March 29, 2002

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This is to acknowledge receipt of your ***Annual Summary Report*** on the project "Laurentide Ice Sheet dynamics and Chronology in the Clyde River Region, Nunavut", license number **0202601N-M** granted on May 28, 2001.

NRI appreciates the information you have submitted. Your report will be placed on file at NRI and copies of your report will also be distributed to those agencies that were involved in the licensing review process for your project. Your report will also be a welcome addition to the NRI database.

The NRI database is used to assist in replying to public requests for information, and to provide information to other researchers who may wish to undertake similar projects. We hope that sharing information will help to foster growth in Northern science and increase awareness of the value of research to Nunavut residents.

We look forward to receiving a copy of the ***Final Report*** on your project, whether it is a paper, thesis, or other publication. Computer disk copies in Word Perfect or Microsoft Word would be most appreciated if you would like posting or referencing of your report on the NRI web site (www.nunanet.com/~research).

In closing, we trust your research experience in Nunavut has been positive and ask that you please encourage your colleagues to contact NRI if they intend to undertake a research project in Nunavut. We look forward to assisting them in obtaining proper approvals from community agencies, Designated Inuit Organizations for the Nunavut Land Claim and government regulatory bodies.

Regards,

Mary Ellen Thomas
Manager, Research Liaison

cc: Environmental Assessment Screener, NIRB
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Nunavut Arctic College

Antarctic-style glaciation of Baffin Island 20,000 years ago

Jason Briner and Gifford Miller, University of Colorado

Twenty-thousand years ago, during the height of the last Ice Age, Baffin Island probably looked a lot like Antarctica does today. Our team of researchers from the University of Colorado is conducting research on the land surrounding Clyde River, searching for clues about the extent and dynamics of the Laurentide Ice Sheet. The Laurentide was a circular ice sheet that covered most of Canada, similar in shape and size to the ice sheet in Antarctica today. It existed from about 110,000 years ago to about 6,000 years ago, growing and shrinking during that time, but probably reaching its largest form about 20,000 years ago.

As we learn more, we are discovering that the Laurentide Ice Sheet probably behaved like the Antarctic ice sheet. It was comprised of fast-moving, low-gradient ice streams that brought ice from the interior to the Baffin Bay and Labrador Sea coastlines. In between these ice streams (which filled Hundson Strait, Cumberland Sound, and the fiords along the northeastern coast of Baffin Island), there was slow-moving ice that didn't modify the landscape like the erosive ice streams did.

This overall picture of the Laurentide Ice Sheet is based on many decades of research, but we've had some recent breakthroughs as a result of our work near Clyde River. Most of the important information that we're gathering today is based on a new technique that helps us understand the past dynamics of the ice sheet: cosmogenic exposure dating.

Cosmogenic exposure dating is a technique that has allowed us to learn when the ice sheet last covered Clyde River. Here's how it works: cosmic rays that bombard the Earth's surface alter the chemical make-up of rock surfaces. We understand the rate at which this happens, and we can process rock samples in our laboratory at the University of Colorado to find out how much alteration has taken place in rocks on Baffin Island. The longer a rock is exposed at the surface, the more altered it is by cosmic rays. Because glaciers and ice sheets pick up boulders and deposit them at their snouts, we can determine when an ice sheet existed in the past by doing cosmogenic exposure dating on those glacial boulders.

The glacial boulders on the land surrounding Clyde River are evidence that the Laurentide Ice Sheet covered Clyde River sometime during the last Ice Age. Our current research, based on the results of cosmogenic exposure dating, has revealed that it was about 20,000 years ago. But, this isn't new. This result was almost predictable because there have been similar findings elsewhere on Baffin Island. We made a more startling discovery by investigating some of the highlands that surround Clyde Inlet.

For at least a century, Arctic researchers have observed that fiords go hand-in-hand with upland plateaus that exist in between fiords. And they've noted that while the fiords feature fresh bedrock that was scoured by glaciers in the past, the upland surfaces are

highly weathered and therefore may have never been glaciated. When our team investigated the upland surfaces near Clyde River, we were surprised to find conspicuous boulders that reminded us of the same glacial boulders seen at lower-elevations.

By using cosmogenic exposure dating, we were able to test the idea that these conspicuous boulders on the uplands were deposited by glaciers. We discovered that the boulders were deposited during the same time that similar boulders were being deposited on the lowlands, about 20,000 years ago. But, the upland surfaces upon which the glacial boulders lie are at least hundreds of thousands of years old.

Our findings paint an interesting picture. Landforms indicative of fast-moving erosive ice are found in Clyde Inlet, and date to about 20,000 years ago. At the same time, glacial boulders were deposited directly on the ancient upland surfaces adjacent to Clyde Inlet, which requires very slow moving and inactive ice. This data compiled together indicates that the fast-moving ice stream that occupied Clyde Inlet was bounded on either side by slow moving ice which covers the uplands. This reconstruction is very similar to how the Antarctic ice sheet behaves today.

During the next three years of research around Clyde River, we will refine our reconstruction, and learn more about the details of the behavior of the Laurentide Ice Sheet. A major concern presently is the unknown behavior of the Antarctic ice sheet, and the implications for raising sea levels as it melts. Just a few days before this was written, 60% of the Larsen B ice shelf (one of many ice shelves that surround Antarctica) calved into the southern ocean. While the melting of floating ice shelves doesn't impact global sea levels, their disintegration can destabilize adjacent land-based portions of the ice sheet. By studying the behavior of the Laurentide Ice Sheet, we will be closer to understanding how the Antarctic ice sheet works, and what to expect in the near future.

ᐋᓐᐋᑎᒃᒥ-ᐊᔾᔨᒋᔭᐅᔪᖅ ᐱᖁᔭᐃᑦ ᕿᑭᖅᑖᓗᖕᒥ 20,000 ᐅᑭᐅᑦ ᐊᓂᒍᖅᑎᓪᓗᒋᑦ

ᔦᐃᓴᓐ ᐳᕋᐃᓇ ᐊᒻᒪ ᒋᕗᑦ ᒥᓗ, ᓯᓚᑦᑐᖅᓴᕐᕕᖕ ᑳᓗᕋᑦ

20,000 ᐅᑭᐅᑦ ᐊᓂᒍᖅᑐᖅ, ᓯᑯᖃᕐᓂᐅᓛᓪᓚᕆᐅᔪᒥ ᐅᑭᐅᓂ, ᕿᑭᖅᑖᓗᒃ ᐋᓐᐋᑎᑲᑎᑦᑐᑦ ᑕᐅᑦᑐᖃᓚᐅᖅᑐᒃᓴᐅᕗᖅ ᐅᑉᓗᒥ ᑕᐅᑦᑐᓇᓕᖅᑕᖓᑕ ᐊᔾᔨᒋᑉᓗᓂᐅᒃ. ᖃᐅᔨᓴᖅᑎᕗᑦ ᓯᓚᑦᑐᖅᓴᕐᕕᖓᒥᑦ ᑳᓗᕋᑦᒥᑦ ᖃᐅᔨᓴᐃᕗᑦ ᓄᓇᒥ ᑲᖏᖅᑐᓕᐱᖓᒥ, ᖃᐅᔨᓇᓱᒃᓗᑎᒃ ᖃᓄᖅ ᐊᖏᑎᒋᓂᖓᓂᒃ ᓇᒍᑦ ᑎᑭᓯᒪᓂᑎᒋᓂᖓᓂᒃ ᓗᐊᕋᓐᑕᓐᑕᐃᑦ ᓯᑯᖁᑎᒋᔭᖓ. ᓗᓇᓐᑕᓐᑕᐃᑦ ᓯᑰᓚᐅᖅᐳᖅ ᐊᖓᓪᓗᓪᓚᒃᓗᓂ ᑕᒪᐃᓐᓂᖃᔪᖅ ᑲᓇᑦᒥᒃ ᓇᔪᖅᑕᖅᓗᓂ, ᐊᔾᔨᕐᓚᒋᔭᖓ ᐊᒻᒪ ᐊᒃᑎᖅᑯᓴᕐᓚᒃᑕᖓ ᐋᓐᐋᑎᑲᐅᑉ ᐅᑉᓗᒥ. ᐅᑭᐅᑦ 110,000 ᐊᓂᒍᖅᑐᑦ ᑎᑭᓪᓗᒍ 6,000-ᓄᑦ ᐅᑭᐅᓄᑦ ᑕᑯᓪᓴᐅᓚᐅᖅᐳᖅ, ᐱᕿᕚᓪᓕᖃᑦᑕᖅᓗᓂ ᒥᒃᓕᖁᓪᓕᖃᑦᑕᖅᓗᓂ ᑖᒃᑯᐊ ᐅᑭᐅᑦ ᐊᑐᖅᑕᐅᓂᖓᓂ, ᑭᓯᐊᓂ ᐊᖏᓛᖑᓕᓚᐅᖅᑐᑉᓴᐅᕗᖅ 20,000 ᐅᑭᐅᑦ ᐊᓂᒍᖅᑐᖅ.

ᐃᓕᑦᑎᕚᓪᓕᐊᒃᑲᓐᓂᖅᑎᓪᓗᑕ, ᖃᐅᔨᕗᒍᑦ ᓗᐊᕋᓐᑕᓐᑕᐃᑦ ᓯᑯᖓ ᐃᓕᕐᑯᓯᖃᓚᐅᕋᓯᒋᔭᐅᕗᖅ ᐋᓐᐋᑎᒃ ᓯᑯᖓᑎᑐᑦ. ᐃᓚᖃᕐᒪᑦ ᓱᑲᔪᒥᒃ-ᐊᐅᓚᔪᒥᒃ, ᖁᓪᓓᓯᓐᖏᕐᑐᓂ ᓯᑯᓂ ᓴᕿᐅᓂᖃᖅᑐᓂ ᓯᑰᖑᓂᑯᓂᑦ ᓴᓐᓂᕈᑎᐅᑉ ᐃᒪᖓᓂᑦ ᐊᒻᒪ ᓛᐸᑐᐊ ᑕᓇᐅᖓᑕ ᓯᓪᔭᖏᓐᓂᑦ. ᑖᒃᑯᐊ ᐊᑰᓂᖏᓐᓂ ᓯᑯᐃᑦ (ᐃᒪᐅᓕᖅᑎᑦᑎᔪᖅ ᕿᑭᖅᑖᓗᑉ ᑯᐸᐃᓐᓗ ᑕᕋᖓᑕ ᐃᑭᕋᖓᓂ ᑎᓄᔾᔨᕝᕕᖕᒥᒃ, ᐊᒻᒪᓗ ᐃᒪᕐᓂᒃ ᐅᐊᖕᓇᖓᓂ ᐅᕐᑯᐊᓂ ᕿᑭᖅᑖᓗᑉ), ᓱᒃᑲᐃᑦᑐᒥᒃ-ᐃᖏᕋᔪᒥᒃ ᓯᑯᖃᓚᐅᖅᐳᖅ ᓄᓇᒥᒃ ᐋᖅᑭᐊᖅᓯᔾᔭᑕᐅᓐᖏᑦᑐᒥᒃ ᓴᕿᐅᔭᑦ ᐋᖅᑭᐊᖅᓯᔾᔭᑕᐅᓂᖏᑦᑕ ᐊᔾᔨᖏᓐᓂᒃ.

ᑕᒪᓐᓇ ᓗᐊᕋᓐᑕᐃᕐᒥ ᓯᑯᖃᕐᓂᐅᔪᖅ ᑐᓐᖓᑎᖃᖅᐳᖅ ᐊᒥᓱᓂᒃ ᐅᑭᐅᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᖅᓯᒪᔪᓂᒃ, ᑭᓯᐊᓂ ᖃᐅᔨᒃᑲᓂᓵᓚᐅᖅᐳᖅ ᓄᑖᓂᒃ ᑲᖏᖅᑐᓕᐱᐅᑉ ᖃᓂᒋᔭᖓᓂ. ᐱᓪᒪᕆᐅᓛᖑᔪᑦ ᑐᓴᒐᓯᐃᑦ ᑲᑎᑦᑐᑦ ᐅᓗᕐᒥ ᑐᓐᖓᑎᖃᖅᐳᑦ ᓄᑖᓂᒃ ᐱᓕᕆᐊᖃᕈᓯᕐᓂᒃ ᐃᑲᔪᕿᑕᐅᔪᓂᒃ ᑐᑭᓯᐅᒪᔾᔪᑕᐅᕙᓪᓗᑎᒃ ᖃᓪᓗᐅᔪᖅ ᐃᓕᕐᑯᓯᐅᓚᐅᖅᑐᓂᒃ ᓯᑯᓂᒃ: ᓯᑯᐃᑦ ᓴᕿᑕᐅᔾᔪᓯᕙᓂᖏᑦᑕ ᐃᓕᕐᑯᓯᑐᖃᖏᑦ.

ᓯᑯᐃᑦ ᓴᕿᑕᐅᔾᔪᓯᑐᖃᕕᓂᖏᑦ ᐅᕙᑦᑎᓐᓄᑦ ᐃᓕᑦᑎᔾᔪᑕᐅᔫᓇᖅᐳᑦ ᖃᖓ ᓯᑯ ᖄᖓᓂᓚᐅᕆᐊᓪᓴᖓᓂᒃ ᑲᖏᖅᑐᓕᐱᐅᑉ. ᐃᒪᓐᓇ ᐃᓕᕐᑯᓯᖃᖃᑦᑕᖅᐳᑦ: ᓴᕿᑦᑎᔪᑦ ᓯᑯᓂᒃ ᒪᓂᕋᒥ ᖃᐅᒪᔪᒥᑦ ᓯᕿᓂᖅᑎᑦᑐᑦ ᐋᖅᑭᒃᓯᕙᓪᓗᑎᒃ ᐅᔭᖃᓂᒃ ᓴᓇᕙᓪᓗᑎᒃ. ᑐᑭᓯᐅᒪᔪᒍᑦ ᖃᓄᖅ ᓱᑲᑐᒥᔪᒥᒃ ᑕᒪᓐᓇ ᐃᓕᕐᑯᓯᖃᓗᐊᕐᓴᖅᑐᓂᒃ, ᐊᒻᒪ ᐅᔭᖃᓂᒃ ᖃᐅᔨᓴᐃᕝᕕᑎᓐᓂ ᓯᓚᑦᑐᖅᓴᕐᕕᖕᓂ ᑳᓗᕋᑦ ᖃᐅᔨᓴᐃᔭᓐᓇᖅᐳᒍᑦ ᖃᓄᖅ ᐊᖏᑎᒋᔭᖏᑦ ᐋᖅᑭᐊᖅᑕᐅᔾᔭᐃᔭᖅᑲᓗᐊᖓᖏᓐᓂᒃ ᐅᔭᖃᑦ ᕿᑭᖅᑖᓗᖕᒥ. ᐊᐅᓂᐅᓂᖅᓴᖅ ᐅᔭᖃᑦ ᒪᓂᕋᐅᑦ ᖄᖓᓂᑉᐸᑕ, ᖃᐅᒪᓂᐅᔪᓂᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᑦᑕᖅᐳᑦ. ᐱᖁᔭᐃᑦ ᓯᑯᐃᓐᓗ ᐅᔭᕋᓱᒃᑯᖓᓂᒃ ᓇᒡᓴᑦᑕᖅᑎᓪᓗᒋᑦ, ᓇᓗᓇᐃᖅᓯᔪᓐᓇᖅᐳᒍᑦ ᖃᖓ ᓯᑯ ᓴᕿᔮᓚᐅᕆᐊᓪᓴᖓᓂᒃ ᖃᐅᔨᓴᐃᓗᑕ ᐅᔭᖃᑦ ᖃᖓ ᓴᕿᑕᐅᔾᔪᓯᖃᕆᐊᓪᓴᖏᓐᓂᒃ ᓱᓇᐅᔪᓂ ᐅᑭᐅᓂ ᐅᔭᕋᓱᒃᑯᖓᓄᑦ ᐃᓚᐅᖃᑕᐅᓕᕐᓂᖏᑦ ᒪᓕᒃᓗᒋᑦ.

ᐱᖁᔭᕐᓂ ᐊᖏᓛᖑᔪᑦ ᐅᔭᕋᓱᒃᑯᐃᑦ ᓄᓇᒥᑦ ᑲᖏᖅᑐᓕᐱᖓᒥ ᓇᓗᓇᖕᖏᓚᑦ ᓗᐊᕋᓐᑕ ᓯᑯᖓᓂᖕᖓᕐᓂᖓᓂᑦ ᐊᒻᒪ ᖃᖓᓂᓚᐅᖅᐳᑦ ᑲᖏᖅᑐᓕᐱᐅᓕᖅᑐᑦ ᐅᓗᕐᒥ ᓯᑯᕐᔪᐊᖑᑦᓗᓂ. ᖃᐅᔨᓴᖅᑕᕗᖅ ᓄᑖᖑᓛᖑᔪᖅ ᑐᓐᖓᑎᖃᖅᐳᖅ ᐅᔭᖃᑦ ᓴᕿᑕᕚᓪᓕᐊᓕᕐᓂᖏᓐᓂᒃ, ᑕᑯᓴᐅᑎᑦᑎᕗᓪᓗ ᐅᑭᐅᑦ 20,000-ᖑᓚᐅᕐᓂᖏᓐᓂᒃ ᖃᖏᖅᑐᑦ. ᑭᓯᐊᓂ, ᑕᒪᓐᓇ ᓄᑖᖑᓐᖏᓚᖅ. ᑕᒪᓐᓇ ᓇᓗᓇᐃᖅᑕᐅᔪᖅ ᓇᓚᐅᑦᑖᖅᑕᐅᓗᓂ ᓇᓚᐅᑕᐅᖃᑕᐅᔪᖅ ᐊᓯᖓᓂ ᕿᑭᖅᑖᓗᖕᒥ ᓱᓕ ᐊᔾᔨᕐᓚᖓᓂᒃ ᓇᓂᓯᓯᒪᔪᖃᕐᒪᑦ. ᐅᐱᓐᓇᕐᓂᖅᓴᓂᒃ ᓇᓗᓇᐃᖅᓯᕗᖅ ᖃᐅᔨᓴᐃᑎᓪᓗᑕ ᖁᑦᑎᖕᓂᐅᔪᒥ ᓄᓇᒥ ᑲᖏᖅᑐᓕᐱᖓᒥ.

ᐅᑭᐅᑦ 100 ᖃᓂᒋᔭᖓᓂ, ᐅᑭᐅᖅᑕᖅᑐᒥ ᖃᐅᔨᓴᐃᔨᑦ ᖃᐅᔨᓴᐃᖃᑦᑕᖅᓯᒪᔪᑦ ᐃᒪᕐᓂᒃ ᓴᕿᐅᔪᓂᒃ ᓄᓇᒥ ᖁᑦᑎᖕᓂᐅᔪᒥ ᐊᑰᓂᖏᓐᓂᑦᑐᓂ ᐃᒪᐃᑦ. ᖃᐅᔨᓯᒪᔪᑦ ᐃᒪᐃᑦ ᓴᕿᐅᓂᐅᔪᒥ ᐅᔭᕋᖃᕐᓂᖏᓐᓂᒃ ᒪᓂᕋᒧᑦ ᒪᖑᑦᓯᒪᔪᓂᒃ ᐊᐅᓚᔾᔭᖕᓂᐊᖏᑦᑐᓂ ᐊᑐᖅᑕᐅᓂᑯᕕᓂᕐᓂᒃ ᐱᖁᔭᕐᓂᑦ ᑕᐃᑉᓱᒪᓂᒃᑲᓂᒃ, ᒪᓂᕋᐅᑉ ᖄᖓᓂ ᐊᓄᓇᑐᓂᐊᔪᓂ ᓯᑯᒧᑦ

ᑎᑭᑕᐅᓪᓚᐅᖅᓯᒪᓐᖏᑦᑐᕐᓴᐅᕗᑦ. ᖃᐅᔨᓴᐃᔩᑦ ᒪᓂᒐᐅᑉ ᖄᖓᓂ ᑲᖏᖅᑐᒑᐱᖕᒥ ᐅᐱᓪᓚᐅᖅᐳᑦ ᐅᔭᕋᓯᓪᔪᐊᖕᓂᒃ ᓇᓂᓯᑎᓪᓗᑕ ᐊᔾᔨᒋᔭᐅᓪᓚᒃᑐᓂᒃ ᐊᑦᑎᖕᓂᖅᓴᓂ ᑕᑯᔭᐅᖃᑦᑕᖅᓯᒪᔪᓂ.

ᐅᔭᖃᑦ ᓴᕿᔮᓪᓚᐅᕐᓂᖏᓐᓂᒃ ᐃᓕᖁᓯᐅᔪᒥᒃ ᐊᑐᖅᖢᑕ, ᖃᐅᔨᓴᐃᔪᓐᓇᓪᓚᐅᖅᐳᑦ ᐅᔭᕋᓯᓪᔪᐊᑦ ᓄᓇᒥ ᖁᑦᑎᒃᑐᒦᑦᑐᑦ ᐃᓕᖁᓯᖃᕐᓇᓂᐊᕐᓴᖏᓐᓂᒃ ᐱᖃᓗᔭᕐᓂᑦ ᑕᐃᑯᓐᖓᖅᑕᐅᓂᑯᑉᓗᑎᒃ ᐃᓕᖁᓯᖃᖅᑎᑦᑑᔭᖅᓗᒋᑦ. ᖃᐅᔨᓚᐅᖅᐳᑦ ᐅᔭᕋᓯᓪᔪᐊᑦ ᐊᑕᐅᑦᑎᒃᑯᑦ ᕿᒪᒃᑕᐅᖃᑕᓚᐅᕐᓂᖏᓐᓂᒃ ᐊᑦᑎᖕᓂᐅᔪᓂ ᓄᓇᓂ, 20,000 ᐅᑭᐅᑦ ᖃᓂᒋᔭᖓᓂ ᐊᓂᒍᖅᑐᖅ. ᑭᓯᐊᓂ, ᖁᑦᑎᒃᑐᒥ ᓄᓇᓂ ᒪᓂᒐᐅᑉ ᖄᖓᓂ ᐅᔭᕋᓯᓪᔪᐊᑦ ᐱᖃᓗᔭᓂ ᐅᑭᐅᖃᖅᐳᑦ 100,000 ᐅᖓᑖᓄᑦ.

ᖃᐅᔨᔭᕗᑦ ᑐᓴᕈᒥᓇᖅᑐᒥᒃ ᓴᕿᑦᑎᕗᖅ. ᓄᓇᐃᑦ ᓴᕿᑕᐅᔪᑦ ᑕᑯᓐᓴᐅᑎᑦᑎᕗᑦ ᓱᒃᑲᔪᒥᒃ ᐃᖏᕐᕋᓂᐅᔪᓂᒃ ᓯᑯᓂᒃ ᓇᓂᔭᐅᔪᓂ ᑲᖏᖅᑐᒑᐱᖕᒥ, ᐊᒻᒪ ᐅᑭᐅᖃᖅᓗᑎᒃ 20,000 ᐅᑭᐅᖑᓪᓚᐅᖅᑐᑦ ᖃᓂᒋᔭᖓᓂ. ᑕᐃᒪᓐᓇᐃᑎᓪᓗᒍ ᐱᖃᓗᔭᐃᑦ ᐅᔭᕋᓯᓪᔪᐃᑦ ᐃᓯᔭᓪᓚᐅᖅᐳᑦ ᖁᑦᑎᖕᓂᐅᔪᒥ ᐊᑭᐊᓂ ᑲᖏᖅᑐᒑᐱᒃ ᓄᓇᓂ, ᓱᑲᐃᑦᑐᒥᒃ ᐃᖏᕐᕋᓐᖏᕐᑐᓂᓗ ᓯᑯᖃᓇᐊᖃᓪᓚᐅᖅᐳᑦ. ᑕᒪᓐᓇ ᑐᓴᒐᒃᓴᖅ ᑲᑎᑕᐅᖃᑕᐅᓗᓂ ᑕᑯᓐᓴᐅᑎᑦᑎᕗᖅ ᓱᑲᔪᒥᒃ ᐃᖏᕐᕋᔪᓯᐅᔪᒥᒃ ᓯᑰᔪᒥᒃ ᑲᖏᖅᑐᒑᐱᖕᒥᑦᑐᒥᑦ ᐊᑯᓂᐅᓂᖓ ᓱᑲᐃᑦᑐᒥᒃ ᓯᑯᒥᒃ ᐃᖏᕐᕋᐱᐅᓪᓚᐅᖅᐳᖅ ᖁᑦᑎᒃᑐᒨᑦ ᓄᓇᒨᑦ ᑎᑭᑦᑐᓂᒃ. ᑕᒪᓐᓇ ᐃᓕᖁᓯᐅᓂᒐᖅᑕᐅᔪᖅ ᐊᔾᔨᒋᔭᐅᓪᓚᕗᖅ ᐋᐊᑎᑲᒧᑦ ᓯᑯᖓᓄᑦ ᐅᑉᓗᒥ ᐃᓕᖁᓯᖕᓂᖓᓄᑦ.

ᐅᑭᐅᓂᒃ ᐱᖓᓱᓂᒃ ᑐᓪᓕᕆᓂ ᖃᐅᔨᓴᐃᑎᓪᓗᑕ ᑲᖏᖅᑐᒑᐱᖕᒥ, ᐋᖅᑭᐊᖅᓯᓂᐊᖅᐳᑦ ᓴᓇᔭᐅᑉᑲᓐᓂᖅᑐᓂᒃ ᐅᐸᑎᓐᓂᑦ, ᐊᒻᒪ ᐃᓕᑎᑉᑲᓐᓂᕐᓗᑕ ᖃᓄᖅ ᓯᑯ ᓗᐊᕆᓐᑕᓐᑕᐃᒥ ᐃᓕᖁᓯᕋᓇᐊᖅᓴᓂᒃ. ᐃᓱᒫᓗᑕᐅᕗᖅ ᑕᒪᓐᓇ ᖃᐅᔨᒪᔭᐅᓐᖏᑦᑐᖅ ᖃᓄᖅ ᐃᓕᖁᓯᖃᔭᕆᐊᖕᓴᖓᓂᒃ, ᐊᒻᒪ ᑕᕝᕙᐅᑉ ᖁᓚᕙᒃᑳᓪᓚᒐᔭᕐᓂᖓᓂᒃ ᐊᐅᒃᑎᓪᓗᒍ. ᐅᑉᓗᑦ ᖃᐸᓯᓐᓇᐃᑦ ᑖᓐᓇ ᐅᓂᒃᑳᓕᐊᖑᔪᖅ ᑎᑎᕋᖅᑕᐅᓐᖏᓐᓂᖓᓂ, 60%-ᒥᔭᖓ ᓛᓴ B ᓯᑯᑉ (ᓯᑯᔦᐊᑦ ᐃᓚᖓ ᐋᐊᑎᑲᒥ ᐊᕙᓗᖕᓂᑦᑐᖅ) ᓯᑯᑎᓪᓚᐅᖅᐳᑦ ᓂᒋᐊᓄᑦ ᑕᓇᐅᑉ. ᓯᑯᑉ ᐊᐅᑉᐸᓪᓚᐊᓂᖓ ᐃᑉᐱᒋᔭᖅᑎᑦᑎᓐᖏᑎᓪᓗᒍ ᓯᓚᕐᔪᐊᒥ ᑕᓇᐅᕐᓂᒃ, ᓱᖃᐸᓪᓚᐊᓂᖏᑦ ᐋᖅᑭᐅᒪᓪᓕᖅᑎᑦᑎᔪᓐᓇᖅᐳᑦ ᐊᓯᖏᓐᓂᒃ ᐃᓕᖁᓯᖃᖅᑎᑦᑎᓗᑎᒃ ᓄᓇᓂᒃ ᓯᑯᓂᐅᔪᓂ. ᖃᐅᔨᓴᐃᔪᑦ ᓗᐊᕆᓐᑕᐃᑦ ᓯᑯᖓᓂᒃ, ᑐᑭᓯᐅᒪᓂᖅᓴᐅᔪᓐᓇᕐᓂᐊᖅᐳᑦ ᖃᓄᖅ ᐋᐊᑎᒃᒥ ᓯᑯ ᐃᓕᖁᓯᖃᑦᑕᓯᐊᖅᓯᒪᓂᒃ, ᐊᒻᒪ ᓱᓇᒥᒃ ᓯᕗᓂᒃᑎᓐᓂ ᓂᕆᐅᒋᔭᖃᕐᓇᓯᐊᖅ ᖃᐅᔨᒪᓂᖅᓴᐅᓗᑕ.