field Supervisor (address, if different from above)	as above
Phone: (radio or otherwise)	506-461-5492 (cellular)
3. Other Personnel	
List name and position:	Mr. David Blanchard, Field Technician with Jacques Whitford Mr. Robert Carreau, Corporate Manager, Environmental Affairs with Breakwater Resources Limited
Total # of personnel:	2
Total # of person days:	14

SECTION 2: AUTHORIZATION NEEDED

4. Authorization

Contacts	
List the organizations you will contact for necessary authorizations associated with the project:	Department of Fisheries and Oceans Canada, Mr. Garth Reid

5. Authorization	
List the active permits, licences, or rights related to the project and their expiry date:	none

SECTION 3: PROJECT PROPOSAL DESCRIPTION

6. Project Duration:	
Period of operation:	July 30, 2004 - August 30, 2004
Proposed term of permit:	July 30, 2004 - August 30, 2004
Project Title:	CanZinco Limited, Environmental Effects Monitoring Field Study

7. Location(s) of data collection:

Location Name	Region	Latitude	Longitude	NTS Map	Land Status
Strathcona Sound	Nunavut	73 05 00	84 33 00	048C01	Channel
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

NON-TECHNICAL PROJECT PROPOSAL SUMMARY

8. Non-Technical Project Proposal Summary	

SECTION 4: MATERIAL USE

9. List equipment (including drills, pumps, aircrafts, etc.)			

Equipment Type and Number	Size-dimensions	Proposed Use
Fishing jigs	-	fish Arctic cod and short-horned sculpin
gill nets	0.5-4 inch mesh	fish Arctic cod and short-horned sculpin
small water craft	16ft	boat used for fishing
-	-	-
-	-	-
-	-	-

10. Detail fuel and hazardous materials use

Fuels	Number of Containers	Capacity (gal/litres)
Diesel	-	-
Gasoline	1	10 gal/40L
Aviation Fuel	-	-
Propane	-	-
Other	-	-
Hazardous Materials	**Number of Containers**	**Capacity (gal/litres)**
none	-	-
-	-	-
-	-	-
Describe method of fuel transfer	An outboard motor will be used in conjunction with a 16ft boat. Any fuel handling associated with the outboard motor will take place on land, at fuel facilities operated by the Nanisivik Mine.	

11. Spill Contingency Plan

Describe any procedures and materials in place to handle accidental spills. Please fax or mail your spill contingency plan and other	Nanisivik Mine has all necessary procedures and materials to absorb and

appropriate information about the hazardous materials associated with the proposed project.	clean up any minor fuel spills.

SECTION 5: WASTE DISPOSAL AND TREATMENT FACILITIES

12. Describe amount and methods of disposal:

Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Sewage	minimal	Town of Nanisivik	none
Grey Water	minimal	Town of Nanisivik	none
Garbage	minimal	Town of Nanisivik	none
Overburden	-	-	-
Hazardous Waste	none	-	-
Other	-	-	-

SECTION 6: RESTORATION AND ABANDONMENT PLANS

13. Site Restoration

Describe the proposed procedure for site restoration upon abandonment of any area associated with the project.	Accommodations will be provided by the Nanisivik Mine. There will be no use of field camps and no impacts on the land resulting from this project.

SECTION 7. ENVIRONMENTAL IMPACT

14.

Indicate and describe the components of the environment that are near the project area, as applicable. Fax or mail any relevant maps or information.	

Type of Species		Important Habitat Area	Critical Time Periods
Fish:	short-horned sculpin, Arctic cod	n/a	n/a
Caribou:	n/a	-	-
Muskox:	n/a	-	-
Raptor:	n/a	-	-
Migratory Birds:	n/a	-	-
Waterfowl:	n/a	-	-
Seals:	n/a	-	-
Whales:	n/a	-	-
Narwhals:	n/a	-	-
Canid Family:	n/a	-	-
Bears:	n/a	-	-
Eskers::	unknown	-	-
Communities:	Nanisivik, Arctic Bay	-	-
Sites:	unknown	-	-

15.

Indicate and describe other known uses of the area such as local development, traditional use (hunting/fishing/spiritual), outfitting, tourism, mineral development, research, etc.	Sampling will be conducted within or adjacent to the Nanisivik Mine land area leased by CanZinco Ltd., and a dock area owned by the Canadian Coast Guard. There is little or no use of this area for traditional purposes by local residents. Biological resources such as seals, whales, narwhal, polar bear and waterfowl are rarely observed in the inner portions of Strathcona Sound.

16.

Describe the impact of the proposed project activity on the environmental components and uses, in the area listed above.	No adverse environemental impacts are anticipated.

17.

What are some suggested mitigation measures for these impacts?	n/a

SECTION 8: COMMUNITY INVOLVEMENT AND REGIONAL BENEFITS

18. Community Representatives

List the community representives that you have contacted about this proposed project.

Community	Name	Organization	Date contacted	Means	Telephone	Fax
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

10. Local Involvement

Describe the level of involvement that the residents of Nunant have had with respect to the proposed project. Elaborate on local employment opportunity, local benefits, training programs (if applicable)	

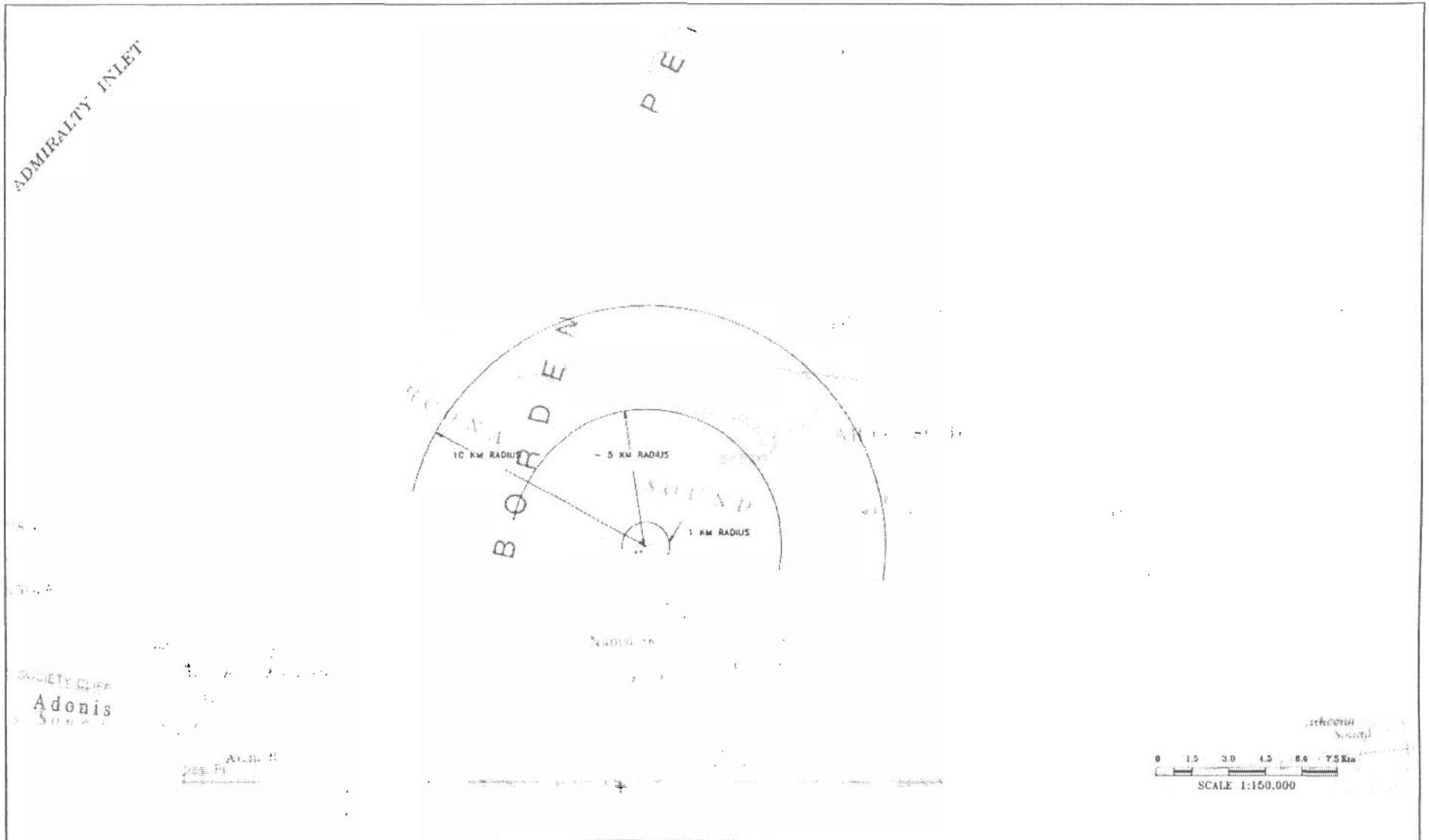
11. Community Support

Describe, and fax or mail documentation regarding community concerns or support for the proposed project.	Nanisivik Mine has all necessary procedures and materials to absorb and clean up any minor fuel spills.

12. Traditional Knowledge

Is there a Traditional Knowledge (TK)	

component to this research project?	



PRIMARY HUNTING AND FISHING AREAS:	ANIMALS / BIRDS HUNTED:	Date: 2004 07 08	Scale: AS SHOWN	Jacques Whitford Consulting Engineers Environmental Scientists
VISITS TO NANISIVIK:	TRADITIONAL RESOURCES / IMPORTANT PLACES:	Job No.: 15058	Fig. No.: A-2	

FILE: COMMUNITY

Nunavut Research Institute
Scientific Research License Application
Reference Number 61

The objective of the research program is to collect samples as required to comply with the *Metal Mining Effluent Regulation* (*MMER*) of the *Fisheries Act*. Under that Regulation, operating mines in Canada are required to carry out an Environmental Effects Monitoring (EEM) program. Jacques Whitford has been retained by Breakwater Resources Limited, the owner of the Nanisivik Mine, to carry out the required EEM program. As a component of the EEM program, the Nanisivik Mine is required to collect fish samples from "exposed" and "reference" locations in order to evaluate the potential effects of the mine effluent on fish. The proposed study design has been reviewed and approved by the Technical Advisory Panel (TAP) established for that purpose by Environment Canada.

The Authorizing Officer with Environment Canada is:

Jenny Marie Ferone, M.Sc.
Regional Environmental Effects Monitoring Coordinator
Environmental Protection Branch
Prairie and Northern Region
Room 200, 4999 – 98 Ave.
Edmonton, Alberta
T6B 2X3
Canada

jenny.ferone@ec.gc.ca

Fish will be collected from Strathcona Sound, in the northern part of Baffin Island. Strathcona Sound is located at Latitude 73° 05′ 00″ N, 84° 33′ 00″ W. Fish from the "exposure" area will be collected near the mouth of Twin Lakes Creek. Fish from the "reference" area will be collected near the mouth of the Strathcona River. The sampling program will be July 30, 2004 and end date before August 30, 2004.

The target species will be shorthorn sculpin (*Myxocephalus scorpius*) and Arctic cod (*Boreogadus saida*). A minimum sample size of 20 male and 20 female fish, of each species, will be sought at both the exposure and reference areas. In order to ensure that the desired representation of both sexes can be obtained, it is requested that the permit allows for the retention of up to 100 shorthorn sculpin and 100 Arctic cod, in total. Fish will be killed by a blow to the head, and will be held intact in a frozen condition prior to being shipped to Fredericton, NB, where they will be thawed and dissected as per the requirements of the *MMER*.

The fishing gear to be used will include angling with jigs, and gill nets (a standard experimental gill net set with mesh size ranging from 0.5 inch to 4 inch), and angling using jigs. Angling will be the preferred method, as past experience at the site has shown this to be very efficient and selective. Non-target species will be released alive to the waters where they were caught.

Gill nets, if they are used, will be tended regularly, and every effort will be made to release any by-catch alive and unharmed. The gill nets will be clearly marked with the name and contact information for the owners (Jacques Whitford Limited).

Fish will be dissected to obtain some or all of the following data: total length, total weight, sex, liver weight, gonad weight, otoliths for aging, and muscle tissue samples for metals analysis. Fish will be examined for external and internal condition, and the presence of lesions, tumors, or parasites will be noted.

ᓄᓇᕗᕐᒥ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐱᓕᕆᔨᑦ
ᑭᒃᓕᓯᓂᐊᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕈᒪᔪᑎᒥᒃ ᐱᔪᓐᓇᐅᑎᑕᕐᓯᑎ
ᑎᑎᕋᕐᓯᒪᔪᖅ ᓇᓴᐅᑕ 61

ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑐᕋᒐᖃᕐᓂᐊᕐᑐᖅ ᑲᑎᑦᑎᓗᑎᒃ ᖃᐅᔨᓴᒐᒃᓴᐅᔪᓂᒃ ᒪᓕᒃᓗᒋᑦ ᐱᔭᕆᐊᖃᕐᑐᑦ ᓴᕕᒃᓴᐃᑦ ᐅᔭᕋᒃᓂᐊᕐᑕᐅᓱᑦ ᐱᖁᔭᖏᓐᓂ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐱᖁᔭᖏᓐᓂ. ᐱᖁᔭᑎᒍᑦ, ᐅᔭᕋᒃᓂᐊᕐᕕᐅᔪᑦ ᑲᓇᑕᒥ ᐊᕐᑭᒃᓯᓯᒪᔭᕆᐊᖃᕐᑎᑦᑎᒃᒪᑕ ᐊᕙᑎᑦᑎᓐᓄᑦ ᖃᓄᐃᔪᑕᐅᔪᓐᓇᕐᑐᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᖏᑦ. ᔭᒃ ᕗᐃᑦᕗᑦ ᑎᓕᔭᐅᓯᒪᔪᑦ ᐳᓚᐃᒃᕗᐊᑐᒃᑯᓐᓂᑦ, ᓇᓂᓯᕕᒃᒥ ᐱᖁᑎᖃᕐᑎᐅᔪᑦ, ᖃᐅᔨᓴᖁᔨᓪᓗᑎᒃ ᐊᕙᑎᖓᓄᑦ ᖃᓄᐃᔪᑕᐅᔪᓐᓇᕐᑐᓂᒃ. ᐊᕙᑎᖓ ᖃᐅᔨᓴᕐᑕᐅᓕᕐᐸᑦ ᐱᖃᓯᐅᔨᔭᕆᐊᖃᕐᒪᑕ ᓇᓂᓯᕕᒃᑯᑦ ᐃᖃᓗᒃᓂᒃ ᖃᐅᔨᓴᕐᓗᑎᒃ ᓴᕿᔭᕐᕕᐅᔪᒥᑦ ᐊᒻᒪᓗ ᐅᖃᐅᓯᐅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᓂᒃ ᐃᖃᓗᒃᓄᑦ ᖃᓄᐃᔪᑕᐅᒐᔭᕐᑐᓂᒃ ᖃᐅᔨᓴᕐᓗᑎᒃ. ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᐊᑐᕐᓂᐊᕐᑕᖏᑦ ᖃᓄᐃᓕᐅᕐᓂᖏᓪᓗ ᐊᖏᕐᑕᐅᓯᒪᔪᑦ ᕿᒥᕈᔭᐅᓯᒪᓪᓗᑎᒃᓗ ᐃᓗᓕᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᑎᐅᔪᓂᒃ ᐊᕿᒃᑕᐅᓯᒪᔪᑦ ᐊᕙᑎᓕᕆᔨᒃᑯᓐᓂᑦ ᑲᓇᑕᒥ.

ᑲᒪᔨᐅᔪᖅ ᐊᖏᕐᑎᐅᓪᓗᓂᓗ ᐊᕙᑎᓕᕆᔨᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᐅᓇ:

Jenny Marie Ferone, M.Sc.
ᐊᕙᑎᑦᑎᓐᓄᑦ ᖃᓄᐃᔪᑕᐅᔪᓐᓇᕐᑐᓄᑦ ᑲᒪᔨᐅᔪᖅ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐱᓕᕆᔨᖏᑦ
ᐅᑭᐅᕐᑕᕐᑐᒧᑦ
ᐃᑦᒪᑕᓐᓂ

ᐃᖃᓗᐃᑦ ᖃᐅᔨᓴᕐᑕᐅᔪᑦ ᑲᖏᕐᓗᒃᒥᖓᕐᓂᐊᕐᑐᑦ, ᐅᐊᒃᓇᖓᓂ ᕿᑭᕐᑕᓗᑦ, ᐊᕐᕙᕐᑐᑦ ᑲᖏᕐᓗᐊᓂᑦᑐᑦ. ᓄᓇᖑᐊᑎᒍ 73.05 ᐅᐊᒃᓇᖓ 84.33 ᐊᑭᓐᓇᖓ. ᐃᖃᓗᐃᑦ ᓴᕿᔭᕐᑐᒥᑦᑐᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᑯᖓᑕ ᐃᓱᐊᓂᑦ ᑕᕆᐅᕐᒧᑦ ᑯᒃᑕᖓᑕ ᑯᕕᕐᑕᕐᕕᒃᒥᖓᕐᑐᖅ. ᐃᖃᓗᐃᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᑯᖓᑕ ᐃᓱᐊᓂᑦ ᑕᕆᐅᕐᒥ ᐅᔭᕋᒃᓯᐅᕕᐅᔪᑦ ᑯᖓᓂ. ᕐᐅᔨᓴᕆᐊᕐᓂᐊᕐᑐᑦ ᔪᓚᐃ 30, 2004-ᒥ ᐃᓱᓕᓪᓗᓂᓗ ᐊᒋᓯ 30, 2004-ᒥ.

ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᐅᑯᐊᖑᔪᑦ ᑲᓇᔪᐃᑦ ᐅᒐᐃᓪᓗ. ᐅᓄᕐᓂᖃᕐᑐᑎᒃ 20 ᐊᖑᑎᑦ 20 ᐊᕐᓇᐃᑦ ᐊᑐᓂ ᐃᖃᓗᐃᑦ ᑕᒪᕐᒥᒃ ᓴᕿᔭᕐᑐᒥ ᐅᖃᐅᓯᐅᓯᒪᔪᕐᒥᓗ. ᐸᑐᓂ ᐊᕐᓇᐅᓂᖏᑦ ᐊᖑᑎᐅᓂᖏᓪᓗ ᓇᒻᒪᒃᑐᒥᒃ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᒪᑕ ᐅᓄᕐᓂᖃᕐᑐᓂᒃ 100-ᓂᒃ ᑲᓇᔪᕐᓂᒃ ᐅᒐᕐᓂᒃᓗ ᐃᖃᓗᒐᓯᒃᑲᔭᕐᑐᑦ ᖃᐅᔨᓴᒐᒃᓴᓂᒃ. ᐃᖃᓗᒃᑕᐅᔪᓪᓗ ᑐᖁᑕᐅᖃᑦᑕᕐᓗᑎᒃ ᐊᕙᕐᑕᐅᓗᑎᒃ, ᖁᐊᕐᑎᑕᐅᓗᑎᒃᓗ ᖁᐊᖑᐃᓐᓇᕐᕋᔭᕐᓗᑎᒃ ᐊᐅᕐᓕᕐᑎᑕᐅᓗᑎᒃᓗ ᖃᓪᓗᓇᓄᑦ ᑕᐃᑲᓂᓗ ᐊᐅᒃᑎᑕᐅᓗᑎᒃ ᖃᐅᔨᓴᕐᑕᐅᒐᔭᕐᑐᑦ.

ᐃᖃᓗᒐᓱᑕᐅᓂᐊᕐᑐᖅ ᐊᐅᓚᓴᐅᑎᑦ ᐊᒻᒪ ᒪᕐᑎᑦᑕᐅᑎᑦ (ᐳᑐᖏᑦ ᐊᖏᓂᖃᕐᑐᑎᒃ 0.5 ᐃᓐᓯᕝᒥᑦ ᒃ ᐃᓐᓯᒧᑦ) ᐊᐅᓚᓴᕐᓗᑎᒃᓗ ᐃᖃᓗᒐᓱᒃᓗᑎᒃ. ᐊᐅᓚᓴᕐᓗᑎᒃ ᐱᓇᓱᒃᓂᕐᓴᐅᓂᐊᕐᑐᑦ, ᑭᖑᓂᖓᑦᑎᓐᓂᓗ ᖃᐅᔨᓴᕐᑕᐅᖃᑦᑕᕐᓯᒪᒃᒪᑕ ᐊᐅᓚᓴᕐᑕᐅᓪᓗᑎᒃ. ᐱᓇᓱᒃᑕᐅᖏᑦᑐᑦ ᐃᖃᓗᒃᑕᐅᒐᖓᑕ ᐅᑎᕐᑎᑕᐅᖃᑦᑕᕐᓂᐊᕐᑐᑦ ᐃᒪᓄᑦ.

ᒪᕐᑎᑦᑕᐅᑎᑦ, ᐊᑐᕐᑕᐅᓂᐊᕈᑎᒃ, ᖃᐅᔨᓴᕐᑕᐅᖏᓐᓇᕋᔭᕐᑐᑦ, ᐱᓇᓱᒃᑕᐅᖏᑦᑐᓪᓗ ᒪᕐᑎᓯᒪᔪᑦ ᖃᓄᐃᓕᑎᑕᐅᑦᑕᐃᓕᒪᓂᐊᕐᑐᑦ. ᒪᕐᑎᑦᑕᐅᑎᑦ ᐊᑎᓕᐅᕐᓯᒪᓂᐊᕐᑐᑦ ᖃᐅᔨᒪᓇᕈᑕᐅᔪᒥᒃ ᑭᓇᒃᑯᓐᓄᑦ ᐱᒋᔭᐅᒃᒪᖓᑕ.

ᐱᖃᓗᐃᑦ ᐱᓕᒃᑕᐅᒐᔭᕐᑐᑦ ᖃᐅᔨᓇᓱᒃᑕᐅᓗᑎᒃ: ᑕᑭᓂᖏᑦ, ᐅᕿᖏᓐᓂᖏᑦ, ᐊᖑᑕᐅᓂᖏᑦ ᐊᕐᓇᐅᓂᖏᓪᓗᓐᓂᑦ, ᑎᖑᒐᑕ ᐅᕿᖏᓐᓂᖓ, ᐅᔭᕋᐃᑦ ᓂᐊᖁᐊᓂᑦᑐᑦ ᖃᓄᕐ ᐃᓐᓇᐅᑎᒥᒃᒪᖓᑕ ᖃᐅᔨᓴᐅᑕᐅᔪᑦ, ᓂᕿᖓᓂᓪᓗ ᖃᐅᔨᓴᕐᑕᐅᓂᐊᕐᑐᑦ ᑕᒃᑯᐊ ᓴᕕᒃᓴᖃᕐᒪᖓᑕ. ᕐᐅᔨᓴᕐᑕᐅᓂᐊᕐᒥᔪᑦ ᑕᐅᑦᑐᖏᑦ ᓯᓚᑎᖓ ᐃᓗᖓᓗ ᖃᓄᐃᖏᑦᑎᐊᕋᓗᐊᕐᒪᖓᑕ, ᖃᐅᔨᓴᕐᒥᓗᑎᒃᓗ ᕿᓕᕈᖏᓐᓂᒃ ᐅᕙᓗᓐᓂᑦ ᖁᒪᖏᓐᓂᒃ.