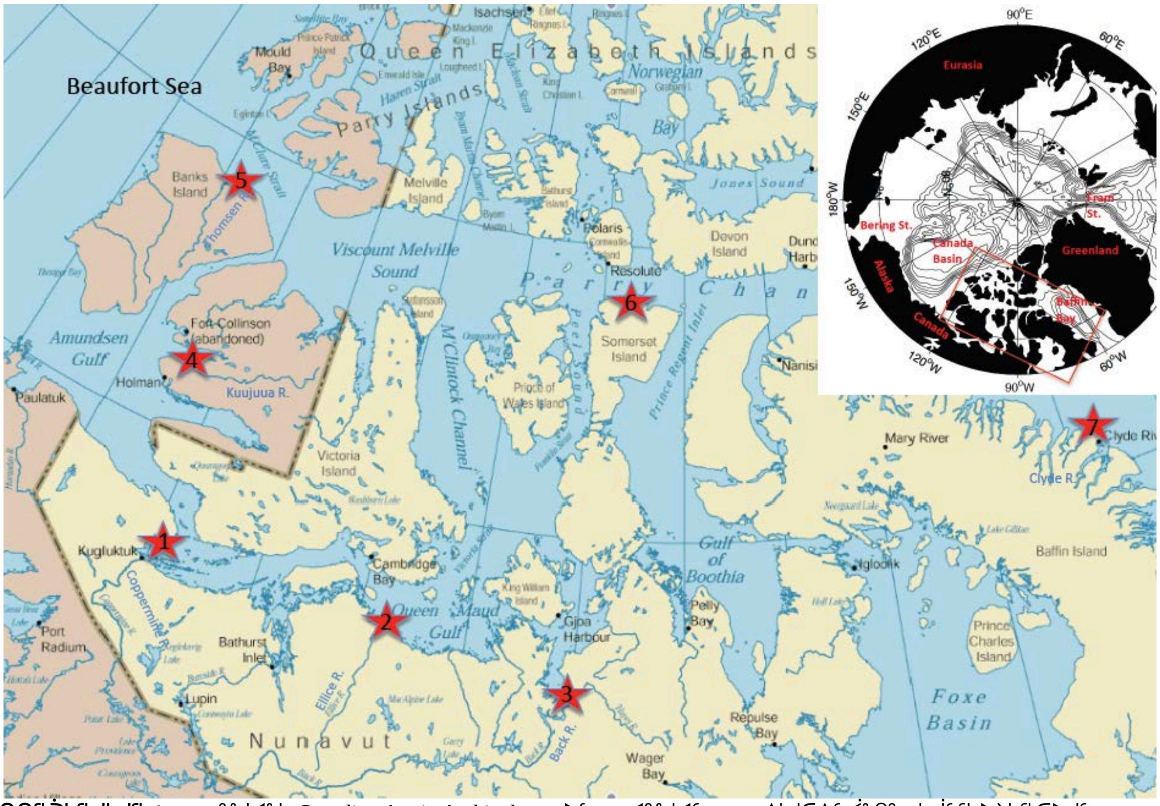
ᐊᕐᕌᒍᑕᒫᖅᓯᐅᑏᑦ ᐅᓂᒃᑳᑦ ᐅᑑᑉᐸ 1, 2014
ᕿᒥᕿᕈᓂᖅ ᐊᑦᑐᖅᑕᐅᓂᕐᒋᓐᓂᒃ ᒥᑭᔩᑏᑦ ᑲᓇᑕᒥ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑰᑦ ᑰᓐᓂᕐᒋᑦ ᐃᒪᕐᓯᐊᕙᖕᖓᓄᑦ Canadian Archipelago
ᒫᑎᐅ ᕓ. ᐃᐅᒃᑲᐃᐊ, ᓯᓚᕐᑐᓴᕐᕕᔾᔪᐊᖕᖓ ᐅᐊᓯᕐᑕᓐ

ᕿᒥᕿᕈᓂᖅ ᐊᑦᑐᖅᑕᐅᓂᕐᒋᓐᓂᒃ ᒥᑭᔩᑏᑦ ᑰᑦ ᑰᓐᓂᕐᒋᑦ ᐃᒪᕐᓯᐊᕙᖕᖓᓄᑦ Canadian Archipelago (ᐅᑉᐸᓗ ᑕᐃᔭᐅᔪᑦ SCARFs) ᑐᑭᓯᓂᐊᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᓄᐊᕐᓯᒋᐊᖃᑦᓱᑎᒃ ᐃᒪᕐᓂᒃ ᖃᐅᔨᓴᕋᕐᓴᓂᒃ 7-ᓂᒃ ᐊᔾᔨᒌᓐᖏᑦᑐᓂᒃ ᑰᓐᓂᒃ ᑲᓱᕐᕕᖏᓐᓂᓪᓗ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᖓ ᕿᑭᖅᑕᖏᓐᓂ (ᑕᑯᓗᒍ ᑎᑎᖅᑑᔭᖅᓯᒪᔪᖅ ᖅ) ᓇᓗᓇᐃᕈᑎᒋᓗᒍ ᐃᓚᐅᖅᑐᓇᑎᓯᒋᔭᕐᒋᑦ ᐊᔾᔨᐅᕐᒋᒻᒪᖔᑕ ᐊᕐᒋᓂᖅᓴᓂᒃ ᓄᐊᕐᕋ ᐊᒥᐊᓇᑲᒥ ᑰᓐᓂᒃ ᒪᑯᓇᓂ ᒪᑲᓐᔨ ᐊᒻᒪᓗ ᔩᑳᓐ ᑰᕐᒋᓐᓂ. ᑕᓪᓚᒪᑦ ᑰᑦ ᐃᓂᕐᑲᖅᑐᑦ ᐃᓗᐊᓂ ᓄᓇᕗᑦ, ᑲᓇᑕ: ᑳᐸᒪᐃᓐ ᑰᕐᓚ (ᕐᑯᒡᓗᒃᑐᒃ ᓴᓂᐊᓂ), ᐊᓕᔅ ᑰᕐᓚ (~140 ᑮᓛᒥᑕᐃ ᓂᒋᖅᐸᓯᐊᓂ ᑲᓐᓇᖅᐸᓯᕐᓚᓂ ᐃᕐᑲᓗᒃᑑᒃᓯᐊᖅ), ᕚᒃ ᑰᕐᓚ (~180 ᑮᓛᒥᑕᐃᑦ ᓂᒋᖅᐸᓯᐊᓂ ᑲᓐᓇᖅᐸᓯᕐᓚᓂ ᐅᖅᓱᖅᑑᖅ), ᑲᓂᕐᕼᐋᒻ ᑰᕐᓚ (~77 ᑮᓛᒥᑕᐃᑦ ᓂᒋᖅᐸᓯᐊᓂ ᑲᓐᓇᖅᐸᓯᕐᓚᓂ ᖃᐅᓯᐃᑦᑐᖅ ᓴᒪᓴᓐ ᕿᑭᖅᑕᕐᓚᓂ), ᑲᕐᒋᖅᑐᕐᒫᐱᒃ ᑰᕐᓚ (ᓴᓂᐊᓂ ᓴᕐᒋᖅᑐᕐᒫᐱᒃ, ᕿᑭᖅᑖᓗᒃ). ᒪᕐᕈᒃ ᑰᒃ ᐃᓂᕐᑲᖅᑑᒃ ᐃᓗᐊᓂ ᓄᓇᓯᐊᖅ, ᑲᓇᑕᒥ. ᑰᔾᔪᐊ ᑰᕐᓚ (ᐅᕐᓚᓯᓐᓂᓕᒃ 67 ᑮᓛᒥᑕᐃᑦ ᐅᐊᓐᓇᖅᐸᓯᕐᓚᓂ ᑲᓐᓇᖅᐸᓯᕐᓚᓂ ᐅᓗᒃᕼᐊᒃᑑᖅ ᕕᒃᑐᐊᓇᐊ ᕿᕿᑕᕐᓚᓂ) ᐊᒻᒪᓗ ᑖᒻᓴᓐ ᑰᕐᓚ (ᑰᕐᓚᑕ ᐹᕐᓚᓂ ᑰᑦᑐᒧᑦ Castel Bay-ᒧᑦ ᕚᖕᒃᓴ ᕿᑭᖅᑕᕐᓚᓂ).



ᑎᑎᖅᑑᔭᖅᓯᒪᔪᖅ **1.** ᓄᓇᓐᖑᐊᖓ Canadian Arctic Archipelago. ᐅᓪᓗᓇᐊᓐᖑᐊᑦ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐸᕐᒋᓐᓂᒃ ᑰᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᑕᑉᐸᓂ ᖃᐅᔨᓴᓂᕐᒥ. The red stars indicate the mouths of the rivers sampled during this study: (1) ᑳᐸᒪᐃᓐ ᑰᕐᓚ, (2) ᐊᓕᔅ ᑰᕐᓚ., (3) ᕚᒃ ᑰᕐᓚ., (4) ᑰᔾᔪᐊ ᑰᕐᓚ. (ᕕᒃᑐᐊᓇᐊ ᕿᑭᖅᑕᕐᓚᓂ), (5) ᑖᒻᓴᓐ ᑰᕐᓚ. (ᕚᓐᒃᔅ ᕿᑭᖅᑕᕐᓚ), (6) ᑲᓂᕐᕼᐋᒻ ᑰᕐᓚ. (ᓴᒧᓴᑦ ᕿᑭᖅᑕᒥ), ᐊᒻᒪᓗ (7) ᑲᕐᒋᖅᑐᕐᒫᐱᒃ (ᕿᑭᖅᑖᓗᒃ). ᑳᐸᒪᐃᓐ, ᐊᓕᔅ, ᐊᒻᒪᓗ ᕚᒃ ᑰᕐᓚ ᐃᓂᕐᑲᖅᑐᑦ ᓄᓇᖅᐸᕐᓚᓂ ᓄᓇᕗᑦ. ᐃᓗᐊᓃᖅᑐᖅ ᑕᑯᔅᓴᐅᑎᑦᓯᔪᖅ ᐃᒪᕕᒻᒥᒃ ᐋᑎᒃ ᐆᓴᓐ ᖃᐅᔨᓴᖅᑕᐅᔪᖅ ᐊᐅᐸᖅᓯᓂ.

1. ᐱᔪᓐᓇᐅᑏᑦ ᓄᓇᓕᓐᓂᓗ ᐃᑲᔪᖅᑐᖅᑕᐅᓃᑦ

ᐊᕐᕌᒍᓂᒃ ᐱᖓᓱᓂᒃ (2014-2016) ᑐᑭᓯᓂᐊᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᓂᕐᒧᑦ ᓚᐃᓴᓐᓯ (# 04 008 14N-M) ᐱᔭᐅᓯᒪᔪᖅ ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᖅᑐᓕᕆᕕᒻᒥᒃ ᐊᕐᒋᖅᑕᐅᓯᒪᑦᓯᑎᓪᓗ ᓚᐃᓴᓐᓯᖃᕋᑎᒃ (No. 8WLC-CAR1415)

ᑐᓂᔭᐅᑦᓱᓂ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᓄᐊᑦᓯᓂᐊᕐᓗᑎᒃ ᖃᐅᔨᓴᕋᖅᓯᓂᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ ᑰᓐᓂᒃ. ᖃᐅᔨᓴᕐᕕᑦᑐᒪᔭᕗᑦ ᐊᓕᔅ ᑰᖓ ᐃᓂᖃᕐᒪᑦ ᑎᒻᒥᐊᓄᑦ ᕿᑐᕐᖏᐅᕕᒻᒥᒃ ᑯᐃᓐ ᒫᑦ, ᐱᔪᓐᓇᐅᑎᒃᑲᓐᓂᕐᒥᒃ ᐱᓯᒪᔪᒍᑦ (NUN-MBS-14-03) ᐱᑦᓱᑎᒍ ᐊᕿᐊᖅ ᒥᑦᓴᓄᑦ ᐊᐅᓚᑦᓯᖃᑎᒌᑦ ᑲᑎᒪᔨᕋᓛᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᖃᕈᒪᓪᓗᑕ ᓄᓇᒥ ᐊᑯᓐᓂᖓᓂ ᔫᓂ ᐊᒻᒪᓗ ᐅᒍᐊᔪ 2014, 2015 ᐊᒻᒪᓗ 2016. ᑭᖑᓪᓕᖅᐹᒥ ᕿᒥᕿᓂᖏᑦ ᓄᓇᕗᒻᒥ ᐸᕐᓇᐃᔩᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐊᑐᖅᑕᐅᓂᕐᒧᑦ ᕿᒥᕿᔩᑦ ᓈᓴᐅᑎᓕᒃ 13YN042) ᓇᓗᓇᐃᖅᑕᐅᑦᓱᓂ ᑐᓯᕌᖑᓯᒪᔪᖅ ᐊᐅᓚᓂᐅᔪᖅ ᒪᓕᑦᓯᐊᕆᐊᖓ ᑐᓄᕕᐊᓄᑦ ᕿᑭᖅᑖᓗᒻᒥ ᐊᕙᑐᖅᓯᒪᔪᓂ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᓂᒃ ᑲᒪᒋᔭᐅᑐᐃᓐᓇᕆᐊᖃᖅᓱᑎᒃ ᕿᒥᕿᔭᐅᓐᖏᓪᓗᑎᒃ, ᐱᓗᐊᖅᑐᒥᒃ, ᖃᓄᐃᒋᐊᕈᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ ᐅᖃᐅᓯᕆᓯᒪᔭᕆᑦ ᐊᕙᑎᓕᕆᔾᔪᑦ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᐊᕆᓚᐅᖅᓱᑎᒃ ᐊᐅᓂᕐᒧᑦ ᑐᕌᖓᔪᑦᓄ ᐅᖃᐅᓯᖅᑕᕆᔭᐅᔪᓄᑦ ᐃᒪᐃᓕᖓᓂᐅᔪᓄᓪᓗ ᓇᓗᓇᐃᖅᑕᐅᔪᓄᑦ ᓄᓇᕗᒻᒥᓐ ᐊᑐᖅᑕᐅᕐᓂᕐᒧᑦ ᕿᒥᕿᔨᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᕐᒧᑦ. ᐊᖑᓇᓱᑦᑏᑦ ᐃᖃᓗᓴᓱᐊᖅᑏᓪᓗ ᑲᑎᒪᔨᕆᑦ ᖁᒡᓗᒃᑐᒥ, ᐃᖃᓗᒃᑑᓯᐊᕐᒥ, ᐅᖅᓱᖅᑑᒥᓗ ᑐᑭᓯᒋᐊᕐᕕᐅᓯᒪᔪᑦ ᖃᐅᔨᒪᓕᑕᕆᔭᐅᔪᒪᓪᓗᑎᒃ, ᑐᑭᓯᓂᐊᕐᕕᐅᓗᑎᒃ, ᐃᑲᔪᖅᓱᕈᕆᔭᐅᓗᐅᑎᓪᓗ ᑕᒪᒃᐲᓐᓄᑦ ᓱᕗᕐᖓᓂ ᑭᖑᕐᖓᓂᓗ ᐃᒪᕐᒥᒃ ᖃᐅᔨᓴᕐᓂᐅᑉ. ᐊᒻᒪᓗ, ᑭᒡᒐᖅᑐᐃᔪᑦ ᐃᓕᓴᖅᓯᕕᒃ ᑲᑐᔾᔨᖃᑎᒌᖕᖏᓐᓂ ᑐᑭᓯᒋᐊᕐᕕᐅᓯᒪᒻᒥᔪᑦ ᐃᑲᔪᖅᓯᕐᑯᔭᐅᓪᓗᑎᒃ ᐃᑲᔪᕐᓗᑎᓪᓗ ᓄᓇᓕᓐᓂ ᐃᖅᑲᓇᐃᔭᖅᑎᖅᓯᓂᒃ ᐱᑎᓪᓗᑕ (ᐃᓵ ᕿᓪᓚᖅ ᐊᒻᒪᓗ ᓂᐅᓇ ᐃᖃᓗᒃᔪᐊᖅ) ᐃᒻᒥᓂᕿᓗᑎᒃ ᐃᒪᕐᒥᒃ ᓄᐊᑦᓯᕐᑯᓪᓗᑎᑦ ᖃᐅᔨᓴᕋᖅᓯᓂᒃ ᑯᒻᒥᒃ ᐱᓇᓱᐊᕈᓯᑕᓛᑦ ᐊᑯᖕᖓᓐᓂ ᔪᓚᐃ ᐊᒻᒪᓗ ᓯᑦᑕᐱᕆ 2014. ᑕᐃᒪᒃᓴᐃᓐᓇᖅ, ᐃᒪᕐᒥᒃ ᖃᐅᔨᓴᖅᑏᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓚᐅᕐᒥᔪᑦ ᖁᒻᓗᒃᑐᒥ (ᑯᓂᔅᑎᐊᓐ Hᐃᑯᒃᑲᒥᓐᖑᐊᖅᐊᒻᒪᓗ ᔪᐊᕐᒐᓐ ᐊᓇᕗᓚᒃ) ᓄᐊᑦᓯᓂᐊᖅᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᕋᖅᓯᓂᒃ ᑳᐸᒪᐃᓐ ᑰᖓᓂᒃ. ᐆᒪᔪᕐᓂᒃ ᖃᐅᔨᓴᖅᑎᖅᓯᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᔪᖃᔪᒻᒥᔪᖅ ᐃᖃᓗᒃᑑᓯᐊᕐᒥᒃ (ᔪᐊᕐᒐᓐ ᐊᐃᑦᑕᐅᕐ) ᐊᒻᒪᓗ ᐅᖅᓱᖅᑑᒥᒃ (ᐋᑕᒡ ᐅᑯᖅᑐᓐᓄᐊ) ᖃᐅᔨᓴᖅᓱᑎᒃ ᓇᓄᕐᓂᒃ ᐊᑦᑕᓇᖅᑐᑏᑎᑦᓯᑦᑕᐃᓕᑦᓱᑎᓪᓗ ᐊᐅᓚᓂᐅᔪᒥᒃ ᐃᓄᖃᓐᖏᓗᐊᓐᖑᐊᖅᑐᓂᒃ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ.

ᐊᑕᐅᓯᐅᓐᖏᑦᑐᒧᑦ ᐊᕐᕌᒍᒧᑦ (2014-2016) ᑐᑭᓯᓂᐊᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓚᐃᓴᓐᓯ (No. 15376) ᐱᔭᐅᓯᒪᔪᖅ ᐊᕈᐊᕋ ᖃᐅᔨᓴᕐᕕᒻᒥᒃ. ᐊᒻᒪᓗ, ᐊᖏᖅᑕᐅᔪᒻᒥᔪᑦ ᓄᓇᕐᓯᐊᕐᒥ ᐃᒪᓕᕆᔨᒃᑯᓐᓄᑦ ᓄᐊᑦᓯᓂᐊᖅᑎᓪᓗᒋᑦ ᐃᒪᕐᓂᒃ ᓚᐃᓴᓐᓯᖅᑲᖕᖏᓪᓗᑎᒃ (ᐃᒪᖅ ᐱᔭᐅᔭᕆᐊᓕᒃ ᒥᑭᓂᖅᓴᓪᓚᕆᐅᔪᒪᑦ ᐃᒪᖅᑖᖑᒋᐊᓕᒻᒥᒃ ᓚᐃᓴᓐᓯᑎᒍᑦ), ᐃᓄᕕᐊᓗᐃᑦ ᓄᓇᓕᕆᔨᖏᑦ ᐊᑐᐃᓐᓇᖃᕐᓂᐊᖅᑐᑦ ᐃᓄᕕᐊᓗᓐᓄᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᓂᒃ ᓄᓇᓂᒃ (ILA Right Number ILA13HN021), ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑐᖅᑕᐅᓂᖓᓄᑦ ᕿᒥᕿᔩᑦ ᑲᑎᒪᔨᕋᓛᑦ. ᑖᒃᓴ ᑰᖓ ᐃᓄᕐᑲᒪᑦ ᐃᓗᐊᓂ ᑭᓪᓕᖏᑦᑕ ᐊᐅᓚᕕᒃ ᒥᓐᖑᐃᕐᓯᕐᕕᐅᑉ, ᖄᖓᒍᑲᓐᓂᖅ ᐊᖏᕈᑎᓂᒃ ᐱᔭᕆᐊᖃᔪᔪᑦ ᒥᓐᖑᐃᕐᓯᕐᕕᓕᕆᔨᒃᑯᓐᓂᒃ ᑲᓇᑕᒥ ᑕᕝᕗᖓᕈᒪᓪᓗᑎᒃ ᑰᒧᑦ. ᑐᑭᓯᓂᐊᓚᐅᖅᓯᑎᒃ ᖃᐅᔨᓴᓂᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᓄᑦ ᑐᑭᒧᐊᑦᑎᑦᓯᔩᒧᑦ ᓂᐅᓪᓴ ᐱᐅᓇ, ᖃᐅᔨᓴᕐᓂᒧᑦ ᓄᐊᑦᓯᓂᕐᒧᓪᓗ ᐱᔪᓐᓇᐅᑎ (#AUL-2014-16137) ᐱᔭᐅᔪᔪᖅ ᖃᐅᔨᓴᕐᓂᖃᕐᓂᐊᖅᓱᑎᒃ ᑖᒻᓴ ᑰᖓᓂᒃ ᐊᑯᕐᖓᓐᓂ ᔪᓚᐃ 1 ᐊᒻᒪᓗ 31, 2014. ᖃᖓᑕᔫᒧᑦ ᒥᒍᓐᓇᐅᑎ (ᑎᑎᖅᑲᖅᑕᐅᓯᒪᓂᖓ # 201431) ᑐᓂᔭᐅᔪᔪᑦ ᔫᓂ 26, 2014 ᑖᒃᓴ ᑰᖓᓅᕈᓐᓇᕈᒪᓪᓗᑎᒃ ᓴᓂᐊᓂ ᑳᔅᑎᐅᓪ ᕙᐃ ᔪᓚᐃ 3, 2014. ᑕᐃᒫᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᒻᒪᑦ ᖃᐅᔨᓴᖅᑎᓪᓗᐊᑕᐅᑉ ᑎᒍᒥᐊᖅᑕᖏᓐᓂ ᑎᑎᕋᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᓂᕐᒧᑦ ᓄᐊᑦᓯᓂᕐᒧᓪᓗ ᐱᔪᓐᓇᐅᑎ, ᖃᐅᔨᓴᖅᑏᑦ, ᖃᖓᑕᔫᖅᑎ ᖃᖓᑕᔫᖅᑎᐅᕐᑲᑎᖓᓗ ᓇᔫᑎᔪᔪᑦ ᑐᑭᓯᐅᒪᑎᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᓂᕐᒧᑦ ᐊᐅᓚᑕᖓᓄᑦ ᔮᓐ ᓘᑲᔅ ᑲᓇᑕᒥ ᒥᓐᖑᐃᕐᓯᕐᕕᓕᕆᔨᒃᑯᑦ ᐊᓪᓚᕝᕕᖓᓐᓂ ᐅᓗᒃH ᐊᒃᑑᕐᒥ ᔪᓚᐃ 2-ᖑᑎᓪᓗᒍ, ᐃᑎᓚᐅᓐᖏᓂᕐᒥ ᒥᓐᖑᐃᓯᕐᕕᒻᒧᑦ. ᑭᖑᓐᓂᖅᐹᒥ, ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓚᐃᓴᓐᓯ ᖁᑭᐅᑎᖃᕈᓐᓇᐅᑎᒧᓪᓗ ᑐᓯᕋᐅᑎ ᐱᔮᖅᑕᐅᔪᔪᑦ ᔪᓚᐃ 2, ᐅᓗᒃHᐊᒃᑑᕐᒥ ᐊᖑᓇᓱᑦᑏᑦ ᑲᑎᒪᕕᖓᓐᓂ ᓱᑲᑦᑐᒃᑯᓪᓗ ᐊᐅᓪᓚᖅᑎᑕᐅᑦᓱᑎᒃ ᑯᓇᔅᑕᕙ Hᐊᓐᑕᒧᑦ ᒥᓐᖑᐃᕐᓯᕐᕕᓕᕆᔨᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᐊᓪᓚᕝᕕᖓᓐᓄᑦ ᐃᓅᕕᒻᒥ ᑲᒪᒋᔭᐅᓂᐊᖅᑎᓪᓗᒍ. ᐊᖑᓇᓱᑦᑏᑦ ᐅᓗᒃHᐊᒃᑑᕐᒥᒃ ᑐᓴᖅᑎᑕᐅᔪᑦ ᐊᐅᓚᓂᐅᔪᒥᒃ ᓇᓗᓇᐃᔭᖅᑕᐅᕙᐊᖅᓱᓂ ᑐᑭᓯᒋᐊᕈᑎᖃᖅᓱᑎᓪᓗ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕋᖅᓯᓂᒃ ᐱᕕᐅᒍᒪᔪᓂᒃ ᓇᓄᕐᓂᓪᓗ ᖃᐅᔨᓴᖅᑎᖅᓯᓂᒃ ᑭᓐᖑᒪᑦᓯᕆᐊᖏᑦ. ᒪᕿᒃ ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑐᑦᓵᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓯᔪᔫᒃ ᐅᓗᒃHᐊᒃᑑᕐᒥᒃ (ᕗᕋᐃᔭᓐ ᑲᓪᓚᒃ, ᐹᑐᓇᒃ ᐋᒃᑭᐊᑕᒃ) ᐊᒻᒪᓗ ᐊᑕᐅᓯᖅ ᖃᐅᔨᓴᖅᑎ (ᓯᐊᕗ ᑯᐸᑖᓇ) ᓵᒃᓴ Hᐋᕙᒥᒃ.

2. ᐊᐅᓚᓂᐅᔪᑦ

ᖃᐅᔨᓴᖅᑎᕆᑦᑐᑦ ᐅᑯᐊᖑᔪᔪᑦ ᓯᑕᒪᐅᑦᓱᑎᒃ: ᒫᑎᐅ ᐃᐅᓪᑲᐃᐊ (ᖃᐅᔨᓴᖅᑎᓪᓗᐊᑕᖅ) ᓯᓚᑦᑐᓴᕐᕕᒃᔪᐊᖓᓂᒃ ᐅᐊᓯᖕᑕᓐ, ᒍᕋᒍᓇ ᓚᓐ (ᐃᓕᓐᓂᐊᓱᓐᓈᑦ ᐃᖅᑲᓇᐃᔭᕐᑲᑕᐅᔪᖅ) ᓄᐊᕐᕐᐅᐊᔅᑕᓐ ᓯᓚᑦᑐᓴᕐᕕᒃᔪᐊᖓᓂᒃ, ᔮᓂ ᑭᓕ (ᐃᓕᓐᓂᐊᕕᒻᒥ ᐊᑯᓐᓈᕿᓄᑦ ᐃᓕᓐᓂᐊᑎᑦᓯᔨ) ᓴᐃᓐᑦ ᓘᐃ, ᒥᓱᐊᕆᒥᒃ, ᐊᒻᒪᓗ ᕌᕕ ᒪᒃᑖᓄᑦ (ᑐᑭᓯᓂᐊᖅᑎ ᖃᐅᔨᓴᖅᑎᐅᕐᑲᑕᐅᓱᓐᓈᕐ) ᐃᖃᓗᓕᕆᔨᒃᑯᓐᓂᒃ ᐃᒪᓕᕆᔨᒃᑯᓂᓪᓗ ᑲᓇᑕᒥ. ᔮᓐ ᑭᓕ

ᐃᖅᑲᐃᔭᖅᑎᑕᐅᓯᐊᔪᖅ ᐃᓇᖔᑦᓱᓂ ᐋᓐᓄᓘ ᔭᐃᑳᓴᓐᒥᒃ (ᖃᐅᔨᓴᖅᑎᐅᖃᑕᐅᔪᖅ ᓄᐊᕐᕈᐊᓪᑕᓐᒥᒃ) ᐃᓕᓯᒪᔪᕐᔪᐊᖅ ᔭᐃᑳᓴᓐ ᒪᓕᖃᑕᐅᒍᓐᓇᔪᓐᖏᒻᒪᑦ ᖃᐅᔨᓴᖅᑎᓂᒃ ᖃᐅᔨᓴᕆᐊᖅᑎᓪᓗᒋᑦ. ᒥᓪᑕ ᑭᓕ ᐱᓕᒻᒪᑦᓯᒪᓂᕐᒥᓂᒃ ᐊᑐᕐᓂᐊᖅᑐᖅ ᑕᕝᕗᖓ ᐊᐅᓚᓂᕐᒧᑦ ᐃᑲᔪᕐᓗᓂ ᐸᕐᓇᑎᓪᓗᒋᑦ ᐃᓕᓐᓂᐊᕈᑎᑦᓴᓂᒃ ᐃᓕᓐᓂᐊᖅᑎᕐᑯᑎᖏᑦ ᐱᔾᔪᑎᖃᖅᓯᑎᒃ ᑰᓐᓂᒃ ᐃᓅᓈᒍᓪᓗ ᓄᓇᕐᔪᐊᕐᒥᒃ ᑐᑭᓯᓂᐊᕐᓂᐅᔪᓂᒃ.

ᖃᐅᔨᓴᖅᑏᑦ ᑎᑭᔪᔪᑦ ᖁᒻᓗᒃᑐᒧᑦ ᔫᓂ 16, 2014. ᖃᖓᑕᔫᖅ ᒪᕿᓕᒃ ᑭᐊᓐ ᕗᐊᕋᒃᑯᓐᓂᒃ ᑎᑭᔪᔪᖅ ᖁᒻᓗᒃᑐᒧᑦ ᔫᓂ 23, 2014. ᖃᖓᑕᔫᓕᕆᔨᐅᔪᔪᑦ ᖃᖓᑕᔫᖅᑎ ᔭᐃᒻᔅ Hᐋᕕ, ᐊᖁᑎᐅᖃᑎᖓ ᑕᒡᓚᔅ ᐅᐊᔅᑕᓴᓐᑦ, ᐊᒻᒪᓗ ᐊᐅᓚᐅᓯᕆᔨ ᓯᑏᕙᓐ ᒪᑎᓂᐅᑉ. ᐊᑐᖅᑕᐅᒥᐊᓕᓖᑦ ᑐᑭᓯᓂᐊᕐᓂᕐᒧᑦ ᓱᓇᒃᑯᑏᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ ᑐᑦᑕᕐᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓯᐋᑐᒥ (ᓯᓚᑦᑐᓴᕐᕕᔾᔪᐊᖓ ᐅᐊᓯᖕᑕᓐ) ᐊᒻᒪᓗ ᓯᑳᒍ (ᓄᐊᕐᕈᐊᓪᑕᓐ) ᖁᒻᓗᒃᑐᒧᑦ ᐊᐃᔭᐅᑦᓯᑎᓪᓗ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑎᑭᑐᐊᕐᒪᑕ. ᖃᐅᔨᓴᕐᓂᖃᖅᑎᓪᓗᒋᑦ ᓄᓇᒥ (ᔫᓂ 17−ᔪᓚᐃ 9, 2014) ᖃᐅᔨᓴᖅᑏᑦ ᖃᖓᑕᔫᖅᑏᓪᓗ ᐊᕝᕕᖅᑕᔪᑦ ᓇᒧᐃᓐᓇᖅ ᓄᓇᓕᓐᓄᑦ Hᐋᒻᒪᓚᐅᔪᓄᓪᓗ ᓯᐊᒻᒪᖅᑎᖅᓯᒪᔪᓂᒃ ᓄᓇᕗᒻᒥ (ᖁᒡᓗᒃᑐᒃ, ᐃᖃᓗᒃᑑᑦᓯᐊᖅ, ᐅᖅᓱᖅᑑᖅ, ᖃᐅᓯᐃᑦᑐᖅ, ᑲᖏᖅᓯᓛᐱᒃ) ᐊᒻᒪᓗ ᓄᓇᕗᑦᓯᐊᖅ (ᓵᒃᔅ Hᐋᕙ, ᐅᓗᒃHᐊᒃᑑᒃ) ᐃᖅᑲᓇᐃᔭᖅᓯᑎᓪᓗ ᑖᒃᑯᓇᓂ ᓄᓇᓕᓐᓂ ᖃᐅᔨᓴᖅᓯᑎᒃ ᑰᓐᓂᒃ ᐅᐸᒐᔅᐅᒥᐊᑭᑦᑐᓂᒃ ᓄᓇᓕᓐᓂᒃ (ᑳᐸᒪᐃᓐ ᐊᒻᒪᓗ ᑲᓚᐃᑦ ᑯᖓ) ᐅᕙᓗ ᐸᕐᓇᐃᖅᓯᑎᒃ ᖃᖓᑕᓂᔅᓴᐅᔪᓂᒃ ᑕᖅᑲᐅᖓ ᓯᐊᒻᒪᖅᑎᖅᓯᒪᔪᓄᑦ (ᐊᓕᔅ, ᕚᒃ, ᑰᔾᔪᐊᖅ, ᑲᓂᖕHᐋᓪ, ᐊᒻᒪᓗ ᑖᒻᓴᓐ ᑰᖕᒋᑦ) ᖃᐅᔨᓴᕋᔅᓄᑦ ᐊᐅᓚᓂᖃᖅᓯᑎᒃ.

ᑕᑭᓕᒋᐊᕋᔅᓴᖅ ᐃᐳᑯᑖᒃ ᐊᑕᑎᑕᐅᑦᓯᓂ ᐃᒪᖃᐅᑎᒧᑦ ᐊᑐᖅᑕᐅᔪᖅ ᖃᐅᔨᓴᕈᑕᐅᑦᓯᓂ ᑰᓐᓂᒃ. ᐊᑐᖅᓯᓂ ᑲᒥᑯᑖᓐᓂᒃ ᖃᑦᓕᐅᓯᓐᓅᓐᓂᒃ, ᐃᐅᒡᑲᐃᐊ ᑰᓐᓅᐸᑦᓯᓂ ᓯᓈᖓᓂᒃ ᐃᒻᒥᖅᑐᐃᕙᑦᓯᓂ ᐃᐳᑯᑖᒃ ᐊᑐᖅᓯᒍ ᕿᑎᖓᓂᒃ ᑰᑉ. ᐊᑐᕐᖓᓐᓂ 4 ᐊᒻᒪᓗ 6 ᓃᑕᐃᑦ ᐃᒪᐃᑦ ᓄᐊᑕᐅᔪᒧᑦ ᑕᐃᒫᒃ ᐃᒪᖃᐅᑏᒡᓗ ᓅᖅᑕᐅᕙᑦᓯᑎᒃ ᓴᓐᓂᕆᒃᑯᑎᒃᑰᓕᖅᓯᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᕙᒡᓕᐊᓕᖅᓯᑎᒡᓗ. ᓄᓇᒦᑦᓯᑎᒃ. ᓕᐊᓐ ᐊᒻᒪᓗ ᑭᓕ ᐊᑐᖃᑦᑕᔪᔩᒃ ᕌᑕᓕᓕᒻᒥᒃ ᑲᐃᔩᑎᒥᒃ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ ᐊᐅᓚᑦᓯᒍᑕᐅᓂᐊᕐᓗᓂ ᒥᒡᓗᐊᕈᑎᒥᒃ ᐃᒪᕐᒥᒃ ᐊᑐᖅᓯᑎᒃ C-FLEX-ᒥᒃ ᐅᓚᒥᖅᑕᒥᒃ ᖃᐅᔨᓴᕋᔅᓴᓂᒃ ᐃᒪᖃᐅᑎᓂᒃ ᓴᓐᓂᕆᒃᑯᑎᑎᒧᑦ ᐆᒡᓚᑑᓂᖅᓵᖅᑲᓕᖅᓯᕆᑦ. ᑖᒃᑯᓇᓐᖓᑦ ᐱᖓᓱᑦ ᐆᕋᕊᑦ ᐃᓚᒋᐊᕐᒥᑦᓯᑎᒃ ᐊᔾᔨᒋᓐᖏᑦᑕᓂᒃ ᐃᓚᒃᓴᒥᒃ (hydrochloric acid, mercuric chloride, ᐅᕙᓗ cupric chloride) ᓱᕋᔾᔭᐃᒃᑯᑏᑦ ᖃᐅᔨᓴᕋᔅᓴᓄᑦ. ᐊᓯᖕᒋᓕᒫᖕᒋᑦ ᐆᕋᕊᑦ ᐃᕿᖅᑕᐅᑦᓯᑎᒃ ᖃᐅᔨᓴᕋᔅᓴᒧᑦ ᓄᐊᑦᓯᒡᓚᕆᓚᐅᓐᖏᓐᓂᖕᒋᓐᓂ. ᐆᕋᕊᑦ ᑎᑎᕋᖅᑕᐅᑦᓯᐊᖅᓯᑎᒃ ᑐᖅᑯᖅᑕᐅᑦᓯᑎᒡᓗ ᐊᐅᓪᓚᖅᑎᑕᐅᒍᒫᕐᓂᐊᖅᓯᑎᒃ ᖃᐅᔨᓴᕝᕙᓐᓄᑦ ᓯᐋᑐᒥ ᓯᑳᒍᒥᒡᓗ ᕿᒥᕿᔭᐅᑦᓯᐊᕋᔭᖅᑎᓪᓗᒋᑦ ᐃᓚᐅᖅᑐᖅᑕᐅᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᒃ ᐱᑕᖃᑦᓯᐊᕋᓗᐊᕐᒪᖕᖎᑕ ᐅᑯᐊ stable oxygen isotope signature, strontium isotopic ratios, total alkalinity, dissolved inorganic and organic carbon content, and concentrations of barium, major cations (e.g., calcium and magnesium), major anions (e.g. chloride and sulfate), ᐊᒻᒪᓗ nutrients (e.g., nitrate and phosphate). ᖃᖓᒍᒃᑲᓐᓂᖅ ᑰ ᐃᒪᖕᒋᓐᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ, ᓂᕈᒥᓐᓂᖕᒋᑦ, pH, ᐊᒻᒪᓗ ᐊᐅᓚᓂᕆᒍᓐᓇᖅᑕᖕᒋᑦ ᖃᐅᔨᓴᖅᑕᐅᑦᓯᑎᒃ ᐊᑐᖅᓯᑎᒃ ᓄᑦᑕᖅᑐᒥᒃ ᖃᐅᔨᓴᕈᑎᒥᒃ ᐊᒻᒪᓗ ᐅᖁᒪᐃᓐᓂᓕᒃ < 2 kg ᒪᕋᒥᒃ ᓄᐊᑕᐅᔪᖃᓚᐅᖅᑐᑦ ᐊᑐᓂᑦ ᐃᓂᒋᔭᐅᔪᓂᒃ ᓇᓗᓇᐃᖅᑕᐅᒍᒪᑦᓯᑎᒃ ᐃᓗᓕᖕᒋᑦ; ᑕᒪᓇ ᐃᑲᔪᕐᓂᖃᕐᒪᑦ ᖃᐅᔨᓴᖅᑎᓂᒃ ᓇᓗᓇᐃᖅᓯᑎᓪᓗᒋᑦ ᓇᑭᓐᖔᕐᒪᖔᑕ (ᐅᔾᔭᖅᑲᓂᒃ, ᐃᔾᔪᒥᒃ, ᐊᓯᖕᒋᓐᓂᓪᓗ) ᐃᒪᕐᕝᖃᑕᐅᒪᑕ ᐊᐅᓯᒪᔪᓄᑦ ᐃᓗᓕᕆᔭᐅᔪᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᓄᑦ ᑰᓐᓂ ᐃᒪᕐᓂ. ᖃᐅᔨᓴᖅᑕᐅᔪᓕᒫᑦ ᓱᓇᒃᑯᑏᓪᓗ ᓄᐊᑕᐅᑦᓯᑎᒃ ᐃᑭᔭᐅᑦᓯᑎᒃ ᒪᕿᓕᒻᒧᑦ ᐊᐅᓪᓚᖕᒋᓐᓂᕐᒥᓂ. (ᕿᒪᐃᓐᖕᒋᑦᓯᐊᓚᐅᖅᑐᑦ ᓱᓇᓕᒫᓂᒃ).

ᓄᓇᒥ ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᐊᐅᓚᑕᐅᔪᓄᑦ ᐊᑐᓂᑦ ᑰᓐᓂ ᓇᐃᓪᓕᑎᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᐃᓕᖓᑎᓪᓗᒋᑦ:

2.1 ᑳᐸᒪᐃᓐ (ᔫᓂ 17 – 24, 2014)

ᑲᑎᒪᖅᑲᑎᖃᓚᐅᖅᓯᑕ ᑐᑭᒧᐊᑦᑎᑦᓯᒋᓪᓗ ᓄᓇᓕᓐᓂ ᐊᖑᓇᓯᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ, ᖃᐅᔨᓴᕋᔅᓴᐃᑦ ᓄᐊᑕᐅᔪᑦ ᔫᓂ 17-ᒥ ᐱᖓᓯᓂᒃ ᑕᕝᕙᖓᔅᐃᓇᐅᓐᖕᒋᑦᑐᖅ ᐃᑳᖅᓯᒪᔪᓂᒃ ᑰᒻᒥᒃ ᐊᑐᖅᓯᑎᒃ ᐅᒥᐊᕈᕐᒥᒃ ᐊᐅᓚᐅᑎᖅᑲᖅᓯᓂ. ᑖᒃᑯᐊ ᐱᖓᓱᑦ ᐱᕕᐅᔪᑦ ᑐᑭᒧᐊᑦᑐᒥᒃ ᑰᒻᒥ ᖃᐅᔨᓴᕋᔅᓴᐃᑦ ᓄᐊᑕᐅᑦᓯᓂ ᐱᖓᓇᖓᓂᒃ ᑲᓇᓇᖓᓂᓪᓗ ᓯᓅᖕᒋᑦᑕ ᐊᒻᒪᓗ ᕿᑎᖓᓂᒃ ᑰᑉ. ᑖᒃᑯᐊ ᖃᐅᔨᓴᕋᔅᓴᐃᑦ ᐱᕕᖃᖅᑎᑦᓯᒋᐊᓖᑦ ᖃᐅᔨᓴᖃᑎᕒᑦᑐᓂᒃ ᓇᓗᓇᐃᖅᓱᑎᒃ ᐃᓚᐅᖅᑐᕈᑕᐅᓯᒪᔪᑦ ᑰᒻᒥ ᐊᔾᔨᕌᓐᖕᒋᑦᑐᐃᓐᓇᕆᐊᖃᕆᐊᖕᒋᑦ ᓯᕕᑐᓂᖓᓂ.

ᒪᕈᒃ ᓄᓇᒥ ᐃᖅᑲᓇᐃᔭᖃᑕᐅᔫᒃ (ᑯᕆᔅᑎᐊᓐ Hᐃᑯᒃ ᑲᒥᓐᖑᐊᖅ ᐊᒻᒪᓗ ᔪᐊᖓᓐ ᐊᓇᕙᒃ) ᒪᓕᔫᒃ ᐃᐅᒡᑲᐃᐊ ᐊᒻᒪᓗ ᓚᓐᒥᒃ ᐊᐃᑉᐸᖓᓂ ᑳᐸᒪᐃᓐ ᑰᖓᓅᓕᕐᒪᑎᒃ ᓄᐊᑦᓯᒋᐊᖅᑐᖅᓯᑎᒃ ᐊᐃᑉᐸᐃᖕᒋᓐᓂᒃ ᖃᐅᔨᓴᕋᔅᓴᐃᑦ ᔫᓂ 20-ᖑᑎᓪᓗᒍ ᐃᓕᓐᓂᐊᕐᓂᖅ ᐱᔾᔪᑎᒋᓪᓗᒍ. ᐃᐅᒡᑲᐃᐊᒃᑲᒃ ᓚᓐᑯᒃ ᑕᐅᑐᑦᑎᑦᓯᑦᓯᑎᒃ ᖃᐅᔨᓴᕋᔅᓴᓂᒃ ᓄᐊᑦᓯᓂᕐᒥᒃ ᑖᒃᑯᐊᓗ ᐃᑲᔪᖅᑎᓂ ᓇᒻᒥᓂᖅ ᖃᐅᔨᓴᕋᔅᓴᓂᒃ ᓄᐊᑦᓯᑎᓕᖅᓯᕆᑦ ᐱᔭᕆᐅᖅᓴᐅᑎᓂᒃ ᐊᐱᖅᓱᕈᓐᓇᖅᓯᑎᓪᓗ ᐊᐱᖅᑯᑎᑦᓴᖃᕈᑎᒃ ᐊᐅᓚᓂᐅᔪᑦ ᒥᑦᓴᐃᓐᓄᑦ. ᔫᓂ 23-ᖑᑎᓪᓗᒍ,

ᐱᖅᑕᕐᕿᔾᐅᐧᐁᑦ ᖃᐅᔨᓴᕋᓯᐃᑦ ᓄᐊᑕᐅᐧᐁᑦ ᑳᐸᒪᐃᓐ ᑯᖅᑕᓂᒃ ᓄᓇᒥᒃ ᖃᐅᔨᓴᖅᑎᓄᑦ ᓚᓐᑯᒃ ᑭᓕᒃᑯᒃ ᑕᐅᑯᕋᓐᓈᑎᓪᓗᒋᒃ (ᑭᖑᓪᓕᖅᐸᖓ ᐃᓕᓐᓂᐊᕐᓂᐅᑉ).

2.2 ᐊᓕᔅ ᑰᖓ (ᔫᓂ 24, 2014)

ᖃᐅᔨᓴᕐᑲᑎᒌᑦᑐᑦ, ᖃᖓᑕᔫᒥ ᐊᕐᑯᑎ, ᐊᕐᑯᑎᐅᕐᑲᑎᖓ, ᐊᒻᒪᓗ ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎ (ᔪᐊᕐᕕᓐ ᐊᑕᐅᒃ) ᐊᐅᓪᓚᔪᐧᐁᑦ ᐃᕐᑲᓗᒃᑑᒃᓱᐊᖅ ᒥᕝᕙᖓᓂᒃ ᐅᓐᓄᓴᒃᑯᑦ 4-ᒥᑕᓚᒃ ᖃᐅᔨᓴᓇᐊᓯᑦᓯᑎᒃ ᐊᓕᔅ ᑰᖓᓂᒃ. ᒥᔅᑕ ᐊᑕᐅᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓯᐧᐁᖅ ᐅᕐᑲᕐᑲᑎᕐᑲᓚᐅᖅᓯᑕ ᒥᓂᔅᑕᐅᕙᖓᓐᓂᒃ ᐊᕗᑎᓕᕆᔾᒃᑯᑦ ᓄᓇᓕᓐᓂ.
ᒪᒥᓇᖅᑑᖃᓗᐊᖅ, ᑲᑎᕐᑲᑎᕐᑲᕈᓐᓇᐧᐋᖅᕆᓇᑦᑕ ᐊᖑᓇᓯᑦᑏᑦ ᑲᑎᒪᖅᑭᔾᓐᓂᒃ ᐃᑲᐧᐁᖅᑎᓯᐅᐧᐁᖅ ᐋᓐᓂᐊᐧᐁᒻᒪᑦ ᐃᕐᑲᓗᒃᑑᕐᓯᐊᒦᑲᐃᓐᓇᓂᑦᑎᓐᓂ. ᒪᕿᓕᒃ ᒥᐧᐁᐧᐁᖅ ᒥᕝᕙᒻᒥ ᑐᐊᐸᓕᒻᒥ (67º 58.503’N, 104º 01.061’W) 5:30 ᐅᓐᓄᓴᒃᑯᑦ ᖃᐅᔨᓴᕐᑲᑎᒌᓪᓗ ᐱᓯᑦᓯᑎᒃ ~0.5 ᑭᓖᒥᑕᓂᒃ ᑯᒻᒧᑦ. ᑎᒻᒥᐊᑦ ᑕᑯᔭᐅᐧᐁᑦ ᖃᖓᑕᔫᒥᒃ ᑭᓯᐊᓂ ᐆᒪᐧᐁᕐᓂᒃ ᑕᑯᐧᐋᖅᕆᑦᑐᑦ ᓄᓇᒥ ᐋᒡᕕᐅᕕᓗᐊᖅ ᒥᑎᐅᕙᓪᓚᐃᐧᐁᓂᒃ ᕐᑯᓚᐅᑦᑐᓂᒃ, ᐊᑕᐅᓯᐅᓐᖏᑦᑐᖅ ᓇᐅᔭᖅ, ᕿᑦᑐᕆᐊᓪᓗ. ᒥᕝᕙᒃ ᑎᒻᒥᐊᖅᑕᕐᑲᐧᐋᖅᕆᑦᑐᖅ ᐅᓪᓗᑕᕐᑲᖅᑑᔭᕋᓂᓗ ᑎᒻᒥᐊᓄᑦ ᐃᕙᐧᐁᖅᑕᕐᑲᐧᐁᕕᓂᓗ; ᑕᐃᒪᐃᒻᒪᑦ ᖃᔮᐅᓴᕋᓯᓄᑦ ᐊᐅᓚᓂᐅᐧᐁᖅ ᐊᑦᑐᐃᓂᕐᑲᓪᓚᕆᐧᐋᖅᕆᑦᑐᖅ ᓄᓇᒥᒃ. ᐱᖓᓯᑦ ᐅᖄᓚᐅᑎᕋᓛᑦ ᑐᓂᔭᐅᐧᐁᑦ ᐊᑕᐅᕐᒧᑦ, ᖃᖓᑕᔫᖅᑏᓐᓄᑦ (Hᐋᕙ ᐊᒻᒪᓗ ᐅᐊᔅᑐᓴᓐ ᖃᖓᑕᔫᖅᐸᓯᖅᕆᓐᓇᖅᓯᑎᒃ), ᖃᐅᓴᖅᑎᓄᓪᓗ ᐅᕐᑲᕐᑲᑏᒍᓐᓇᕐᑯᓪᓗᒋᑦ ᑐᑭᒧᐊᕐᑲᑏᓪᓗᑎᓪᓗ ᑐᐊᕙᕐᓇᖅᑐᕐᑲᓯᒃᓪᓚᑕᓐᓂᖅᐸᑦ. ᖃᐅᔨᓴᖅᑏᑦ ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᑯᒻᒥᒃ, ᐊᑕᐅᒃ ᐅᐊᕐᓯᐧᐁᐧᐁᖅ ᓄᓇᒥ ᑰ ᓯᓈᖓᑕ ᕐᑯᓛᓂ ᑕᒪᒃᑭᓐᓂᒃ ᑕᑯᓐᓇᕈᓐᓇᕐᑯᓪᓗᒍ ᖃᖓᑕᔫᖅᑎᓂᒃ ᖃᐅᔨᓴᖅᑎᓂᓪᓗ. ᓇᓄᕐᓂᒃ ᑕᑯᐧᐁᕐᑲᐧᐋᖅᕆᑦᑐᖅ. ᖃᐅᔨᓴᕋᓯᐃᑦ ᓄᐊᑕᐅᐧᐁᑦ ᐃᐅᓪᑲᐃᐊ ᑯᒻᒥ ᐃᐱᕁᖅᓴᖅᓯᓂ ᑕᑭᓪᓕᑕᖅᑐᒥᒃ ᐃᕗᒥᒃ ᐊᑐᖅᓯᓂ ᓴᓐᓂᕆᒃᑯᑎᒃᑰᑎᕐᓯᑦᓯᓂ ᖃᐅᔨᓴᖅᑕᐅᓯᓐᓈᖅᓯᑎᒃ ᓚᓐᑰᓐᓄᑦ ᑭᓕᒃᑯᓐᓄᑦ ᐊᑐᖅᓯᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓄᓇᒥ. ᒪᒃᑖᓄᑦ ᐊᔾᔨᓕᐅᕋᑦᑕᐧᐁᖅ ᑕᑯᓴᐅᑎᕐᓯᒍᒪᑦᓯᓂ ᖃᐅᔨᓴᕋᓯᐊᕐᓂᐅᐧᐁᓂᒃ ᑲᒪᑦᓯᓂᓗ ᐊᑦᓯᓈᓂᒃ, ᐳᑦᑕᖅᑯᑎᓂᒃ, ᐊᒻᒪᓗ ᐊᓐᓂᖅᑐᓕᕆᔾᔪᑎᓂᒃ ᐱᕐᓗᐊᕿᐧᐁᕐᑲᑲᓪᓚᑉᐸᑦ. ᐱᔭᕇᑐᐊᕐᒪᑕ ᑲᒪᒋᒋᐊᓕᒻᒥᓂᒃ, ᖃᐅᔨᓴᕐᑲᑎᒌᑦ ᐎᖅᑲᐃᑦᓯᑎᒃ ᖃᐅᔨᓴᕋᓯᓂᒃ, ᓱᓇᒃᑯᑎᓂᒃ, ᓴᓂᓪᓗᓪᓗ ᓇᓯᖅᓯᕆᑦ ᓱᓇᓕᒫᑦ ᑯᒻᒥᒃ ᖃᖓᑕᔫᒧᑦ ᐅᓯᓕᖅᑐᖅᓯᑎᒃ ᐊᐅᓪᓚᖅᓯᑎᓪᓗ. ᖃᖓᑕᔫᖅ ᐅᑎᐧᐁᐧᐁᖅ ᐃᕐᑲᓗᒃᑑᕐᓯᐊᒧᑦ ᓯᕿᓐᖑᔭᖅ 8:30 ᐅᓐᓄᒃᑯᑦ.

2.3 ᕘᒃ ᐊᒻᒪᓗ Hᐊᐃᔅ ᑰᖕᒋᒃ (ᔫᓂ 26, 2014)

ᖃᐅᔨᓴᖅᑏᑦ, ᖃᖓᑕᔫᖅᑎ, ᖃᖓᑕᔫᖅᑎᐅᕐᑲᑎᖓ, ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎ (ᐋᑕᓪ ᐅᑯᖅᑐᓐᓄᐊᖅ) ᐊᐅᓪᓚᔪᐧᐁᑦ ᐅᖅᓱᖅᑑᒥᒃ ᓯᕿᓐᖑᔭᖅ 1:45 ᐅᓐᓄᒃᓴᒃᑯᑦ ᖃᐅᔨᓴᓇᐊᖅᓯᑎᒃ ᕘᒃ ᓇᕗᒥᒃ. ᒥᔅᑕ ᐅᑯᖅᑐᓐᓄᐊᖅ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᐧᐁᖅ ᑐᑭᓯᓂᐊᓚᐅᖅᓯᑎᒃ ᐊᖑᓇᓯᑦᑏᑦ ᒥᑭᕆᐊᕐᓂᐊᖅᑏᓪᓗ ᑲᑎᒪᔾᔪᕆᓐᓂᒃ ᑎᑭᓚᐅᓐᖏᓐᓂᑦᑎᓐᓂ ᓄᓇᓕᓐᓄᑦ. ᕘᒃ ᑯᖓᓂᑐᐊᖅ ᖃᐅᔨᓴᓇᐊᓚᖓᓚᐅᕋᓗᐊᕋᑦᑕ ᐃᒪᕐᒥᒃ; ᑭᓯᐊᓂ ᓇᓗᓇᕈᓐᓃᐧᐁᒻᒪᑦ ᐃᒻᒥᒃᑯᑦ ᑯᑦᑑᒃ ᕘᒃ ᐊᒻᒪᓗ Hᐊᐃᔅ ᑰᖕᒋᒃ ᑲᓯᕐᓂᖅᑲᕐᒪᑎᒃ ᑯᑦᓯᑎᒃ Chanrtrey ᑲᖕᒋᖅᓱᖓᓄᑦ.

ᓄᐊᑕᐅᐧᐁᑦ ᖃᐅᔨᓴᕋᓯᐃᑦ ᑯᒻᒥᒃ ᓯᑐᐧᐁᒥᒃ ᑲᑎᕝᕙᖓᓂ ᑲᑎᓯᒪᐧᐁᓂᒃ ᑯᓐᓂᒃ ᒪᕿᓐᓂᒃ ᖃᐅᔨᓴᕋᓯᖅᑕᖃᑐᐃᓐᓇᓇᐊᖃᕐᒪᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖅ ᑯᒻᒥᒃ ᐹᓐᖓᕆᐊᖅ ᑕᑯᓯᐅᑎᕐᓯᕙᔭᕐᒪᑦ ᓇᓕᐊᓐᓂᒃ ᐃᒪᕐᒥᒃ ᐃᑖᐧᐁᖃᕐᒪᖕᒑᖅ ᑲᖕᒋᖅᓱᒧᑦ. ᑕᐃᒪᐃᓂᖓᓐᓄᑦ, ᑐᑭᓯᓂᐊᕈᑦᑕ ᑯᒻᒦᓐᖕᒑᖅᑐᓂᒃ ᑕᒪᒃᑮᓐᓂᒃ Chantrey ᑲᖕᒋᖅᓱᖓᓄᑦ, ᖃᐅᔨᓴᖅᑕᐅᐧᐁᑦ ᕘᒃ ᐊᒻᒪᓗ Hᐊᐃᔅ ᑰᖕᒋᓐᓂᒃ ᓄᐊᑕᐅᕆᐊᖅᑲᕐᓂᐊᖅᑐᑦ.

ᓯᕗᓪᓕᕐᒥ ᒪᕿᓕᒃ ᒥᑦᓯᓂ ᓯᐅᕋᔾᔩᑦ ᓯᓈᓄᑦ 3-ᒥᑕᓚᒃ ᐅᓄᓴᒃᑯᑦ ᓄᓇᓐᖑᐊᖅᑎᒍᑦ 67º 3.916’N, 95º 16.865’W ᖃᐅᔨᓴᕐᑲᑎᒌᓪᓗ ᐱᓯᑦᓯᑎᒃ ᑰ ᓴᓂᐊᒍᑦ 1.3 ᑭᓖᒥᑕᓂᒃ ᐅᖓᓯᓐᓂᓕᒻᒧᑦ ᒥᕝᕕᑎᓐᓂᒃ ᐃᓂᒧᑦ ᑯᒻᒨᕐᕙᕆᒍᓐᓇᖅᑕᑦᑎᒍᑦ ᖃᐅᔨᓴᕐᔪᐊᕈᑎᕆᑦᓯᒍ ᖃᐅᔨᓴᖅᑕᐅᐧᐁᑦ ᑕᑯᔅᓴᐅᑎᕐᔪᓂᐊᕋᓗᐊᕐᒪᖔᑕ ᕘᒃ ᑯᖓᓃᓐᖕᒑᖅᑐᓂᒃ ᐃᓚᐅᖅᑐᕈᑕᐅᓯᒪᐧᐁᓂᒃ. ᐅᑯᖅᑐᓐᓄᐊᖅ ᒪᓕᐧᐁᐧᐁᖅ ᖃᐅᔨᓴᖅᑎᓂᒃ ᑭᖑᓕᕆᔭᐅᑦᓯᓂ ᐃᓘᓐᓇᖕᒋᓐᓂᓪᓗ ᑐᓴᐅᒪᖃᑦᑕᐅᑎᕐᑲᑎᕐᑲᖅᓯᓂ ᐅᖄᓚᐅᑎᕋᓛᒃᑯᑦ. ᖃᐅᔨᓴᕋᓯᐃᑦ ᓄᐊᑕᐅᐧᐊᒧᑦ ᐃᐅᑲᐃᐊᒧᑦ ᐃᐱᕁᖅᓴᖅᓯᓂ ᐊᑐᖅᓯᓂ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓯᓈᓂ. ᒪᒃᑖᓄᑦ ᐊᔾᔨᓕᐅᓇᕐᑲᑦᑕᖅᓯᓂ ᐊᑦᑕᓇᖅᑐᒨᑦᑎᓯᑦᑕᐃᓕᒪᕐᑲᑕᐅᑦᓯᓂᓗ. ᖃᐅᔨᓴᕋᓯᓂᒃ ᐱᓚᐅᖅᓯᑎᒃ ᖃᐅᔨᓴᖅᑏᑦ ᐱᓯᑦᓯᑎᒃ ᖃᖓᑕᔫᒧᑦ ᐊᐅᓪᓚᖅᓯᑎᓪᓗ ᐅᓐᓄᒃᑯᑦ 6-ᒥ Hᐊᐃᔅ ᑰᖓᓅᓕᖅᓯᑎᒃ. 30 ᒥᓂᑦᓯ ᐊᓂᒍᕐᒪᑕ, ᒪᕿᓕᒃ ᒥᑦᓯᓂ ᓄᓇᓐᖑᐊᖅᑎᒍᑦ 67º 10.212’N, 95º 10.080’W, ᓄᓇ ᐅᖓᓯᓐᓂᓕᒃ 12.6 ᑭᓖᒥᑕᓂᒃ ᕘᒃ ᑯᖓᓂ ᖃᐅᔨᓴᕝᕙᒻᒥᒃ. ᑕᕝᕗᓂ ᖃᐅᔨᓴᕐᑲᑎᒌᑦᑐᑦ ᐅᖓᓯᑦᑐᓕᐊᓐᖏᒃᑲᓗᐊᖅᑎᓪᓗᒋᑦ ᖃᖓᑕᔫᒥᒃ ᑯᓕᐊᖅᓯᑎᒃ ᖃᐅᔨᓴᓇᐊᖅᓯᑎᒃ. ᓱᓕᓗ ᖃᐅᔨᓴᕋᓯᓂᒃ ᓄᐊᑦᓯᑦᓯᑎᒃ ᐃᐅᓪᑲᐃᐊ ᐃᐱᕁᖅᓯᓂ ᑯᒻᒧᑦ ᐃᐳᑯᑖᒻᒥᒃ ᐊᑐᖅᓯᓂ ᒪᒃᑖᓄᑦ ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᐊᑦᑕᓇᖅᑐᕐᖅᑐᖅᑲᓕᐧᐋᖅᕆᒃᑲᓗᐊᕐᒪᖕᒑᖅ ᓱᓇᒃᑯᑎᓪᓗ ᐊᑐᐃᓐᓇᐅᑎᑦᓯᑦᓯᓂ. ᖃᐅᔨᓴᕋᓯᐃᑦ ᓇᓯᖅᑕᐅᑦᓯᑎᒃ ᓄᓇᒧᑦ ᓴᓐᓂᕆᒃᑯᑎᒃᑯᖅᑎᑕᐅᑦᓯᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᓐᓈᖅᓯᑎᒃ ᓚᓐᒧᑦ ᑭᓕᒧᓪᓗ ᐊᑐᖅᓯᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓄᓇᒥ. ᖃᖓᑕᔫᖅ ᐅᑎᐧᐁᐧᐁᖅ ᐅᖅᓱᖅᑑᒧᑦ ᐅᓐᓄᒃᑯᑦ 9-ᒥᑕᓚᒃ. ᐆᒪᐧᐁᕐᓂᒃ ᑕᑯᓚᐅᕋᑎᒥᒃ ᓄᓇᒦᑦᓯᑎᒃ, ᒪᕿᒃ ᐊᒪᕈᒃ ᐊᒻᒪᓗ

ᓯᑕᒪᑦ ᑐᑦᑐᐃᑦ ᑕᑯᔭᐅᔪᒧᑦ ᐃᑳᖅᑐᑦ ᑰᒻᒥᒃ ᖃᖓᑕᔫᒃᑯᑦ. ᑎᒻᒥᐊᑦ ᑕᑯᔭᐅᔫᒻᒥᔪᑦ ᖃᖓᑕᔫᒃᑯᑦ ᑭᓯᐊᓂ ᓇᓗᓇᐃᕋᓴᐅᔪᓐᖏᑦᑐᑦ ᐊᑖᓃᔫᒪᑕ ᖃᖓᑕᔫᑉ (ᖃᖓᑕᑦᓯᑕ ~7500 ft.).

2.4 ᑰᔾᔪᐊ ᑰᖓ (ᔫᓂ 29, 2014)

ᖃᐅᔨᓴᕐᑲᑎᒋᑦᑐᑦ, ᖃᖓᑕᔫᖅᑎ, ᖃᖓᑕᔫᖅᑎᐅᑉ ᐊᐃᑉᐸᖓ, ᓇᓄᕐᓂᓪᓗ ᖃᐅᔨᓴᖅᑏᒃ (ᕗᕋᐃᔾᓐ ᑲᓪᓚᒃ ᐊᒻᒪᓗ ᐹᑐᓇᒃ ᐊᒃHᐃᐊᑕᒃ) ᐊᐅᓪᓚᔪᔪᑦ ᐅᓗᒃHᐊᒃᑑᒃ ᒥᕝᕕᖓᓐᓂᒃ ᐅᓪᓘᓴᒃᑯᑦ 11-ᒥ ᖃᐅᔨᓴᕆᐊᖅᑐᖅᓯᑎᒃ ᑰᔾᔪᐊ ᑰᖓᓂᒃ. ᖃᐅᔨᓴᖅᑏᒃ ᐃᖅᑲᓇᐃᔭᖅᑏᑕᕆᔭᐅᔪᔫᒃ ᐃᑲᔪᖅᑎᕐᑲᖅᓯᑕ ᐊᖑᓇᓯᑦᑏᑦ ᑲᑎᒪᔩᖏᓐᓂᒃ ᑲᑎᒪᓂᕐᑲᑲᐃᓐᓇᖅᓯᑕ ᐃᑉᐸᑦᓴᖓᓂ ᐅᕐᑲᕐᑲᑎᒌᒍᑎᕐᑲᖅᓯᑕ ᐊᐅᓚᓂᐅᔪᒥᒃ, ᑭᐅᒪᑦᓯᑕᓗ ᐊᐱᖅᑯᑕᐅᔪᓂᒃ ᐊᖑᓇᓯᑦᑏᑦ ᑲᑎᒪᔩᖏᓐᓂᒃ ᐊᐱᖅᓯᖅᓯᑕᓗ ᐃᑲᔪᖅᑕᐅᒍᒪᓪᓗᑕ ᖃᐅᔨᓴᕋᑦᓴᓂᒃ ᐱᒐᓯᐊᖅᑎᓪᓗᑕ. ᖃᖓᑕᔫᖅ ᒥᔪᔪᖅ ᓯᐅᕋᔾᔭᒧᑦ ᒥᕝᕕᒻᒧᑦ ᓴᓂᐊᓂ ᐃᓪᓗᕋᓵᑐᖅᑲᐅᑉ ᐹᖓᓂ ᑰᑉ (71º 16.054’N, 116º 45.878’W) ᐅᓐᓄᓴᒃᑯᑦ 12:21. ᖃᐅᔨᓴᕐᑲᑎᒋᑦ, ᐃᓚᖃᖅᓯᑎᒃ ᐊᒃHᐃᐊᑕᒃ (ᑲᑦᓚᒃ ᖃᖓᑕᔫᖅᑐᓃᑦᑎᓪᓗᒍ) ᐱᓯᔪᔪᑦ ᐅᖓᓯᓐᓂᓕᒻᒥᒃ ᒪᐃᓕᓪᓗᐊᒥᒃ ᑕᑉᐸᐅᖓ ᑰᒻᒧᑦ ᐅᐊᓐᓇᖓᓄᑦ ᓯᓈᓄᑦ ᓄᓇᓐᖑᐊᑎᒍᑦ (71º 16.232’N, 116º 48.594’W) ᑰᑉ ᓯᕕᑭᓪᓕᕕᕆᓯᒪᔭᖓᒍᑦ ᑰᑦᑐᐹᑰᑦᓯᓂᓗ. ᖃᐅᔨᓴᕋᑦᓴᐃᑦ ᓄᐊᑕᐅᔪᔪᑦ ᐃᐊᓪᑲᐃᐊ ᐃᐱᕌᖅᓴᓂ ᑰᒻᒧᑦ ᖄᖏᐊᕐᔪᑐᐃᓐᓇᖅᓯᒍ ᑰᓗᐊᓐᖑᐊᕐᓂᖓ (ᑲᑎᖅᓯᖅᓯᒪᑦᓯᐊᖅᑐᒥᒃ ᑰ ᐃᒪᖓᓂᒃ) ᐊᑐᖅᓯᓂᓗ ᐃᐳᑯᑖᒻᒥᒃ ᕿᑎᖓᓄᑦ ᑰᑉ ᒪᒃᑖᓄᑦ ᐊᑦᑕᓇᖅᑐᕐᑲᓕᓐᖏᒃᑲᓗᐊᕐᒪᖐᖅ ᖃᐅᔨᓴᖅᑎᓪᓗᒍ. ᓄᐊᑕᐅᔪᖅ ᐃᒪᖅ ᓴᓐᓂᒌᒃᑯᑎᑎᒎᖅᑎᑕᐅᑦᓯᓂ ᖃᐅᔨᓴᖅᑕᐅᑦᓯᓂᓗ ᓚᓐᑰᓐᓄᑦ ᑭᓕᒃᑰᓐᓄᑦ ᐊᑐᓯᖅᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ. ᖃᖓᑕᔫᖅ ᐅᑎᔪᔪᖅ ᐅᓗᒃHᐊᒃᑑᒧᑦ 4-ᒥ ᐅᓐᓄᓴᒃᑯᑦ.

2.5 ᑖᒻᓴᓐ ᑰᖓ (ᔪᓚᐃ 3, 2014)

ᖃᐅᔨᓴᕐᑲᑎᒋᑦᑐᑦ, ᖃᖓᑕᔫᖅᑎ, ᖃᖓᑕᔫᖅᑎᐅᕐᑲᑎᖓ ᐊᒻᒪᓗ ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎ (ᔨᐊᕝ ᑯᑉᑖᓇ) ᐊᐅᓪᓚᔪᔪᑦ ᕌᒃᓴ Hᐋᕙᒥᒃ ᐅᓪᓘᓴᒃᑯᑦ 9:45 ᖃᐅᔨᓴᕆᐊᖅᑐᖅᓯᑎᒃ ᑖᒻᓴᓐ ᑰᖓᓂᒃ. ᑯᑉᑖᓇ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᔪᔪᖅ ᐊᖑᓇᓯᑦᑏᑦ ᑲᑎᒪᔩᖏᑦ ᐃᑲᔪᖅᑎᕆᑦᓯᕆᑦ. ᖃᖓᑕᔫᖅ ᒥᔪᔪᖅ ᓴᓂᑦᓯᐊᖓᔪᑦ ᐅᒐᒋᐊᓕᑦᑕ, *ᑖᒻᓴᓐ ᑰᖓ, ᑰᑦᑐᖅ ᑳᔅᑎᐅᓪ ᑲᖏᖅᓯᖓᓄᑦ: 74º 04’ 55”N, 119º 46’ 00”W*, ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐊᐅᓚᕕᒃ ᑲᓇᑕᒥ ᒥᓐᖑᐃᕐᓯᕐᕕᓐᓄᑦ ᒪᓕᒐᕐᓂ. ᖃᖓᑕᑦᓯᑕ ᐳᖅᑐᓂᕆᔪᔭᕗᑦ 5,000-6,000 ft. ᑎᑭᓕᕋᑦᑕᖅᓯᑕ 7-ᒥᓂᑦᓯᓂᒃ ᒥᓐᖏᓂᑦᑎᓐᓂ. ᖃᖓᑕᔫᖅ ᐃᖏᕐᕋᐃᓐᓇᔪᓐᖏᑦᑐᖅ ᐃᖏᕐᕋᕕᐅᕐᑯᔭᐅᓯᒪᔪᖅᑎᒍᑦ ᒥᓐᖑᐃᕐᓯᕐᕕᓕᕆᔾᑯᓐᓄᑦ ᑲᓇᑕᒥ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓯᓚ ᖃᐅᓯᕐᓇᕐᓂᖓ ᐊᑉᐸᓯᓕᖅᐸᓕᐊᒍᑕᐅᔪᔪᖅ ᖃᖓᑕᔫᒧᑦ. ᐊᑦᑕᓇᕐᓇᐅᓴᓂᑯᖓᓄᑦ ᓯᓚ ᒥᐅᓯᐊᕆᐊᖅ ᖃᖓᑕᔫᖅ ᒥᐅᓗᐊᖅᓯᓂ ᖃᖓᑦᑕᖅᓴᐅᑎᕆᔪᔪᖅ ᒥᒃᑲᓐᓂᓕᕐᒥᑦᓯᓂ ~1.6 ᑭᓛᒥᑕᓂᒃ ᐅᖓᓯᓐᓂᓕᒻᒥᒃ 74º 04.075’N, 119º 47.081’W. ᖃᐅᔨᓴᕋᑦᓴᐃᑦ ᓄᐊᑕᐅᔪᔪᑦ ᓴᓂᐊᓂ ᒥᕝᕕᑦᑕ ᐃᐊᓪᑲᐃᐊ ᐃᐱᕌᖅᓯᓂ ᑰᒻᒧᑦ ᐃᐳᑯᑖᓕᔭᖅᓯᓂ ᓴᓐᓂᒌᒃᑯᑎᒃᑰᑎᑦᓯᑦᓯᓂ ᖃᐅᔨᓴᖅᓯᑎᓪᓗ ᓕᓐᑯᒃ ᑭᓕᒃᑯᒃ ᐊᑐᖅᓯᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓯᓈᓂ. ᑕᕝᕙᓂᓗ ᒪᑦᑕᓄᑦ ᓯᓕ ᐊᑦᑕᓇᑦᑕᐃᓕᒪᓂᓕᕆᔮᐅᑦᓯᓂ. ᐆᒪᔪᕐᓂᒃ ᑲᓯᐃᔪᓐᖏᑦᑐᒍᑦ ᑕᕝᕙᓂ ᓅᓯᒪᑦᓯᑕ. ᑭᓯᐊᓂᓕ, ᓇᐅᔭᐃᑦ, ᒪᕿᓕᖅᑲᖓᔪᑦ ᐅᒥᒻᒪᐃᑦ (15-16-ᓂᒃ ᐊᑐᓂᑦ ᐅᒥᒻᒪᕐᑲᖅᓯᑎᒃ ᑲᑎᒪᐅᖅᑐᕐ), ᓂᕐᓖᑦ, ᒪᕿᒃ ᕐᑯᔾᔫᒃ, ᐃᒥᖅᑯᑕᐃᓕᐃᑦ, “ᑑᓪᓕᒃ”, ᐊᒻᒪᓗ ᕿᓐᓄᐊᔪᐊᖅ ᑕᑯᔭᐅᔪᔪᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᓇᓄᓕᕆᔨᒧᓪᓗ. ᐃᓅᓐᓇᑎᒃ ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐅᓚᕕᑕᐅᔪᓐᖏᑦᑐᑦ ᓇᓄᕐᓂᓪᓗ ᑕᑯᔪᕐᑲᕋᓂ. ᖃᖓᑕᔫᖅ ᐅᑎᔪᔪᖅ ᕌᒃᓴ Hᐋᕙᒧᑦ 3:45 ᐅᓐᓄᓴᒃᑯᑦ.

2.6 ᑲᓂᖕHᐋᒻ ᑰᖓ (ᔪᓚᐃ 5, 2014)

ᖃᐅᔨᓴᕐᑲᑎᒋᑦᑐᑦ, ᖃᖓᑕᔫᖅᑎᐅᕐᑲᑎᖓᓗ ᐊᐅᓪᓚᔪᔪᑦ ᖃᐅᓯᐃᑦᑑᑉ ᒥᕝᕕᖓᓂᒃ 9:40 ᐅᓪᓘᓴᒃᑯᑦ ᖃᐅᔨᓴᕆᐊᖅᑐᖅᓯᑎᒃ ᑲᓂᖕHᐋᒻ ᑰᖓᓂᒃ. ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎᑦᓴᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᔪᕐᑲᔪᓐᖏᑦᑐᖅ ᑕᕝᕙᓂ. Arctic Watch, ᐳᓚᕋᑦᑎᓄᑦ ᓄᓇᓖᑦ ᑯ ᓴᓂᐊᓃᑦᑐᑦ ᑕᑯᓐᓇᕆᐊᖅᓯᒪᑦᓯᑎᒃ ᕿᓚᓗᒐᕐᓂᒃ ᐊᓯᖏᓐᓂᓪᓗ ᐳᓚᕋᑦᑎᓄᑦ ᐊᐅᓚᓂᐅᔪᓂᒃ, ᖃᐅᔾᑲᖅᑕᐅᔪᔪᑦ ᐊᐅᓪᓚᓚᐅᕋᑕ ᒥᒍᓐᓇᕈᒪᓪᓗᑕ ᒥᕝᕕᖓᓐᓄᑦ. ᑐᑭᒧᐊᑦᑎᑦᓯᕐᑲᑎᕆᑦᓯᕆᑦ Arctic Watch-ᑯᑦ, ᒪᕐᕈᓕᒃ ᒥᔪᔪᖅ ᒥᕝᕕᖓᓐᓄᑦ (74º 04’ 21”N, 93º 47’W) ᖃᐅᔨᓴᖅᑏᑦ ᐱᓯᔪᔪᑦ ᐅᖓᓯᑦᑑᖕᒋᑦᑐᒧᑦ ᑲᓂᖕHᐋᒻ ᑰᖓᓂ ᓄᐊᑦᓯᕆᐊᖅᑐᖅᓯᑎᒃ ᖃᐅᔨᓴᕋᑦᓴᓂᒃ. ᖃᐅᔨᓴᕋᑦᓴᐃᑦ ᓄᐊᑕᐅᔪᔪᑦ ᓴᓂᐊᓂ ᒥᕝᕕᖓᑦᑕ ᐃᐅᓪᑲᐃᐊ ᐃᐱᕌᖅᓯᓂ ᑰᒻᒧᑦ ᐃᐳᑯᑖᓕᔭᖅᓯᓂ ᓴᓐᓂᒌᒃᑯᑎᑎᒎᖅᑎᑦᓯᑦᓯᓂ ᖃᐅᔨᓴᖅᑕᐅᑦᓯᑎᓪᓗ ᓚᓐᒧᑦ ᑭᓕᒧᓪᓗ ᐊᑐᖅᓯᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓯᓈᓂ. ᒪᒃᑖᓄᓪᓗ ᐅᐊᑦᓯᑦᓯᓂ ᐊᑦᑕᓇᑦᑕᐃᓕᒪᓂᕐᒧᑦ.

2.7 ᑲᖏᖅᑐᒐᐱᒃ ᑰᖓ (ᔪᓚᐃ 9, 2014)

ᖃᐅᔨᓴᖅᑏᑦ ᑲᖏᖅᑐᖖᐱᒻᒨᕙᑦ ᕙᓚᐃ 8-ᖑᓪᓗᒍ ᑭᐊᓐ ᕗᐊᕋᒃᑯᓪᓗ ᖃᖓᑕᕗᖅᑎᖏᑦ ᐊᐅᓪᓚᕇᖅᓯᑎᒃ ᑭᖑᕐᖓᒍᑦ ᐊᖏᕋᓯᑦᓯᑎᒃ ᑭᐅᒍᕆᒨᑦ. ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᖃᑎᖃᕙᕙᑦ ᑲᑎᒪᔨᓂᒃ ᐃᓕᓴᖅᓯᕕᒃ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓂ ᖃᐅᖓᓂ ᐅᖃᖃᑎᒌᒍᑎᖃᖅᓯᑎᒃ ᐃᑲᔪᖅᓯᔭᐅᒍᑕᐅᒥᐊᓕᓐᓂᒃ ᑲᑎᖃᑎᖃᖅᓯᑎᓪᓗ ᓄᓇᒥ ᐃᑲᔪᖅᑎᐅᓂᐊᖅᑐᓂᒃ ᐃᓕᓐᓂᐊᖅᑎᑕᐅᓗᑎᓪᓗ ᓄᐊᑦᓯᓂᕐᒥᒃ ᖃᐅᔨᓴᕋᖕᓂᒃ ᑯᒻᒥᒃ ᐊᐅᔭᐅᓂᖓᓂ. ᐄᓴ ᕿᓪᓚᖅ ᐊᒻᒪᓗ ᓂᐅᕆ ᐃᖃᓗᒃᔪᐊᖅ. ᑲᑎᒪᓂᖃᖅᑎᓪᓗᒋᑦ, ᖃᐅᔨᓴᖅᑏᑦ ᑐᓴᖅᑎᑕᐅᔪᑦ ᑰᒃ ᓄᓇᓖᑦ ᓴᓂᐊᓅᑦᑐᖅ ᑲᖏᖅᑐᖖᐱᐅᑉ ᑰᒋᓐᖏᒻᒪᐅᒃ ᑭᓯᐊᓂ ᑰᒃ ᐊᑎᖃᓐᖏᑦᑐᖅ ᓄᓇᓕᓐᓄᑦ ᐃᒪᖃᕕᐅᔪᖅ ᑰᑦᓯᓂᓗ ᑲᖏᖅᑐᖖᐱᐅᑉ ᑲᖏᖅᓱᖓᓄᑦ. ᐊᑎᖓᓂᒃ ᓇᓗᓇᐃᖅᓯᕕᐅᓯᒪᓐᖏᒃᑲᓗᐊᖅᓯᑎᒃ, ᖃᐅᔨᓴᖅᑏᑦ ᐊᑎᖃᖅᑎᑦᓯᔪᑦ ᑲᖏᖅᑐᖖᐱᐅᑉ ᑰᖓᓂᒃ ᐱᔭᕆᐊᑦᑐᖁᓐᖏᒻᒨᑦ. ᖃᐅᔨᓴᖅᑏᒃ ᑲᒪᔩᓪᓗ ᒪᕿᒃ ᐃᖏᕋᔪᔪᑦ ᖃᐅᔨᓴᕝᕕᐅᒍᓯᒪᔪᒨᑦ, ᓴᓂᐊᓂ ᐃᑳᕕᐅᑉ ᑰᒥ. ᖃᐅᔨᓴᕋᐦᓴᐃᑦ ᓄᐊᑕᐅᑦᓯᑎᒃ ᐅᖓᓯᓐᓂᓕᒻᒥ 0.8 ᑮᓗᒥᑕᓂᒃ ᓄᓇᓕᓐᓂᒃ ᐊᒻᒪᓗ 2.1 ᑮᓗᒥᑕᐃᑦ ᑕᑉᐹᓐᖓᑦ ᑰᒥ ᐹᖓᓂᒃ ᑰᑉ ᑲᖏᖅᓯᒧᑦ ᑰᕝᕕᖓᓄᑦ. ᖃᐅᔨᓴᕋᐦᓴᐃᑦ ᓄᐊᑕᐅᕙᕙᑦ ᓂᒋᐊᓂᒃ ᓯᓈᑕ ᑰᑉ ᐃᐊᓪᑲᐃᐊ ᐃᐱᕌᖅᓴᖅᓯᓂ ᑰᒥ ᐃ>ᑯᑖᓕᔭᖅᓯᓂ ᓴᓐᓂᕇᒃᑯᑎᑎᒡᖅᑎᑦᓯᑦᓯᓂ ᓕᓐᑯᓪᓗ ᑭᓕᒃᑯᑦ ᖃᐅᔨᓴᖅᓯᑎᒃ ᐊᑐᖅᓯᑎᒃ ᒥᓪᓗᐊᕈᑎᒥᒃ ᓯᓈᓂ. ᒪᒃᑖᓄᒃ ᐃᑲᔪᖅᑐᖅ ᑎᑎᕋᖅᓯᓂ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ ᐊᑦᑕᓇᑦᑕᐃᓕᒪᑎᑦᓯᔨᐅᑦᓯᓂᓗ ᖃᐅᔨᓴᕐᓂᖃᖅᑎᓪᓗᒋᑦ. ᐃᐅᓪᑲᐃᐊ, ᓂᓐ ᐊᒻᒪᓗ ᑭᓕ ᑐᑭᓯᑎᑦᓯᒋᐊᖅᑐᑦ ᖃᐅᔨᕐᓴᕐᓂᓪᒧ ᐊᐅᓚᓂᐅᔪᓂᒃ ᕿᓪᓚᕐᒧᑦ ᐃᖃᓗᒃᔪᐊᕐᒧᓪᓗ ᖃᐅᔨᓴᕐᓂᖃᖅᓯᑎᒃ ᑰᒥᒃ. ᐱᔭᕇᕋᒥᒃ, ᖃᐅᔨᓴᖅᑏᑦ ᐅᐊᓇᐸᖅᓯᒻᒨᖅᑐᑦ ᓯᓈᓄᑦ ᑰᑉ ᐃᐅᓪᑲᐃᐊᒃᑯᒃ ᓕᓐᑯᒃ ᑕᑯᓈᑎᓪᓗᒋᒃ ᕿᓪᓚᒃᑯᒃ ᐃᖃᓗᒃᔪᐊᒃᑯᒃ ᓄᐊᑦᓯᑎᓪᓗᒋᒃ ᖃᐅᔨᓴᕋᐦᓴᓂᒃ.

ᐅᓪᓗᓂ ᐊᓂᒍᖅᑐᓂ, ᖃᐅᔨᓴᕋᐦᓴᐃᑦ ᓱᓇᒃᑯᑏᓪᓗ ᕁᖅᑲᖅᑕᐅᕙᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᑦᓯᑎᒃ ᑲᖏᖅᑐᖖᐱᒻᒧᑦ ᕚᓴᑦ ᐃᐊᒃᑯᑎᒍᑦ. ᐃᐅᓪᑲᐃᐊ ᑐᓴᖅᑎᑦᓯᒻᒥᕙᖅ ᓈᓚᐅᑎᒃᑯᑦ ᐅᓪᓛᓴᖓᓂ ᕙᓚᐃ 11 ᑐᓴᐅᒪᑎᑦᓯᑦᓯᓂ ᓄᓇᓕᓐᓂᒃ ᐊᐅᓚᓂᐅᕞᑉ ᒥᑦᓴᓄᑦ ᑭᐅᕐᑲᑦᑕᖅᓯᓂᓗ ᐊᐱᖅᑯᑎᓂᒃ. ᖃᐅᔨᓴᖅᑏᑦ ᐊᐅᓪᓚᕙᕙᑦ ᑲᖏᖅᑐᖖᐱᒻᒥᒃ ᕙᓚᐃ 14, 2014 ᐱᔭᕇᕐᒪᑦ ᐊᐅᓚᓂᐅᕙᖅ.

3. ᖃᐅᔨᔭᐅᒋᐊᓐᖓᖅᑐᑦ

ᓄᓇᓕᓕᒫᑦ ᖃᐅᔨᓴᖅᑏᑦ ᐅᖃᖃᑎᒋᒍᓐᓇᖅᓯᒪᔭᖏᑦ ᐃᓱᒫᓘᑎᖃᖅᓯᒪᕙᑦ ᐊᐱᓗᐊᖅᓯᒪᖏᓐᓂᖓᓂᒃ ᐊᒻᒪᓗ ᒥᑭᓪᓃᓪᓕᖅᓯᒪᓂᖓᓂᒃ ᑰᓐᓂᐅᑉ ᐊᕐᕌᒍᓂ 3-5 ᐊᓂᒍᖅᑐᓂ. ᐊᒻᒪᓗ, ᐃᓚᖏᑦ ᐃᓄᐃᑦ ᐃᓱᒫᓗᑎᖃᕐᒥᕙᑦ ᐅᔭᕋᓐᓂᐊᕐᓂᕐᒧᑦ ᐊᐅᓚᐅᓂᕙᓂᒃ ᑰᕝᕕᐅᕙᓐᓂ ᑯᓐᓄᑦ ᓱᖏᖅᑑᑎᕆᑦᑎᒥᓐᓂᒃ ᐃᒪᖃᕝᕆᑦᓯᕆᑦ. ᓲᕐᓗ, ᐊᒥᓱᑦ ᑲᖏᖅᑐᖖᐱᒻᒥᐅᑦ ᐃᓱᒫᓘᑎᖃᖅᑐᑦ ᓱᕈᓐᓇᖅᑐᖃᑐᐃᓐᓇᓇᐊᖃᕐᓂᖓᓂᒃ ᓈᓚᕝᕕᖃᕝᕕᒥᓂᕐᒥᒃ ᖃᓂᑦᑑᑦᑐᒥᒃ ᑕᐃᔭᐅᕙᖅ Cape Christian. ᑐᑭᓯᓇᖅᑐᖅ ᒡᑳᑯᓇᓐᖓᑦ ᐅᖃᖃᑎᒌᓐᓂᐅᕙᓂᒃ ᓄᓇᓕᓖᑦ ᐃᓱᒫᓘᑎᖃᖅᑐᑦ ᓯᕗᓂᕐᒥ ᐊᓯᔾᔨᕐᓂᐅᓂᐊᖅᑐᓂᒃ ᐱᐅᕚᓂᖓᓂᒃ ᐊᑐᐃᓐᓇᐅᒍᓐᓇᕐᓂᖓᓂᓪᓗ ᐃᒥᖁᑦᓴᐅᑉ ᓄᓇᓕᓐᓂ ᑯᓐᓂᒃ ᐱᕕᒋᖃᑦᑕᖅᓯᒪᔭᒥᓐᓂᒃ ᐃᒪᑦᓯᐊᕐᒥᒃ ᐊᕐᕌᒍᖃᓴᕐᕙᐊᕌᓗᓐᓂᒃ. ᒪᒥᐊᓇᖅᑑᕋᓗᐊᖅ, ᐃᓚᐅᖅᑐᕈᑕᐅᓯᒪᕙᓂᒃ ᖃᐅᔨᓴᕐᓂᐅᕙᑦ ᐱᖃᓯᐅᔾᔨᖏᒻᒪᑕ ᓱᕈᓐᓇᖅᑐᖃᕐᒪᖓᑕ; ᑭᓯᐊᓂᓕ, ᑕᒪᓐᓇ ᐊᐅᓚᓂᐅᕙᖅ ᐱᐅᓯᑐᐃᓐᓇᐅᓲᒥᒃ ᖃᐅᔨᓴᕐᒪᑕ ᓄᖑᑎᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᐃᓚᐅᖅᑐᕈᑕᐅᓯᒪᕙᓂᓪᓗ ᓄᓇᒦᓐᖔᖅᑐᓂᒃ ᐃᒪᕐᒧᑦ.

ᓱᕈᓐᓇᖅᑐᑦ ᒪᑯᐊ polychlorinated biphenyls (PCBs) ᓄᐊᑉᐸᓪᓕᐊᓲᑦ ᐅᖅᓱᖏᓐᓂ >ᐃᔨᐸᐅᔭᐃᑦ (ᓲᕐᓗ ᓇᓄᐃᑦ, ᓇᑦᓰᑦ, ᕿᓚᓗᒐᐃᕐ) ᒪᓐᓂᑦᓯᐅᑎᓯᒪᕙᑦ ᓂᕿᒋᖃᑎᒌᓐᓂᒃᑯᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᓄᓇᓖᑦ ᒪᓐᓂᑦᓯᐅᑎᓯᒪᑐᐃᓐᓇᓇᐊᖃᕐᓂᖅᓴᐅᕙᑦ ᓱᕈᓴᖅᑐᓄᑦ ᓂᓇᖃᑦᑕᕐᓂᒃᑯᑦ ᐅᖅᓱᓕᓐᓂᒃ ᓇᑦᓯᕐᓂᒃ ᐊᒻᒪᓗ/ᐅᕝᕙᓗ ᓇᓄᕐᓂᒃ ᐃᒥᖅᑕᒥᓂᐅᓐᖏᑦᑐᖖᒍᖅ. ᓇᓗᓇᐃᕈᑕᐅᓗᓂ ᓱᕈᓐᓇᖅᑐᖃᕐᓂᐅᕙᒥᒃ, ᐃᓚᐅᖅᑐᕈᑕᐅᓯᒪᕙᓂᒃ ᖃᐅᔨᓴᕐᓂᖅᑕᖃᒃᑲᓐᓂᕆᐊᖃᕋᔭᖅᑐᖅ ᑕᒪᒃᑮᓐᓂᒃ ᐃᒪᕆᔭᐅᕝᕕᑦᑐᒥᒃ ᐊᒻᒪᓗ ᐅᖅᓱᖏᓐᓂᒃ ᐆᒪᕙᐃᑦ ᑳᒃᑯᓇᓃᑉᐸᑦᑐᑦ ᑰᓐᓂ ᖃᐅᔨᓴᖅᑏᓪᓗ ᐃᑲᔪᖅᑐᕆᑦᓯᐊᖅᑐᑦ ᓄᓇᓕᓐᓂᒃ ᑕᐃᒪᐃᕐᑯᔭᐅᒍᑎᒃ ᑐᑦᓯᕋᐅᓯᐅᕐᓗᑎᒃ ᑎᒥᐅᕙᓄᑦ ᓲᕐᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᓱᕈᓐᓇᖅᑐᓕᕆᔾᔪᑎᒃᑯᓐᓄᑦ, ᐊᕝᕙᑎᓕᕆᔾᔪᑎᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᐅᕝᕙᓘᓐᓃᑦ ᐃᒪᕐᒥᒃ ᖃᐅᔨᓴᖅᑎᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᑕᐃᒪᐃᑦᑐᒥᒃ ᖃᐅᔨᓴᕐᓂᐅᕙᒧᑦ.

3.1 ᑲᑎᖅᓱᖅᑕᐅᓯᒪᕙᑦ

ᖃᐅᔨᓴᕋᐦᓴᐃᑦ ᐅᕝᕙᓗ ᑰᑉ ᐃᒪᖏᑦ ᓱᓕ ᓄᐊᑕᐅᕙᑦ ᓄᓇᓕᓕᓐᓄᑦ ᖁᒻᒧᒃᑐᒥ ᑲᖏᖅᑐᖖᐱᒻᒥᓗ ᐃᓚᐅᕈᑕᐅᕙᓂᓪᓗ ᕿᒥᕈᓂᐅᕙᑦ ᓱᓕ ᐱᔭᕇᓐᖏᑦᑐᑦ ᖃᐅᔨᓴᕋᐦᓴᓂ ᓄᐊᑕᐅᓯᒪᕙᓂ ᖃᐅᔨᓴᖅᑎᓄᑦ ᕝᕙᓂᐅᑎᓪᓗᒍ ᕙᓚᐃᒥᓗ 2014-ᒥ. ᑭᓯᐊᓂᓕ, ᖃᐅᔨᓴᖅᑕᐅᕙᑦ ᐃᓚᖏᑦ ᐱᔭᕇᖅᑕᐅᓯᒪᓕᖅᑐᑦ ᕿᒥᕈᒍᑎᒃᓴᐅᕙᑦ ᐃᓚᐅᕈᑕᐅᓯᒪᕙᓂᒃ ᑰᓐᓂ (ᑎᑎᖅᑑᔭᖅᓯᒪᕙᖅ 1). ᑲᑎᖅᓱᖅᑕᐅᓯᒪᕙᑦ ᑕᑯᔅᓴᐅᑎᑦᓯᒍᓐᓇᖏᒻᒪᑕ ᐊᑕᖏᖅᑐᓂᒃ

ᐊᑐᓂᑦ ᑰᑦ ᐃᓚᐅᖅᑐᕈᑎᒋᓯᒪᔭᕆᓐᓂᒃ ᐃᓗᓕᕆᑦ ᐊᔾᔨᒌᓐᕆᑦᑑᑕᐅᒪᑕ. ᓲᕐᓗ, ᐊᐅᔭᐅᑎᓪᓗᒍ ᐊᐳᑎᖃᕈᓐᓃᓱᖑᒪᑦ ᐊᒻᒪᓗ ᖃᐅᑕᒫᑦ ᐃᕆᕋᓂᐅᔪᑦ ᒥᑭᓪᓕᕚᓪᓕᖅᓱᑎᒃ ᐃᒪᕞᐊᒧᑦ.
ᐃᒪᖃᕞᐊᕈᓐᓃᐸᓪᓕᐊᑎᓪᓗᒍ, ᐃᓚᕆᑦ ᑕᕆᓖᑦ ᐊᕆᓂᖅᓴᐅᑐᐃᓐᓇᕇᐊᓖᑦ ᐃᓚᕆᓐᓂᒃ ᐱᑕᖃᓐᕆᓂᖅᓴᐅᓗᑎᒃ. ᑕᐃᒪᐃᒻᒪᑦ, ᐃᓚᕆᑦ ᐃᓚᐅᕈᑕᐅᓯᒪᔪᑦ ᐃᒻᒪᖃ ᐱᑕᖃᕐᓂᖅᓴᐅᑐᐃᓐᓇᕇᐊᓖᑦ ᐱᑕᖃᓐᕆᓂᖅᓴᐅᑎᓪᓗ ᐃᓚᕆᓐᓂ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᔫᓂᒥ ᐊᒻᒪᓗ ᐱᔭᕇᖅᑕᐅᐸᑕ ᖃᐅᔨᓴᕐᓂᕐᒧ ᐊᐅᓚᓂᔪᑦ ᓄᓐᖑᐊᓂ ᓯᑦᑕᕚ/ᐅᑦᑑᕚ ᐱᒋᐊᓕᕋᑖᖅᑎᓪᓗᒍ. ᑕᐃᒪᐃᒐᓗᐊᖅᑎᓪᓗᒍ, ᐃᓚᕆᑦ ᑐᓴᕋᓴᐃᑦ ᓄᓇᐅᑉ ᖃᓄᐃᓕᖓᓂᖓᓄᑦ ᓯᓚᐅᓪᓗ ᑰᓐᓂᕆᓪᓗ ᐊᔾᔨᒌᓐᕆᑦᑐᑦ ᑰᑦ ᖃᐅᔨᔭᐅᒍᓐᓇᖅᑐᑦ ᓄᐊᑕᐅᓗᑎᒃ ᑲᑎᓱᖅᑕᐅᔪᑦ ᑰᓗᐊᓐᖑᐊᖅᑎᓪᓗᒍ.

ᑎᑎᖅᑑᔭᖅᓯᒪᔪᖅ 1. ᓇᐃᓪᓕᑎᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕋᓴᓂᒃ ᑰᓐᓂᒃ ᓄᐊᑕᐅᓯᒪᔪᓂᒃ ᓯᕗᕐᖓᓂ ᑭᖑᕐᖓᓂᓗ ᑰᓗᐊᓐᖑᐊᕐᓂᖓᑕ ᔫᓂ 2014. ᑭᓕᕆᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᐱᖃᓯᐅᔾᔨᔪᑦ ᐊᐅᓚᓂᐅᔪᓂᒃ, (Cond), ᓂᕆᒥᓐᓂᖅ/ᓂᓪᓚᓱᓐᓂᖅ (Temp), stable oxygen isotopic ratio of water ($\delta^{18}O$), total alkalinity (TA), barium (Ba), dissolved inorganic nitrogen (DIN = nitrate + nitrite + ammonium), phosphate (PO_4), silicic acid ($Si(OH)_4$), ᐊᒻᒪᓗ dissolved organic carbon (DOC).

ᑰᒃ	ᐅᓪᓗᖅ	pH	Cond (µS cm^{-1})	Temp (ºC)	$\delta^{18}O$ (‰)	TA (µeq kg^{-1})	Ba (nM)	DIN (µM)	PO_4 (µM)	$Si(OH)_4$ (µM)	DOC (mg L^{-1})
ᑳᐸᒪᐃᓐ	6/18/14	6.85	192.8	11.3	-20.82	995	196.3	0.72	0.018	23.28	3.82
ᐊᓕᔅ	6/24/14	7.27	132.0	11.0	-20.58	77	-	0.16	0.040	3.15	3.47
ᕖᒃ	6/26/14	7.00	126.5	14.0	-20.01	109	37.6	1.34	0.001	2.63	2.60
ᕼᐊᐃᔅ	6/26/14	7.06	29.5	11.4	-21.53	58	5.8	0.10	0.025	2.02	1.53
ᑰᔾᔪᐊᖅ	6/29/14	7.48	213.0	4.6	-22.24	1003	48.8	0.84	0.000	23.76	2.52
ᑖᒻᓴᓐ	7/3/14	7.49	268.0	11.0	-22.23	1066	117.3	1.56	0.024	22.42	2.34
ᑲᓂᕐᕼᐋᒻ	7/5/14	7.86	288.0	2.8	-25.61	1341	25.3	3.72	0.000	8.29	0.58
ᑲᓚᐃᑦ*	7/9/14	7.33	25.3	5.0	-17.88	14	6.8	0.30	0.004	0.68	0.97

*ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐅᓂᒃᑳᖑᔪᑦ ᑲᕆᖅᑐᒫᐱᒻᒧᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ ᑰᒐᓛᕐᒥᒃ ᑰᑦᑐᒥᒃ ᑲᕆᖅᑐᒫᐱᐅᑉ ᑲᕆᖅᓱᕐᒐᓄᑦ.

ᕿᒥᕐᕈᓴᐅᖅᑐᖅᓱᕆᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᓇᐃᓪᓕᑎᖅᓯᒪᔪᑦ ᑎᑎᖅᑑᔭᖅᓯᒪᔪᖅ 1-ᒥ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐊᓕᔅ, ᕖᒃ, ᕼᐊᐃᔅ ᐊᒻᒪᓗ ᑲᕆᖅᑐᒫᐱᐅᑉ ᑰᕆᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᔪᑦ ᐃᓗᓕᖃᐅᓗᐊᕋᑎᒃ nutrients-ᓂᒃ, barium, ᐊᒻᒪᓗ total alkanility ᑕᑯᓐᓇᖅᓱᕆᑦ ᑳᐸᒪᐃᓐ, ᑰᔾᔪᐊ, ᐊᒻᒪᓗ ᑖᒻᓴᓐ ᑰᕆᑦ. ᐃᓗᐊᓄᕝᕕᕐᓕ, ᑲᓂᕐᕼᐋᒻ ᑰᖓ ᖁᕚᓯᑦᑐᐹᓗᒻᒥᒃ total alkanlinity-ᖃᔪᔪᖅ ᐊᒻᒪᓗ DIN-ᓂᒃ ᑭᓯᐊᓂ ᐊᐸᓯᑦᓱᑎᒃ silicic acid, phosphate, ᐊᒻᒪᓗ barium. ᕿᒥᕐᕈᑦᓱᕆᑦ ᑖᒃᑯᐊ ᑰᑦ ᐊᒻᒪᓗ ᐱᖓᓲᔪᖅᑐᑦ ᐊᕆᓂᖅᐹᑦ ᑰᑦ (ᒪᑲᓐᔨ, ᔫᑳᓐ, ᑖᓇ, ᐅᕗ, ᔭᓂᓯ, ᐊᒻᒪᓗ ᑯᓕᒪ ᑰᕆᑦ) ᓇᓗᓇᐃᖅᓯᒪᒪᑕ ᐃᓘᓐᓇᒐᓚᑎᒃ ᐃᓚᐅᖅᑐᖅᓯᒪᓗᐊᓐᓂᕆᓐᓂᕆᓐᓂᒃ. ᐃᓗᓕᕐᑲᓗᐊᓐᓂᕆᓂᖅᓴᐃᑦ ᑲᓇᑕᒥ ᑰᒐᓛᕐᓂ ᐱᔾᔪᑎᖃᖅᐸᓪᓚᐃᔪᑦ ᑮᑕᐃᓐᓇᐅᓂᖅᓴᖅ ᐊᐳᑎ ᐊᐅᑦᓯᒪᕐᑲᑦᑕᕐᓂᕐᒐᓄᑦ ᑰᕙᐅᔪᒥ ᑰᓗᐊᓐᖑᐊᕐᓂᕐᒐᓄᑦ. ᑖᒃᑯᐊ ᐱᕙᑭᓐᓂᐅᓂᖅᓴᐅᔪᑦ ᒥᑭᓪᓕᑎᓇᔪᑦ ᓯᓚᐅᑉ ᐊᒻᒪᓗ ᓄᖑᑎᖅᐸᓪᓕᐊᓂᕆᓐᓂᒃ ᐃᔾᔪᐃᑦ ᖃᐃᖅᑐᐃᓪᓗ, ᐊᕆᓗᐊᕈᑕᐅᒐᓂ ᑰᒻᒨᖅᑲᖅᑐᓄᑦ. ᑭᓯᐊᓂᓕ, total alkalinities ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑳᐸᒪᐃᓐᒥ, ᑲᓂᕐᕼᐋᒻᒥ, ᑰᔾᔪᐊᒥ, ᑖᒻᓴᓐᓗ ᑰᕆᑦ ᐊᔾᔨᒐᓚᕆᔪᔭᕆᑦ ᓄᐊᑕᐅᓯᒪᔪᑦ ᐅᑖᔅᑯᑦ ᓄᓇᕐᒐᓐᓂ ᑰᓐᓂ, ᑕᑯᖅᓴᐅᑎᑦᓯᑦᓱᓂ ᐊᑦᑐᖅᑕᐅᓯᒪᓂᕐᒥ ᓄᖑᑎᖅᐸᓪᓕᐊᔪᓄᑦ ᓯᓚᒧᓪᓗ ᐃᓗᐊᓐᓂ ᑰᕙᐅᔪᑦ ᑖᒃᑯᓄᕐᒐ ᑰᓄᑦ. ᑲᔪᓯᔪᒥᒃ ᐃᓚᐅᖅᑐᕈᑎᓂᒃ ᕿᒥᕐᕈᓂᐅᔪᑦ ᖃᐅᔨᒃᑲᓂᕈᑕᐅᓚᕐᒐᔪᑦ ᑖᒃᑯᐊ ᑰᑦ ᒥᑦᓴᐃᓐᓄᑦ ᐊᒻᒪᓗ ᑰᕙᕆᑦᑕ.

ᕿᒥᕐᕈᓂᖅ stable oxygen isotope signature ᑰᑉ ᐃᒪᖓᓂᒃ ($\delta^{18}O$) ᑕᑯᔅᓴᐅᑎᑦᓯᔪᖅ ᐊᓚᒃᑲᐃᑦᑐᒥᒃ ᐊᔾᔨᒌᓐᕆᓐᓂᕆᓐᓂᒃ ᑰᑦ ᑳᐸᒪᐃᓐᒥ, ᐊᓕᔅᒥ, ᕖᒃᒥ, ᐊᒻᒪᓗ ᕼᐊᐃᔅ ᑰᕆᓐᓂᒃ, ᐱᑕᖃᖅᓂᓴᐅᔪᒧᑦ signatures-ᓂᒃ ᑰᔾᔪᐊᕐᒥᒃ, ᑖᒻᓴᓐ, ᐊᒻᒪᓗ ᑲᓂᕐᕼᐋᒻ ᑰᕆᓐᓂᒃ ᑭᓯᐊᓂ signature-ᖓ ᑲᕆᖅᑐᒫᐱᐅᑉ ᐃᒪᖓᑕ (-17.88‰) ᐱᑕᖃᕐᓂᖅᐸᐅᔪᔪᖅ ᖃᐅᔨᓴᖅᑕᐅᓂᖅᑕᖃᖅᑎᓪᓗᒍ. ᐊᔾᔨᒌᓐᕆᓐᓂᕆᑦ $\delta^{18}O$ signatures ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᑖᒃᑯᓇᓂ ᑰᓐᓂ ᑐᑭᓯᓇᖅᑎᑕᐅᒍᓐᓇᖅᑐᑦ ᐊᔾᔨᒌᓐᕆᑦᑐᑎᒍᑦ ᐃᓗᓕᕆᑦᑎᒍᑦ. ᓇᑭᑐᐃᓐᓈᖅᑐᖅ

ᐃᒪᐃᑦ (ᐊᐳᑦ ᐊᐅᑦᑐᖅ, ᓄᓇᒥᒃ ᐃᒪᖅ, ᐊᒻᒪᓗ/ᐅᕝᕙᓗ ᐊᐅᔪᐃᑦᑐᓃᖕᖔᖅᑐᑦ), ᐊᖏᓂᖓ ᐃᒪᐃᔭᕐᓂᖓᓚᑕ, ᖃᓄᐃᑦᑑᓂᖏᓪᓗ (ᐳᖅᑐᓂᖓ, ᓴᓂᒧᑦ ᐃᓂᖓ, ᓂᕈᒥᓐᓂᖓ) ᖃᐅᓯᕐᓇᐅᑎᓪᓗᒍ ᐃᑲᔪᖅᓯᔪᐃᓐᓇᐃᑦ δ^{18}O-ᖓᓄᑦ ᑰᑦ ᐃᒪᖏᑦᑕ. ᐊᑦᑐᐃᓯᒪᓂᖅᐸᐅᕙᓪᓚᐃᔪᖅ δ^{18}O ᐊᔾᔨᕌᖕᖏᑦᑐᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ ᐊᑯᕐᖓᓐᓂ ᑰᑦ ᐃᓂᒋᔭᖏᓐᓃᖕᖔᖅᑐᑦ ᑰᕝᕕᐅᔪᑦ. ᑳᐸᒪᐃᓐ, ᐊᓕᔅ, ᕚᒃ, ᐊᒻᒪᓗ Hᐊᐃᔅ ᑰᖏᑦ ᑰᑦᑐᐃᓐᓴᐃᑦ ᐃᓗᓕᖅᑐᔪᓄᑦ ᓄᓇᒧᑦ ᑕᑯᓐᓇᖅᓱᖏᑦ ᑰᔾᔪᐊ, ᑖᒻᓴᓐ, ᑲᓂᖓHᐋᒻ ᐊᒻᒪᓗ ᑲᖏᖅᑐᓛᐱᐅᑉ ᑰᖏᑦ ᑰᑦᑐᑦ ᑰᕝᕕᓪᓚᑑᓂᖅᓴᓄᑦ ᕿᑭᖅᑕᓃᑦᑐᓄᑦ (ᑎᑎᖅᑑᔭᖅᓯᒪᔪᖅ 1). ᓄᓇᒥ ᑰᑦ ᐃᒪᖅᑖᐸᒻᒥᔪᑦ ᖃᐅᓯᓇᕐᖅᑐᓂᒃ ᐊᑉᐸᓯᓐᓂᖅᓴᓂ (δ^{18}O signatures ᐱᑕᖃᓐᖏᓂᖅᓴᐅᒻᒥᔪᑦ ᖃᐅᓯᓇᖅᑐᓂ ᑲᑕᒫᔪᓂ ᐳᖅᑐᓂᖅᓴᓂ ᓂᓪᓚᓯᓐᓂᖅᓴᓂᓪᓗ). ᐊᑉᐸᓯᓐᓂᖅᓴᖅ ᖃᐅᔮᔭᐅᔪᖅ ᑲᓂᖓHᐋᒻ ᑰᖓᓂ ᑕᑯᔅᐅᑎᕐᔪᒍᓐᓇᖅᑐᑦ ᓂᓪᓚᓯᓐᓂᖅᓴᒥᒃ ᖃᓐᓂᕐᓇᐅᑎᓪᓗᒍ ᐅᕝᕙᓗ ᐊᓯᐊᓂᒃ ᐃᒪᖅᑕᖃᖅᑎᓪᓗᒍ (ᓰᕐᓗ ᐊᐅᔪᐃᑦᑐᕐᒦᖕᖔᖅᑐᑦ) ᑕᑯᓐᓇᖅᓱᖏᑦ ᑰᔾᔪᐊ ᐊᒻᒪᓗ ᑖᒻᓴᓐ ᑰᖏᓐᓂᒃ ᐃᓂᖃᖅᑑᓐᓂ ᑕᐃᒫᓪᓗᐊᓚᓚᒃ ᕿᕝᕙᓯᓐᓂᓖᓐᓂ. ᕿᕝᕙᓯᑦᑐᑦ δ^{18}O signatures ᑲᖏᖅᑐᓛᐱᐅᑉ ᑰᖓᓂ ᑕᐃᒪᐃᓚᕿᕙᓪᓚᐃᔪᖅ ᐊᐱᓯᒪᓂᑯᒥᓂᖓᓄᑦ ᑕᑯᓐᓇᖅᓱᖏᑦ ᐊᓯᖏᑦ ᐊᕙᑦᑐᖅᓯᒪᓂᐅᔪᑦ, ᖃᓂᑦᑑᓂᖓᓄᑦ ᕿᕿᖅᑖᓗᒻᒧᑦ (ᐃᒪᕗᒻᒦᖕᖔᖅᑐᖅ ᖃᐅᓯᕐᓇᖅᑐᖅ ᐊᐳᒻᒧᑦ ᖃᐅᓯᕈᑕᐅᑦᓯᓂ). ᑰᓕᒫᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᖏᓐᓄᑦ ᑭᖑᕐᖓᒍᑦ ᑰᓗᐊᓐᖑᐊᕐᓂᐅᔫᑉ, ᑲᑎᖅᓱᖅᑕᐅᔪᑦ ᐊᑉᐸᓯᓐᓂᐅᓴᔪᑦᓴᐅᕗᑦ δ^{18}O ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐅᐱᕐᖔᒃᑯᑦ ᐊᐅᔭᒃᑯᓪᓗ. ᑖᒃᑯᐊ ᑕᐃᒪᐃᓕᖓᓂᐅᔪᑦ ᓂᕆᐅᑎᔭᐅᔪᑦ ᕿᕝᕙᕖᓪᓕᕋᔭᕆᐊᖏᑦ ᐊᐅᔭᒃᑯᑦ ᐃᒪᐃᕈᑉᐸᓪᓕᐊᑎᓪᓗᒋᑦ ᐊᐳᓪᓗ ᑰᓐᓄᑦ ᓱᒃᑲᐃᓪᓕᒍᑕᐅᓪᓗᓂ. ᖃᐅᔨᓴᕋᓴᐃᑦ ᓄᐊᑕᐅᔪᑦ ᓄᓇᓕᓐᓄᑦ ᕿᒡᓗᒃᑐᒥ ᑲᖏᖅᑐᓛᐱᒻᒥᓪᓗ ᐃᑲᔪᕐᓂᖃᕐᓂᐊᖅᑐᑦ ᑐᑭᓯᑲᓐᓂᕈᑕᐅᓗᑎᒃ ᐊᕐᕌᒍᒥ ᐊᔾᔨᕌᖕᖏᑦᑐᒃᑰᕈᑕᐅᔪᓂ ᑖᒃᑯᓈᓐᓂ ᑰᓐᓂ ᒪᕿᓐᓂ. ᑖᒃᑯᐊ ᑲᑎᖅᓱᖅᑕᐅᔪᑦ ᐅᖃᐅᓯᐅᓂᐊᖅᑐᑦ ᖃᓇᑕᐅᔭᒃᑯᑦ ᐊᑐᐃᓐᓇᕈᑐᐊᖅᐸᑕ.

3.2 ᐃᑭᐊᖅᑭᕕᒃ

ᐅᑯᐊ ᐅᓂᒃᑳᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᓪᓗ ᓄᐊᑕᐅᓯᒪᔪᑦ ᐃᓚᒋᔭᐅᓪᓗ ᐊᐅᓚᓂᐅᔪᒧᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ ᐃᑭᐊᖅᑭᕕᒃᑯᑦ ᐊᑭᖃᖅᑎᓐᓇᒋᑦ ᐅᕙᓂ: www.canadianriversproject.org.

ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᐃᓐᓇᐅᑎᑕᐅᔪᑦ ᐅᕙᓂ ᐅᓂᒃᑳᕐᓂ ᐃᑖᔭᐅᓯᒪᓕᖅᑐᑦ ᐃᑭᐊᖅᑭᕕᒻᒧᑦ. ᐃᓚᐅᕈᑎᓂᒃ ᕿᒥᕐᕈᓂᐅᔪᑦ ᑲᔪᓯᔪᑦ, ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᓄᑖᕈᖅᑕᐅᓕᐅᒥᔫᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᖃᐅᔮᔭᐅᔪᑦ ᐱᔭᐅᕙᓪᓕᐊᑎᓪᓗᒋᑦ. ᖄᖓᒍᒃᑲᓐᓂᖅ ᑖᒃᑯᐊ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ, ᐃᓕᓐᓂᐊᑎᑦᓯᒍᑏᑦ ᑐᑭᓯᒍᑕᐅᔪᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓂᒃ ᑖᒃᑯᐊ ᐃᓚᐅᖅᑐᕈᑏᑦ ᑭᓪᓕᖏᑦᑕ ᐃᓕᓐᓂᐊᕈᑕᐅᓪᓗᑎᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐃᒪᕕᓐᓂᒃ ᐊᑐᐃᓐᓇᐅᑎᑕᐅᓯᒪᒻᒥᔪᑦ, ᐃᓕᓐᓂᐊᕈᑎᓴᑲᓐᓃᑦ ᐸᕐᓇᑕᐅᓯᒪᔪᑦ ᐃᑖᔭᐅᑏᖅᓱᑎᓪᓗ ᐃᑭᐊᖅᑭᕕᒻᒧᑦ ᐊᐅᓚᓂᐅᔪᖅ ᐱᕙᓪᓕᐊᑎᓪᓗᒍ.

4. ᓇᓗᓇᐃᖅᓯᓂᐅᔪᑦ

ᓇᓗᓇᐃᖅᓱᒍᒪᔪᒍᑦ ᐃᑲᔪᕐᓂᖏᓚᐅᖅᑕᖏᓐᓂᒃ ᐊᖑᓇᓯᑦᑏᑦ ᑲᑎᒪᔩᖏᑦᑕ ᕿᒡᓗᒃᑐᒥᕐ, ᐃᖃᓗᒃᑑᑦᓯᐊᕐᒥ, ᐅᖅᓱᖅᑑᕐᒥ, ᐅᓗᒃHᐅᒃᑑᕐᒥ, ᓵᒃᓴ Hᐋᕙᒥ, ᑲᖏᖅᑐᓛᐱᒻᒥᓗ. ᖁᔭᓐᓇᒦᕈᒪᑦᓯᐊᕐᒥᔭᕗᑦ ᕖᕗᕋ ᐊᔾᔪᓐ, ᓴᐃᓐ ᓴᐃᓚᕋ, ᕕᒃᑐᐊᕆᐊ ᐊᒃHᐃᐊᑕᒃ, ᔨᐅᓪ ᐅᓕᕕ, ᕕᐊᑎ Hᐊᐃᒪᒃ, ᔭᐃᕝ ᒋᐊᕐHᐊᑦ, ᓯᐅᕆ ᒋᐅᕐHᐊᑦ, ᓂᐅᓪᓴᓐ ᐱᐅᕆ, ᑯᕆᔅᑕᕗ Hᐊᓐᑦ, ᑲᓵᓐᑐᕋ ᐊᓕᐊᑦ, ᐊᒻᒪᓗ ᔮᓐ ᔫᑲᔅ ᐱᓇᓱᐊᕐᓂᖏᓐᓄᑦ ᐃᑲᔪᕐᓗᑎᒃ ᐸᕐᓇᓂᕐᒧᑦ ᐃᑲᔪᖅᓯᓂᕐᒧᓪᓗ ᓄᓇᒥ. ᐱᓇᓱᐊᓐᖏᑉᐸᑕ, ᑕᒪᓐᓇ ᐊᔪᓐᓇᕋᔭᓚᐅᕐᒪᑦ. ᖁᔭᓐᓇᒦᕐᒥᔭᕗᑦ ᑖᒻ ᑯᐃᓐ ᐊᒻᒪᓗ ᕚᔅᑏᓐ ᕙᓇᑕᒃ ᐃᑲᔪᖅᓯᓂᐊᓗᖏᓐᓄᑦ ᐊᑦᑕᓇᑦᑕᐃᓕᒪᓂᕐᒧᓪᓗ ᐸᕐᓇᐅᑎᖃᕐᓂᖏᓐᓄᑦ ᓄᓇᒨᓚᐅᖅᑎᓐᓇᑕ ᑯᓇᔅᑎᐊᓐ Hᐃᒃᑯᒃᑲᒥᓐᖑᐊᖅ, ᔪᐊᕐᖓᓐ ᐊᓇᕝᓚᒃ, ᐋᓴ ᕿᓪᓚᖅ, ᐊᒻᒪᓗ ᓂᐅᓇ ᐃᖃᓗᒃᔪᐊᖅ ᐃᖅᑲᓇᐃᔭᕐᔪᐊᕐᓂᓇᓚᐅᖅᑕᖏᓐᓄᑦ ᑳᐸᒪᐃᓐ ᐊᒻᒪᓗ ᑲᖏᖅᑐᓛᐱᐅᑉ ᑰᖏᓐᓂ ᐊᐅᔭᐅᓚᖅᑐᖅ. ᖁᔭᓐᓇᒦᕐᒥᔭᕗᑦ ᔪᐊᕐᖓᓐ ᐊᕐᑕᐅᒃ, ᐋᑕᒥ ᐅᒃᒥᖅᑐᓐᓄᐊᒃ, ᔨᐊᕝ ᑯᑉᑖᓇ, ᕗᕋᐃᔭᓐ ᑲᓪᓚᒃ ᐊᒻᒪᓗ ᐸᑐᓇᓴ ᐊᒃHᐃᐊᑕᒃ ᐃᑲᔪᓚᐅᕐᓂᖏᓐᓄᑦ ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎᐅᑦᓱᑎᒃ ᓄᓇᒦᑦᑎᓪᓗᑕ. ᑭᖑᓪᓕᖅᐋᒥ ᖁᔭᓐᓇᒦᕈᒪᔭᕗᑦ ᐅᐊᓕ ᑕᑉᓴᒃ, ᔭᐃᒻᔅ Hᐊᕕ, ᑕᒡᓚᔅ ᐅᐊᔅᑕᓴᓐ, ᐊᒻᒪᓗ ᓯᑏᕙᓐ ᒪᑎᓂᐅᒃ ᕚᔅᑦ ᐃᐊᒃᑯᓐᓂᒃ, ᖃᐅᔨᓴᖅᑎᑎᓐᓂᒃ ᑎᑭᑎᑦᓯᑦᓯᐊᖃᑦᑕᓚᐅᖅᑕᒪ ᐅᐸᑦᑕᑎᓐᓄᑦ.

5. ᐊᐱᖅᑯᑎᖁᐃᑦ / ᐅᖃᐅᓯᖁᐃᑦ

ᐊᐱᖅᑯᑎᖅᓴᖅᑕᖃᖅᐸᑦ, ᐃᓱᒫᓗᑦᑕᐅᔪᓂᓪᓗᓐᓃᑦ, ᐅᖃᐅᓯᖃᓂᓪᓗᓐᓃᑦ ᐅᑯᐊ ᐅᓂᒃᑳᑦ ᒥᑦᓵᓄᑦ ᐃᖅᑲᓇᐃᔮᓂᖓᔪᓄᓪᓗᓐᓃᑦ ᖃᐅᔨᓴᓂᕐᒧᑦ ᐊᐅᓚᓂᕐᔫᖓᔪᓄᑦ ᖃᓄᐃᓕᑦᑕᐃᓕᓐᖏᑦᑐᑎᑦ ᐅᕙᓐᓄᑦ ᖃᓇᑕᐅᔭᒃᑯᑦ (malkire@apl.washington.edu) ᐅᖄᓚᐅᑎᓪᓗᓐᓃᑦ (206-897-1623).

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