Volume 1:
Main Volume

PHASE 2 OF THE HOPE BAY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

December 2016

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Structure of the Draft Environmental Impact Statement

The draft Environmental Impact Statement (EIS) has been developed to conform to the Guidelines for the Preparation of an Environmental Impact Statement (NIRB 2012) with the concordance table found in Annex V1-6. The EIS document index is included in Annex V1-3 and a complete EIS Table of Contents is presented in Annex V1-9. The EIS consists of the following volumes:

Volume 1: Draft Environmental Impact Statement: Main Volume — provides an overview of the EIS, including a summary of the proposed Project, background and need for the Project, baseline studies, effect assessment methods and results, and environmental management and mitigation plans.

Volume 2: Traditional Knowledge, Public Consultation and Engagement, and Assessment Methodologies — presents results of engagement and consultation completed to date and the Traditional Knowledge available at both a regional and local level; and presents methods used to undertake assessments of potential effects on the biophysical and socio-economic environments.

Volume 3: Project Description and Alternatives — describes the proposed Project, including planned schedule, facilities and infrastructure, phases including construction, operation, and closure and post/closure activities, and alternatives considered to the Project and within the Project.

Volume 4: Atmospheric and Terrestrial Environments — describes results of background studies and potential effects of the Project on the atmospheric and terrestrial environments, including air quality, noise levels, sensitive landforms, vegetation, birds, and caribou, among other valued components.

Volume 5: Freshwater and Marine Environments — presents results of background studies and potential effects of the Project on the freshwater and marine environments, including flow, water and sediment quality, fish and fish habitat, and marine mammals, among other valued components.

Volume 6: Human Environment — presents results of socio-economic background studies and potential effects of the Project on cultural resources and nearby communities and the people of these communities.

Volume 7: Accidents and Malfunctions and Effects of the Environment on the Project — presents an evaluation of potential accidental events, their potential effects, and likelihood of occurrence of these events, as well as the effects of the environment on the Project (e.g., extreme weather, climate change).

Volume 8: Management Plans — presents TMAC's environmental management system and related management plans that will be established for Phase 2.

Volume 9: Other Technical Supporting Documents — provides supporting documents identified in each volume.

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ᐱᓕᕆᐊᔅᓴᒧᑦ ᐅᓂᒃᑳᑦ

Hᐆᑉ ᖃᖕᒋᖅᓯᐊ ᒍᓃᓐᔅᑑᓐ (Hope Bay Greenstone) (ᐱᖁᑎᒋᔭᐅᔪᑦ) TMAC ᐃᑲᔫᑎᔅᓴᒃᑯᑦ ("TMAC" "ᐊᑐᓕᖅᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᔪᑦ") ᐊᐅᓚᑎᑦᑎᔫᑦ ᐊᒻᒪᓗ ᐊᑕᐅᓯᐅᔪᑦ ᑐᖔᖅᓯᒪᔪᑦ ᕿᓂᕐᓂᕐᒧᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᓂᕐᒧᑦ. TMAC-ᑯᑦ ᐱᓯᒪᑦᑎᑎᓲᑦ ᐅᔭᖕᓂᐊᖅᑕᐅᔪᒪᔪᓂᒃ ᓇᑉᐸᖅᓯᕝᕗᐅᕝᕗᒃ, ᐊᑐᖅᑐᐊᖅᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᐅᔭᖃᐅᔭᖕᓂᕐᒧᑦ ᐊᖕᒋᕈᑎᓂᒃ ᐱᕙᓪᓕᐊᓗᑎᒃ ᐃᒻᒪᖄ 20 × 80 km ᓇᒻᒥᓂᖏᔭᐅᔪᒐᔅᓴᓂᒃ. ᑖᒃᑯᐊ ᐅᔭᖃᖕᓂᐊᕐᕖᑦ ᐊᑕᐅᓯᐅᔫᒃᑯᑦ ᐱᕙᓪᓕᐊᓲᑦ Hᐆᑉ ᑲᖕᒋᖅᓯᐊ ᒍᓃᓐᔅᑑᒧᑦ ᐱᐅᑦᒧᑦ, ᐱᔾᔪᑎᓪᓗᐊᖅᑕᐅᓪᓗᑎᒃ ᑲᓐᓄᖅᑲᓂᒃ ᓇᔪᖅᕕᐅᔪᓂᒃ ᑐᐊᓇᔅ (Doris) ᒪᑦᓇᑦ ᑐᓄᕙᐊ (Madrid North) ᐊᒻᒪᓗ ᐹᔅᑕᓐ (Boston) ᓇᔪᖅᕕᖕᒋᓐᓂ. Hᐆᑉ ᖃᖕᒋᖅᓯᐊ ᒍᓃᓐ ᔅᑑᓐ ᐊᒥᓲᓄᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᖅ ᐱᕙᓪᓕᐊᕐᓇᓯᒋᔭᐅᔫᓐᓇᖅᑐᓂᒃ ᓇᔪᖅᕕᐅᔪᓂᒃ ᐃᓯᒪᒋᔭᐅᔫᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᓇᔭᐅᔪᓄᑦ ᓄᓇᕐᑯᑕᐅᔪᑦ ᑲᔪᓯᓗᑎᒃ ᓂᕈᐊᖅᑕᐅᓯᒪᓗᓂ, ᐱᔪᓐᓇᖅᑲᕐᕕᖏᔭᐅᓗᓂ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᓴᓇᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᒥᓲᒃᑯᑦ-ᐅᑭᐅᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ.

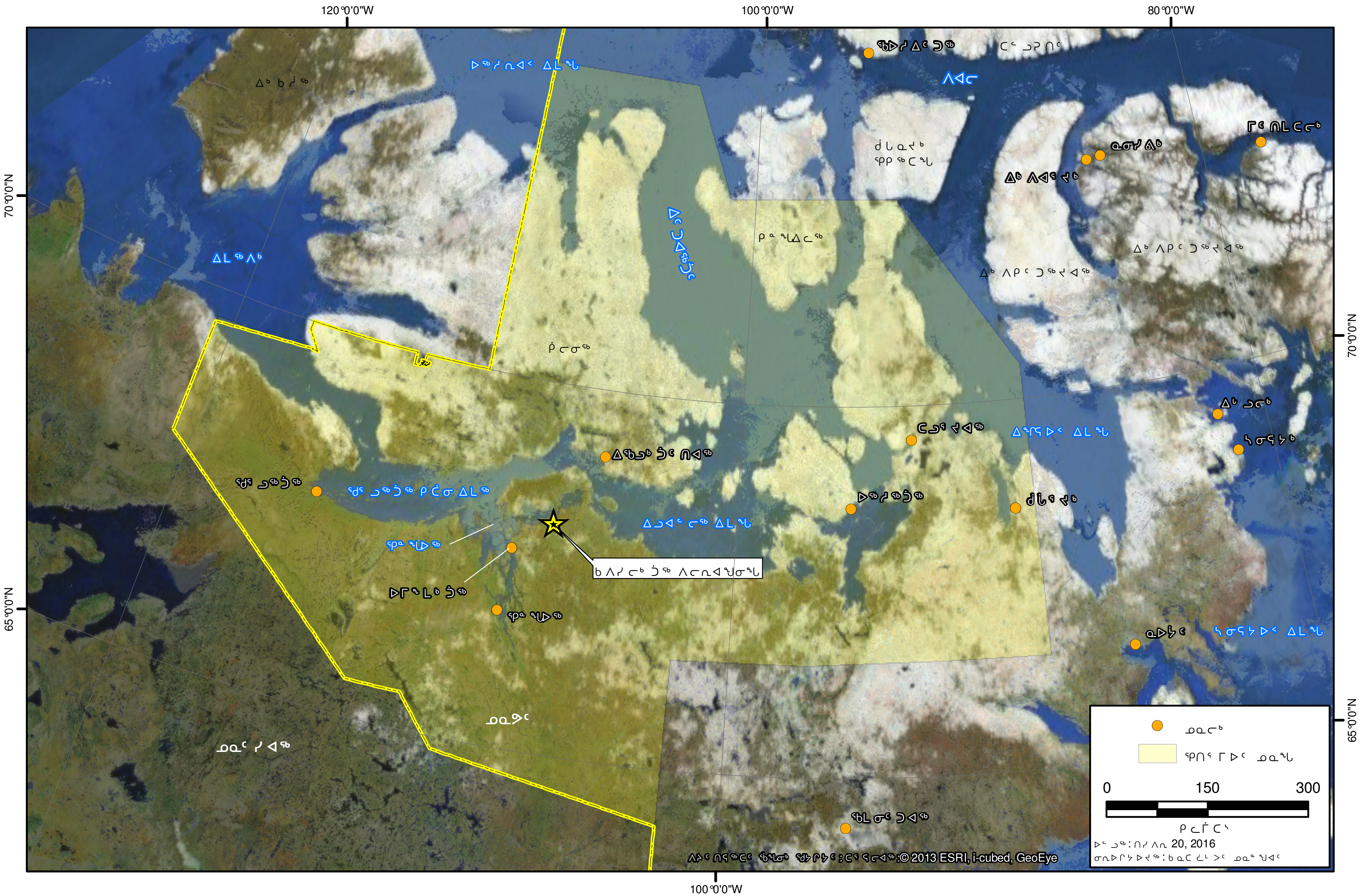
ᐃᓚᖓ 2 ("ᐱᓕᕆᐊᔅᓴᖅ") ᑕᐅᑦᑐᒃᑯᑦ ᐅᔭᖃᖕᓂᐊᕐᓂᕐᒧᑦ ᒪᑦᓇᑦ ᑐᓄᕙᐊᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓂᖓᓂ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐅᔭᖃᖕᓂᐊᕐᕕᖕᒋᑦ ᐃᓕᓚᐅᔪᑦ ᐊᑐᖅᑕᐅᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᖕᒋᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᑐᐊᓇᔅ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᓄᓇᓖᑦ ᐊᑐᖅᑕᒃᑕᖕᒋᑦ ᐊᐅᓚᔪᓐᓇᖅᑯᓪᓗᒍ ᐊᑕᐅᓯᙳᖅᓗᑎᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ Hᐆᑉ ᖃᖕᒋᖅᓯᐊ ᒍᓃᓐᔅᑑᓐ ᐱᐅᑦᒧᑦ. ᐱᓕᕆᐊᔅᓴᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑕᐃᒪᐅᑎᑦᑎᔪᑦ ᖃᑯᑎᒃᑯᑦ ᐃᓯᐊᓈᖅᕕᒃᓴᒧᑦ ᐱᕙᓪᓕᐊᓗᓂ ᐊᑲᐅᔪᒥ-ᓴᖅᑭᑎᑕᐅᓯᒪᔪᒃᑯᑦ Hᐆᑉ ᐲ ᑲᓐᓄᖅᑲᓂᒃ ᐃᓕᕝᕙᐅᔪᓂᒃ ᐊᑯᓂᐅᔪᒃᑯᑦ ᐅᔭᖃᖕᓂᐊᖅᕕᐅᓗᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᖓᓂ ᐱᔨᑦᑎᕋᐅᑎᖃᖅᑐᓂᒃ ᑲᔪᓯᔪᒃᑯᑦ ᑮᓇᐅᔭᓕᓇᓕᐅᖅᓂᓇᔭᐅᔪᒃᑯᑦ ᑐᙵᓕᓂᖅᑲᑦᑎᐊᖅᓂᖅ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᕿᑎᖅᒥᐅᑕᓄᑦ. ᐱᕙᓪᓕᐊᓂᖅ ᐸᖅᓇᐅᑎᖕᒋᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑭᑐᔫᑎᓂᒃ ᑮᓇᐅᔭᒧᑦ ᐱᕈᖅᑎᑦᑎᓇᓯᐊᖅᓂᖅᒧᑦ ᐊᒻᒪᓗ ᓴᓇᓪᓗᑎᒃ ᓂᐅᕕᖅᑕᐅᓯᒫᓂᒃᑐᓂᒃ ᐱᓯᒪᑦᑎᒥᐊᖅᑐᑎᒃ ᑮᓇᐅᔭᐃᑦ ᑕᐃᒪᐅᓪᓗᐊᓂᖅᒧᑦ ᑲᔪᓯᔪᓐᓇᖅᓂᖅᒧᑦ ᕿᓂᖅᓂᖅᒥᒃ ᐊᒻᒪᓗ ᐊᖕᒋᓪᓕᕙᓪᓕᐊᓂᖅᒧᑦ.

ᐋᖅᑭᒃᓯᒪᓂᖓ

ᐱᓕᕆᐊᔅᓴᖅ ᓇᔪᕐᕕᖓ ᑐᒃᑐᕐᕕᐅᑉ ᑲᖏᐊᓂ, ᐅᖓᓯᓂᖅᑲᖅᑐᖅ 150km ᑭᓚᒦᑕᓂᒃ ᐃᖃᓗᑦᑑᑦᑎᐊ ᐱᖓᓐᓇᖓᓂ ᕿᑎᕐᒥᐅᑦ ᓄᓇᕗᒻᒥ ᐊᒻᓗ 700km ᑭᓚᒦᑕᓂᒃ ᔭᓗᓇᐃᕝ (Yellowknife) ᑲᓇᖕᓇᖓᓂ (ᓇᓗᓇᐃᒃᑯᑕᖅ 1). ᖃᓂᓐᓂᖅᐹᖑᔪᑦ ᓄᓇᓕᔭᐅᔪᑦ ᐅᒥᖕᒫᖅ, ᐅᖓᓯᓐᓂᖓ 60km ᑭᓚᒦᑕᓂᒃ ᐱᖓᓐᓇᖓᓂ ᐊᒻᒪᓗ ᑭᖓᐅᖅ ᓇᔪᕐᕕᖓ 130km ᑭᓚᒦᑐᓂᒃ ᐱᖓᓐᓇᖓᓂᑦ. ᐅᒥᖕᒫᖅ ᐊᒻᒪᓗ ᑭᖓᐅᖅ ᐃᑦᑕᕐᓂᑕᐅᔪᑦ; ᐃᓄᒥᓂᖕᒋᑦ ᐃᖃᓗᑦᑑᑦᑐᐊᕐᒧᑦ ᐅᕙᓘᓐᓃ ᐊᓯᖏᓐᓄᑦ ᓄᓇᓄᑦ ᓅᓚᐅᖅᑐᑦ, ᐊᒻᒪᓗ ᓄᓇᓕᔭᐅᔪᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᓯᓕ ᐊᑐᖅᑕᐅᕝᕕᔅᓴᐅᓕᕌᖓᑕ.

ᑐᓄᕙᐊᑉ ᓇᔪᕐᕙᒃ Hᐆᑉ ᑲᖕᒋᖅᓯᐊ ᐱᐅᑦ ᐃᓚᒋᔭᖅᑲᖅᑐᑦ ᐊᒥᓲᒃᓚᖕᓂᒃ ᐃᒪᕝᕙᐅᔪᓂᒃ ᑯᕙᓲᖕᒍᔪᓂᒃ ᕿᐳᑦ ᑲᖕᒋᖅᓯᐊᖓᓄᑦ, ᐊᒻᒪᓗ ᑯᐃᕐᓄᑉ ᑰᖓᓄᑦ ᑰᒃᐸᓪᓗᓂ Hᐆᑉ ᑲᖕᒋᖅᓯᐊ ᐲᒧᑦ ᕿᐳᑦ ᑲᖕᒋᑦᓯᐊᑕ ᐱᖓᓐᓇᖓᓄᑦ. ᐃᒪᕝᕙᐅᔪᑦ ᓯᕿᓐᓂᖓᓃᑦᑐᑦ ᐱᐅᑦᒥᑦ ᑯᕙᕝᕙᐅᕙᒃᑐᑦ ᖁᑦᑎᓐᓂᖓᓄᑦ ᑯᐃᕐᓄᑉ ᑰᖓᓄᑦ. ᓇᔪᕐᕙᐅᔪᓕᒫᖅ ᐅᒥᖕᒫᓕᑦᑐᑦ ᑯᕙᕝᕙᐅᔪᑦ.

ᓴᕿᔮᖅᑐᖅ 1
ᐱᓕᕆᐊᖑᔪᖅ ᐃᓂᖓ



EIS-ᑯᑦ

TMAC-ᑯᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᓂᕈᐊᖅᑕᐅᓯᒪᔪᑦ ᑲᔪᓯᓂᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᑐᓕᕐᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓕᔭᐅᓚᐅᖅᑐᑦ 2011-ᖑᑎᓪᓗᒍ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓄᑦ. ᒪᐃ 2012-ᖑᑎᓪᓗᒍ, ᐊᑐᓕᕐᑯᔭᐅᔪᑦ ᓴᖅᑭᑎᑕᐅᓂᖏᑦ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᓐᓄᑦ (NIRB) ᑭᒃᑯᑐᐃᓐᓇᕐᓄᑦ ᖃᐅᔨᓴᕐᑯᓪᓗᒋᑦ ᒪᓕᓪᓗᒍ ᐃᓚᖓ 5 ᒪᓕᒐᔅᓴᐅᔪᒃᑯᑦ 12 ᓄᓇᕗᒻᒥ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂ. ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐸᕐᓇᒃᐸᓪᓕᐊᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᕝᕕᖅᓯᒪᔪᓂᒃ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᓐᓂᑦ ᑎᓯᐱᕆ 2012-ᖑᑎᓪᓗᒍ. ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᖏᑦ ᒫᓐᓇᐅᔪᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᑎᑎᕋᖅᑕᐅᕝᕙᖅᓯᒪᔪᑦ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᓂᒃᑳᓂᒃ ᐃᓚᖓ 2-ᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ TMAC-ᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᖅᑐᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᓚᐅᖅᑐᓂᒃ ᒪᐃ 2012-ᖑᑎᓪᓗᒍ. EIS-ᑯᑦ ᐃᓚᒋᔭᐅᔪᑦ ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᒃ ᓴᖅᑭᑕᐅᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᒪᓕᓪᓗᒍ ᓄᓇᕗᒻᒥ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂᒃ.

TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᔪᑦ EIS-ᒧᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᒃᑯᒃ ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᖃᐅᔨᒪᓂᖏᓐᓄᑦ, ᓄᓇᓕᒻᒧᑦ ᐅᖃᐅᓯᕆᔭᖏᓐᓂᑦ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖏᑎᒍᑦ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓱᓇᒃᑯᑖᓂᒃ ᖃᐅᔨᒪᔨᓄᑦ, ᐊᔪᖏᑎᐅᔪᓂᒃ, ᐊᒻᒪᓗ ᐅᖃᐅᔾᔪᐃᓯᓕᕆᔪᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᒃᑯᑦ ᐃᑲᔪᖅᑐᐃᔪᓂᑦ. EIS-ᑯᑦ, ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᖅ, TMAC-ᑯᑦ ᐅᖃᐅᓯᖃᖅᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐃᓚᒋᓂᖓᒍᑦ ᐊᕙᑎᒧᑦ ᐊᒻᒪᓗ ᐊᑐᓕᕐᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᒻᒪᓗ ᓱᕋᒃᑕᐃᓕᒪᓂᖓᓄᑦ ᐱᕐᑯᑎᒥᓂᕐᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ. ᓇᒥᑐᐃᓐᓇᖅ ᓴᓗᒪᙱᑦᑐᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ ᕿᒪᒃᑕᐅᓂᕐᑯᓂᒃ ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᔪᒃᑯᑦ ᐱᕐᑯᑎᒥᓂᕐᓂᑦ ᖃᐅᔨᓴᑕᐅᕖᓂᒃᓯᒪᓕᖅᑎᓪᓗᒋᑦ) ᓱᕋᖕᓂᖏᑦ ᐅᕙᓘᓐᓃᑦ "ᐊᖏᔪᒃᑯᑦ" ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓴᖅᑭᓯᒪᓂᑎᒍᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔨᕐᔪᐊᒃᑯᑦ ᐅᖃᐅᓯᖏᑎᒍᑦ. ᐃᑲᔫᑏᑦ ᑐᑭᓯᐊᔾᔪᑏᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓰᖑᓂᕋᐃᒍᑏᑦ ᐅᖃᐅᓯᐅᔪᑦ EIS-ᒥ.

ᑐᒃᓯᕋᖅᑕᐅᔪᑦ

TMAC-ᑯᑦ ᑲᓇᑕᒥ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᖓᑦ ᐊᓪᓚᕝᕕᖃᖅᑐᑎᒃ ᐱᓕᕆᐊᔅᓴᐅᔪᒥ ᓇᔪᕐᕕᖓᓂ, ᐃᖃᓗᒃᑑᑦᑎᐊᒥ, ᔭᓗᓇᐃᒥ (Yellowknife) ᐊᒻᒪᓗ ᑐᕆᓐᑐᒥ (Toronto). TMAC-ᑯᑦ ᓂᐅᕕᓚᐅᖅᑐᑦ Hᐆᐸ ᖃᖏᖅᓱᐊ ᓇᒻᒥᓂᖓᓂᒃ ᓂᐅᒪᑦ (Newmont) ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓂᑦ ᒪᔨ 2013-ᖑᑎᓪᓗᒍ. ᓂᐅᕕᖅᑕᐅᓯᒪᓕᖅᑎᓪᓗᒍ TMAC-ᑯᑦ ᑲᔪᓯᓚᐅᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑐᐊᓇᔅ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ (ᐃᓚᖓ 1 Hᐆᐸ ᑲᖏᓱᐊᓂ ᐱᓕᕆᐊᔅᓴᖅ) ᐊᒻᒪᓗ ᕿᓂᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᐅᑦ. TMAC-ᑯᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐋᖅᑭᒃᓯᒪᑦᑎᐊᖅᑐᑎᒃ ᕿᓂᕐᓂᕐᒧᑦ, ᐱᔪᓐᓇᐅᑎᓂᒃ, ᓴᓇᓂᖅ, ᐊᒻᒪᓗ ᒪᑐᒍᓐᓇᖅᑐᒃᑯᑦ ᑐᓴᐅᒪᔭᐅᓪᓗᓂ ᐊᒻᒪᓗ ᓯᕗᓂᒧᑦ ᑲᓄᕐᑲᐅᑎᓂᒃ ᐃᓕᕝᕕᐅᕙᒃᑐᒃᑯᑦ Hᐆᐸ ᑲᖏᖅᓱᐊᐸ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ. ᓇᒻᒥᓂᕆᔭᐅᔪᖅ ᐊᐅᓚᑦᑎᔨ, ᑎᑎᕋᐅᔭᖅᑏᑦ ᐊᒻᒪᓗ ᐊᕙᑎᓕᕆᔩᑦ ᖃᐅᔨᒪᑦᑎᐊᖅᑐᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓕᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑲᔪᓯᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑲᔪᖅᑎᒌᒃᑐᓂᒃ ᓄᓇᕐᑲᖅᑐᓂᒃ ᓇᒻᒥᓂᕐᑲᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᐅᔪᓂᒃ ᖃᐅᔨᒪᕐᑲᑎᒌᒃᑐᓂᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ.

ᕿᑎᕐᒥᐅᓂ ᐃᑲᔪᑎᒌᑦ

ᓱᓇᑐᐃᓐᓇᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ ᐊᖏᓂᖏᑦ ᐊᒻᒪᓗ ᐱᒻᒪᕆᐅᓂᖏᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ Hᐆᐸ ᖃᖏᖅᓱᐊ ᐱᐅᑦ ᐱᐊᓂᒃᑕᐅᓂᖅ ᐊᔪᖅᑐᖅ ᐃᑲᔪᖅᑕᐅᙱᖦᓂᒃᑯᑦ. ᐊᒥᓱᑦ ᐃᑲᔪᖅᑎᒋᑦ ᐱᕐᑯᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ TMAC-ᑯᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᐱᕙᓪᓕᐊᓯᒪᓕᖅᑎᓪᓗᒋᑦ ᑐᕌᖅᑕᖏᓐᓄᑦ ᐃᐸᒋᑦᑎᐊᖅᑐᓂᒃ ᐃᑲᔪᖅᑎᒌᒃᑐᓂᑦ ᒪᕇᒃᑯᑦ ᐊᖏᔪᒃᑯᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᖏᓐᓂᑦ: ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ (NTI) ᐊᒻᒪᓗ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ (KIA). ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᐃᑲᔪᖅᑏᑦ ᑲᒪᔨᐅᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐊᐅᓚᔨᐅᓪᓗᑎᒃ ᐃᓄᐃᑦ ᐱᔭᕆᐊᖃᖅᑕᖏᓐᓂᒃ ᐋᖅᑭᒃᓯᒪᔪᒃᑯᑦ ᓄᓇᕗᑦ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂ. ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᓄᓇᐅᐸ ᐊᑎᖓᓂᒃ ᐱᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᐱᔪᓐᓇᐅᑎᓂᒃ ᐃᓄᐃᑦ-ᓇᒻᒥᓂᕆᔭᖏᓐᓂᒃ ᓄᓇᖏᓐᓂᒃ (IOL) ᓄᓇᕗᒻᒥ, ᐃᓚᒋᓪᓗᒍ ᓄᓇᐅᐸ ᐱᔪᓐᓇᐅᑎᖏᑦ Hᐆᐸ ᑲᖏᖅᓱᐊ ᓇᒻᒥᓂᕆᔭᐅᔪᓗᒃᑖᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᓂᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᓂᒃ ᓂᕈᐊᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᓂᒃ. ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᐅᓚᑎᑦᑎᔾᔪᑦ ᓄᓇᐅᐸ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐃᓄᐃᑦ

ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂᒃ (IIBa) ᐃᓚᒌᓪᓗᑎᒃ TMAC-ᑯᓐᓄᑦ ᑲᔪᓯᓂᐊᖅᑐᑦ ᑕᐃᒪᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓯᕗᓂᒃᓴᒧᑦ ᐃᑲᔫᑎᓂᒃ ᐃᑲᔪᖅᑎᒌᓐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᖏᕈᑎᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᒃ ᐊᑐᖅᑐᒃᓴᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᖏᕈᑎᒥ, ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑲᔫᑏᑦ ᐊᖏᕈᑎᐊᓂ ᐊᒻᒪᓗ ᐱᓕᕆᐕᖃᖅᑐᓂᒃ ᐊᑐᖅᑐᐊᕐᓂᕐᒧᑦ. ᑕᒪᒃᑮᒃ ᑲᑐᔾᔾᖃᑎᒌᑦ ᐱᒪᓕᕆᐅᔪᒥᒃ ᐱᓕᕆᐊᓯᖃᖅᑐᑦ ᐃᓄᐃᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᓯᒪᔪᒃᑯᑦ, ᐃᓚᒋᓪᓗᒍ TMAC-ᑯᑦ, ᐱᓯᒪᑦᑎᒋᐊᕐᓗᒍ ᐊᑐᖅᑐᒃᓴᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏ ᐊᖏᕈᑎᖏᑦ ᐊᒻᒪᓗ ᐊᓯᖏᑦ, ᓯᕗᓂᒃᓴᒧᑦ ᐊᖏᕈᑎᐅᔪᓂᒃ, ᑐᓂᓯᓂᐊᖅᑐᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐃᓅᕐᑲᑎᒌᓐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᐅᖃᑦᑕᕐᓂᕐᒧᑦ ᐃᑲᔫᑎᓂᒃ ᓄᓇᕗᒻᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᑲᓇᑕᒧᑦ ᐊᑲᐅᔫᒃᑯᑦ ᐃᑲᔪᖅᑎᒌᑦᑎᐊᕐᓂᒃᑯᑦ ᓄᓇᒧᑦ ᑲᔪᓯᓂᕐᒧᑦ ᒥᐊᓂᕆᑦᑎᐊᕐᓂᒃᑯᑦ.

ᐱᓕᕆᐊᒃ ᓴᖅ

ᐅᔭᕋᓐᓂᐊᕐ ᑲᐅᒃ ᐸᕐ ᓇᐅᑎᖕᒐ

<u>ᐱᕙᓪᓕᐊᓂᖅ</u>

TMAC-ᑯᑦ ᐱᐊᓂᑦᑎᐊᕐᓂᐊᖅᑐᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐅᔭᕋᓐᓂᐊᕐᕕᐅᑉ ᐊᐅᓚᓂᖓᓂᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓴᖓᓂᒃ ᐅᔭᕋᓐᓂᐊᕐᕕᒃᑯᑦ ᑐᐊᕆᔅᒥ (ᐊᖏᖅᑕᐅᓯᒪᔪᖅ ᐊᒻᒪᓗ ᐊᐅᓚᑐᐃᓐᓇᖅᑐᖅ ᐃᓚᖓ 1 Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓴᖓ), ᒪᓕᓪᓗᒍ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᐅᔪᒃᑯᑦ ᐆᒪᕐᑯᑎᖏᒃᑯᑦ ᐅᔭᕋᓐᓂᐊᕐᕕᖓᑦ ᒪᑦᑭᑦ ᑐᓄᕕᐊᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓂᖓᓂ ᐊᒻᒪᓗ ᐹᓴᑕᓐᒥ ᐃᓕᕝᕕᐅᔪᓂᒃ. ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ ᓴᓇᓂᒃᑯᑦ, ᐊᐅᓚᓂᒃᑯᑦ, ᐅᑎᖦᖅᑎᑦᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᒪᑐᓂᒃᑯᑦ, ᐊᒻᒪᓗ ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐋᖅᑭᒃᓯᒪᓂᖏᑎᒍᑦ.

ᐃᓚᖓ 1 (ᑐᐊᕆᔅ) ᐱᓕᕆᐊᓴᖅ ᓴᖅᑭᑎᑦᑎᓯᒪᔪᑦ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ ᕿᑉᑦ ᑲᖏᖅᓱᐊᓂ ᐊᒻᒪᓗ ᑐᐊᕆᔅ ᓇᔪᕕᐊᓂ ᐃᓚᒋᓗᒋᑦ ᓯᓂᒃᑕᕝᕖᑦ (ᐃᓄᖃᕈᓐᓇᖅᑐᑦ 280-ᓂᒃ); ᐊᐅᓚᔪᒃᑯᑦ ᓄᓇᐅᑉ ᐊᑖᓂ ᐅᔭᕋᓐᓂᐊᕐᕕᒃ ᓴᕕᒐᐅᔭᔅᓴᓂᒃ ᐊᒻᒪᓗ ᐅᔭᖃᓂᒃ ᐊᑐᙱᑦᑐᓂᒃ ᐃᓕᕝᕙᓂᒃ ᓇᔪᕕᓂᒃ, ᐅᑭᐅᒧᑦ ᒥᑦᑕᕕᒃ, ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᕕᖓᓂᒃ (TIA), 20 ᒥᓕᐊᓐᓂᒃ ᓖᑕᓂᒃ ᐅᖅᓴᕝᕙᔅᓴᖅ ᑐᖅᑯᖅᑕᐅᓯᒪᔪᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᒡᓗᕐᔪᐊᖅ, ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓗᒃᑖᒃᑯᑦ ᓴᓇᓯᒪᔪᑦ ᐱᕐᑯᔭᐅᓯᒪᔪᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ ᐅᔭᕋᓐᓂᐊᕐᕕᒻᒥ ᐊᐅᓚᓂᖓᓄᑦ.

ᐃᓚᖓ 2 ᐱᓕᕆᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᒋᕐᑲᕐᑲᑦᑕᕐᓂᐊᖅᑐᑦ ᐃᓚᖓ 1 ᐊᐅᓚᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᑐᐊᕆᔅ ᓇᔪᕕᐊᓂ. ᖃᓐᓂᓐᓂᖓ ᒪᑦᑭᑦ ᓇᔪᕕᖓ ᑐᐊᕆᔅᒧᑦ ᓇᔪᕕᖓᓄᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᒡᓗᕐᔪᐊᖅ, ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᕕᖓ ᑐᑭᖓ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖓᑦ ᐊᑐᕈᓐᓇᖅᑐᑦ ᐊᑐᐃᓐᓇᐅᔪᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᑐᐊᕆᒥᑦ. ᑕᒪᓐᓇ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑮᑦᑐᖃᖅᑎᑦᑎᔪᓐᓇᖅᑐᖅ, ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐃᓄᖃᕐᕕᐅᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑯᓂᐅᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᑦᑭᑦᒥ ᐃᓕᔭᐅᕙᒃᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᑲᔪᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐹᓴᑕᓐ ᓇᔪᕕᖓᓂᒃ. ᐊᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᓴᓇᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᐅᔪᑦ ᕿᑉᑦ ᑲᖏᖅᓱᐊᓂ ᐊᒻᒪᓗ ᑐᐊᕆᔅᒥ ᓇᔪᕕᖏᑦ ᐊᖏᔪᒥᒃ ᐃᓂᖅᑲᖅᑐᑦ ᐃᑲᔪᕆᐊᕐᓗᒍ ᐱᓕᕆᐊᓴᒧᑦ ᓴᓇᓂᖅ ᐃᓚᖓ 2-ᒥᒃ.

ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖅ ᐃᓚᒋᔭᖅᑲᖅᑐᖅ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐸᕐᓇᐅᑕᐅᓯᒪᔪᑦ ᖃᓄᐃᑉᐸᓪᓕᐊᓃᑦ ᑲᔪᓯᓂᖓ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᑦᑭᑦᒧᑦ ᐊᒻᒪᓗ ᐹᓴᑕᓐᒧᑦ ᓇᔪᕕᖏᑦ ᐅᑯᐊᖑᕗᑦ:

- ᐱᕙᓪᓕᐊᓂᖅ ᐅᔭᕋᓐᓂᐊᕐᓗᓂ ᒪᑦᑭᑦ ᑐᓄᕕᐊᓂ ᐅᑭᐅᖓ 1 (2019) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 13 (2031), ᐅᔭᕋᓐᓂᐊᖅᑕᐅᕙᒃᑐᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᕆᔅᒥ ᐊᒻᒪᓗ ᒪᑦᑭᑦ ᑐᓄᕕᐊᓂ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕖᑦ;
- ᐱᕙᓪᓕᐊᓗᓂ ᐅᔭᕋᓐᓂᐊᕐᓂᕐᒧᑦ ᐹᓴᑕᓐᒥ ᐅᑭᐅᖓ 4 (2019) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 14 (2032), ᐅᔭᕋᓐᓂᐊᕐᕕᐅᕙᒃᑐᓂᒃ ᑐᐊᕆᔅ ᓇᔪᕕᐊᓂ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᕆᔅ ᓇᔪᕕᐊᓂ ᐅᑭᐅᖓᓂ 4 ᐊᒻᒪᓗ 5, ᐊᒻᒪᓗ ᐹᓴᑕᓐᒥ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᐊᐅᓚᓕᖅᑎᓪᓗᒍ ᐅᑭᐅᖓ 6-ᒥ.

- ᐱᕙᓪᓕᐊᓗᓂ ᐅᔾᕋᓐᓂᐊᕐᓂᕐᒧᑦ ᒪᑦᓇᑦ ᓯᕿᓐᓂᐊᓂ ᐅᑭᐅᖓ 11 (2029) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 14 (2032), ᐅᔾᕋᓐᓂᐊᕐᕕᐅᕙᒃᑐᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔾᓇᐊᓕᖓᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᓇᔅᒥ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᓇᔪᕐᕕᐅᔪᓂᒃ.

<u>ᐱᓕᕆᐊᔅᓴᒧᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ</u>

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓅᕐᑲᑎᒌᖓᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ. ᒣᓐᓇᒧᑦ, ᓇᒻᒥᓂᓇᔭᐅᔪᖅ ᐱᓯᒪᔪᑦ ᐱᔪᒪᑦᑎᐊᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐋᖅᑮᑕᐅᓂᐊᖅᑐᒧᑦ Hᐆᐸ ᑲᖏᖅᓱᐊᑕ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ, ᓇᓗᓇᐃᖅᓯᒪᔪᒃᑯᑦ ᐱᔪᒪᑦᑕᐃᓕᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓱᕋᒃᓯᒪᔪᓂᒃ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᕐᓂᕐᒧᑦ. ᐃᓅᔪᓂᒃ-ᐊᐅᓚᔪᑦ, ᐃᓅᕐᑲᑎᒌᒃᑯᑦ-ᑮᓇᐅᔭᓕᐅᕐᓂᖅ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᕐᑯᑎᐅᔪᓂᒃ, ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᑐᓴᐅᒪᑎᑦᑎᓂᖅ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᐋᖅᑮᕙᓪᓕᐊᓪᓗᑎᒃ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐊᒻᒪᓗ ᐃᓚᖓ 2-ᒧᑦ. ᓇᒥᑐᐃᓐᓇᖅ ᑐᑭᓯᐊᑦᑎᐊᕐᓇᙱᑦᑐᓂᒃ, ᐅᕝᕙᓘᓐᓃᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᓂᒃ ᐃᓚᒌᒃᑐᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᙱᑉᐸᑕ, TMAC-ᑯᑦ ᓇᐅᑦᑎᖅᑐᖅᓯᒪᔪᑦ ᐱᕙᓪᓕᐊᔾᔪᑎᓂᒃ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᕐᑯᒥᑎᑦᑎᓂᕐᒧᑦ ᐱᑕᐃᓕᒪᓂᕐᒧᑦ.

ᑎᑎᕋᖅᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐋᖅᑭᒃᓯᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐸᕐᓇᐅᑎᖏᓐᓄᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐅᓂᒃᑲᐅᓯᒨᑦ ᐊᑖᓂ.

- TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐱᓕᕆᕝᕕᐅᓗᓂ **ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ** ᐊᒻᒪᓗ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑐᓂᓯᓗᑎᒃ ᐊᑲᐅᔫᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᓅᓯᕐᒧᑦ ᐊᒻᒪᓗ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᒃᑯᑦ ᐱᓕᕆᕝᕕᐅᓗᓂ.
- **ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᓂᖅ** (ᐃᓚᒋᓗᒍ *ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᔪᖅᑲᖏᖅ*[IQ]) ᐃᓱᒪᒋᔭᐅᖃᑕᐅᔪᑦ, ᐃᓚᒋᓪᓗᒋᑦ ᐊᐅᓪᓛᕐᓂᖅ ᐊᖅᑯᑎᖏᓐᓂᒃ, ᓂᕐᔪᑎᓂᒃ ᐊᐅᓪᓛᕐᓂᖏᓐᓂᒃ, ᓇᔪᕕᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑏᒃ ᐱᒻᒪᕆᐅᓂᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ.
- **ᐃᓅᕐᑲᑎᒌᑦ-ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ** ᐃᑲᔫᑏᑦ ᐱᕚᓪᓕᖅᑕᐅᓯᒪᓂᐊᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᖅᑖᖅᑎᑦᑎᓂᒃᑯᑦ (ᐊᒻᒪᓗ ᐃᓕᓴᐃᓂᖅ, ᐱᕕᔅᓴᖓᒍᑦ) ᕿᑎᕐᒥᐅᑕᓄᑦ. ᐃᖅᑲᓇᐃᔮᔅᓴᖅ ᐊᒻᒪᓗ ᓇᒻᒥᓂᕐᑲᕐᓂᖅ ᐃᑲᔫᑏᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ (IIBA) ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ TMAC-ᑯᓐᓄᑦ ᐊᒻᒪᓗ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᕐᑲᑎᒌᖏᓐᓄᑦ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᑦᑲᖅᓯᓐᓇᓇᐊᓕᒃ ᐃᓅᕐᑲᑎᒌᑦ-ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᑲᐅᙱᓕᐅᕈᓂᒃ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖓᓄᑦ ᐱᓕᕆᕝᕕᖓᓄᑦ ᐃᓕᓐᓂᐊᕈᑎᓄᑦ ᐆᑑᑎᒋᓗᒍ ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ ᐃᑲᔫᑎᓂᒃ ᐱᓕᕆᐊᔅᓴᖓᒍᑦ.
- TMAC-ᑯᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᐃᑦᑕᕐᓂᑕᓕᓇᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪᓗ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ ᑲᑎᖅᓯᐃᓪᓗᑎᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ ᖃᓄᐃᓕᐅᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᔅᓴᖓᓂ (ᐃᓚᒋᓗᒍ ᕿᓂᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ) ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ ᒪᓕᒋᐊᓕᖓᓂᒃ ᓇᓂᓯᓐᓂᕈᒥᒃ ᓄᓖᓂᒃ ᐃᑦᑕᕐᓂᑕᓂᒃ ᓇᔪᕕᖏᓐᓂᒃ. ᓇᔪᕖᑦ ᓄᓇᙳᐊᓕᐅᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑕᐃᑯᙵᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᔪᕐᓇᙱᒃᑳᖓᑦ.
- ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ **ᐃᓅᔪᓂ-ᐊᐅᓚᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ** ᒥᑭᓐᓂᖅᐹᒃᑰᖅᓯᒪᔪᑦ ᐊᑕᐅᓯᙳᕐᓂᒃᑯᑦ ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᕐᑯᓪᓗᒋᑦ ᐱᑐᕐᑲᒥᓂᕐᓂᒃ ᐆᑦᑐᕋᐅᑎᒃᑯᑦ ᐱᓕᕆᐊᔅᓴᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ. ᑕᒪᓐᓇ ᐃᓚᒋᔭᕐᑲᖅᑐᖅ ᐃᐸᕿᑦᑎᐊᕐᓂᖅ ᓴᐳᒻᒥᔭᐅᔪᓂᒃ ᓇᔪᕕᖏᓐᓂᒃ, ᓴᓇᓯᒪᔪᓂᒃ, ᐱᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᕿᐸᓄᐊᑦ ᐱᑭᐅᖏᑦ, ᐃᕐᑲᓗᐃᑦ ᓇᔪᕕᖏᑦ ᑰᖏᓐᓂ) ᐊᔪᕐᓇᙱᓂᖓᓄᑦ ᐊᑐᕐᓗᒋᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐆᒪᔪᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓱᕋᐃᑦᑕᐃᓕᒪᓂᕐᒧᑦ. ᐃᐸᕿᔭᐅᔭᕋᐃᑦᑐᓂᒃ ᓄᓇᙳᐊᓕᐅᕐᓂᖅ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᕐᓂᕐᒧᑦ ᐃᐸᕿᔭᕋᐃᑦᑐᓂᒃ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᓇᔪᖅᑕᐅᔪᑦ ᐆᒪᔪᓂᒃ; ᑕᒪᓐᓇ ᐅᖃᐅᓯᐅᓯᒪᔪᖅ ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔪᓂᑦ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᔪᖃᖏᑎᒎᑦ.

- ᐋᖅᑭᒃᓯᒪᓂᖓ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᒍ ᐅᑉᐱᕆᔭᐅᔪᑦ **ᓯᓚᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ.** ᖃᐅᔨᓴᕐᓃᑦ ᐃᓚᒋᔭᖃᖅᑐᑦ ᒥᒃᓴᐅᓴᒃᓯᒪᔪᑦ ᓯᕗᓂᒧᑦ ᓯᓚᐅᑉ ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓂᒃ, ᐊᒻᒪᓗ ᐋᖅᑭᒃᓯᒪᓂᖓ ᐅᔭᕋᙳᐊᕐᕕᐅᔪᖅ ᓴᓇᓯᒪᓂᖓ (ᐊᖅᑯᑏᑦ, ᐊᑦᑕᖅᑕᐅᓯᒪᔪᑦ ᓱᓇᒃᓴᓄᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᐅᓚᓂᕐᒧᑦ ᓴᓇᕝᕕᑦ) ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᓱᕋᐃᔪᓐᓇᕐᓂᕐᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᑎᓪᓗᒋᑦ.
- **ᓄᓇᐅᑉ ᕿᕿᓂᖓ** ᑎᑎᕋᖅᓯᒪᓂᑦᑯ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᔪᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᑐᙵᓂᖏᓐᓂᒃ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓂᒃ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ. ᑕᒪᓐᓇ ᐊᑐᖅᑐᖅ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᓯᓚᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᕐᒧᑦ.
- ᐊᒥᓱᒃᓪᓚᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᑎᑎᕋᖅᓯᒪᔪᒃᑯᑦ ᐊᓯᙳᖅᑕᐅᕐᑯᔭᐅᔪᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ **ᐱᕙᓪᓕᐊᔪᓂᒃ ᓄᓇᓂᒃ ᐊᑐᖅᑐᓂᒃ.** ᐃᓚᒋᓗᒍ ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᓂᒃ ᐊᑐᖅᑐᓂᒃ ᐃᖏᕋᓂᖅ ᓇᔪᕝᕕᐅᔪᓄᑦ ᐊᖅᑲᑎᒃᑯᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᓂᒃ ᒥᑭᓂᖅᐸᑰᒃᑯᑦ ᐱᕙᓪᓕᐊᕐᑯᓪᓗᒋᑦ ᐃᓄᐃᑦ ᐃᖏᕋᔪᑦ ᓄᓇᒧᑦ.

<u>ᐊᔪᕐᓇᙱᒃᑲᓪᓗᐊᖅᑐᒃᑯᑦ ᓯᕗᓂᕐᓵᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ</u>

ᐃᓱᒪᒃᓴᖅᓯᐅᕐᓂᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓚᒋᔭᐅᒋᐊᖃᖅᑐᖅ ᐃᓚᖓᓄᑦ ᐱᓕᕆᐊᓵᓗᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐱᓕᕆᐊᓵᖅ ᐃᓚᖓᒍᑦ ᐃᓚᒋᔭᐅᔪᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᐅᖏ ᐊᔪᕐᓇᐳᓐᓃᖅᑎᑦᑎᔪᓐᓇᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ, ᐱᔪᓐᓇᐅᑎᑕᖃᕐᓂᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓚᒋᔭᐅᓂᐊᖅᑐᓂᒃ ᐅᔭᕋᙱᓂᐊᕐᕕᐅᔪᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ ᓴᓇᕝᕕᐅᓯᒪᔪᑦ ᐅᑯᕐᑑᓐᓃᑦ ᑲᔪᓯᑎᑕᐅᓗᓂ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᓵᒧᑦ ᐱᒻᒪᕆᐅᓗᓂ ᓯᕗᓂᐊᓵᒧᑦ ᐱᓕᕆᐊᓵᓄᑦ.

ᐱᓕᕆᐊᓵᒧᑦ ᐋᖅᑭᒃ ᓯᒪᓂᖓ

Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᓕᕆᐊᓵᖅ ᑲᑎᖅᓱᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᑕᐅᓯᙳᕐᓂᖓᓄᑦ ᐊᒥᓱᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᓂᒃ ᑎᓴᒪᓄᑦ ᓇᔪᕝᕕᐅᔪᓄᑦ ᐅᔭᕋᓂᐊᕝᕕᐅᑎᓪᓗᒋᑦ. ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᖏᑦ ᓇᔪᕝᕕᐅᔪᑦ ᐱᖃᕆᐊᖃᖅᑐᑦ ᑲᔪᓯᓂᖅᑐᑦ ᓴᓇᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅᑐᑦ ᐊᓯᖏᓐᓄᑦ ᓇᔪᕝᕕᐅᔪᓄᑦ. ᐊᔾᔭᑲᓯᐊᒃᑯᑦ, ᒪᑐᓂᖓ, ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᖏᓐᓂ ᓇᔪᕝᕕᐅᔪᓂ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐱᐊᓂᖅᑳᖅᑎᓐᓇᕆᑦ ᐊᐅᓚᓂᖏᓐᓄᑦ ᐊᓯᖏᓐᓄᑦ ᓇᔪᕝᕕᐅᔪᓂᒃ. ᑕᒪᒃᑭᑦ, ᖃᓄᐃᑦᑑᓂᖓ ᒪᓕᓪᓗᒍ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖅ ᐃᓚᒋᔭᖃᖅᑐᖅ ᑎᓴᒪᓄᑦ ᐅᑭᐅᓄᑦ ᓴᓇᓂᖏᑦ (ᐅᑭᐅᖓ 1-4-ᒧᑦ). ᒪᑐᓂᖓ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐅᑭᐅᖓ 14-ᖑᓕᖅᐸᑦ. ᐊᒻᒪᓗ ᑕᐃᒪᐅᓗᑎᒃ ᑎᓴᒪᓄᑦ ᐅᑭᐅᓂᒃ ᑲᑎᓪᓗᒋᑦ. ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐱᕙᓪᓕᐊᔪᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ, ᐱᕙᓪᓕᐊᓗᑎᒃ ᐅᑭᐅᖓ 16-ᖑᓕᖅᐸᑦ. ᐊᔾᔨᙳᐊᖅ 2 ᓇᓗᓇᐃᖅᓯᔪᖅ ᐱᓕᕆᐊᓵᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᒃᑯᑦ ᐊᔾᔨᓕᒻᒋᑦᑐᓂ ᐃᓚᖓ 2 ᓱᓇᒃᑐᑖᖏᑦ.

ᓇᓪᓕᕕᐅᓯ ᓴᐃᑦ

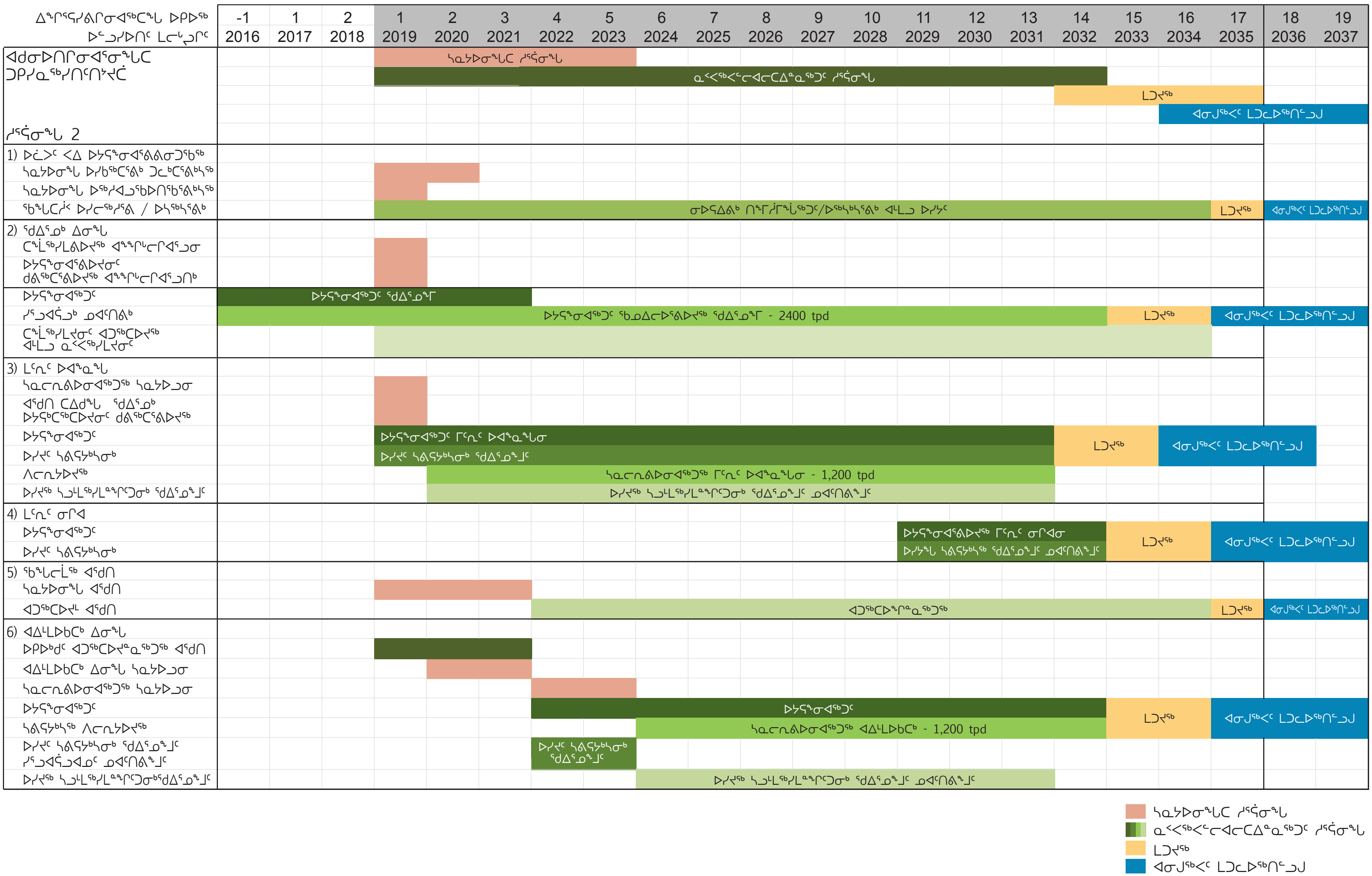
ᓄᓇᕗᒻᒥ ᐊᑭᑎᓕᓇᔾᒃᑯᑦ ᑲᑎᒪᔾᔨᖏᑦ ᓇᓗᓇᐃᔾᔪᑎᖏᑦ ᐊᑐᖅᑎᑦᑎᔪᖅ TMAC-ᑯᑦ ᐊᑐᕐᑯᓪᓗᒋᑦ "ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᓐᓂᕐᒧᑦ"("go/no go") ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖓᓄᑦ ᐊᒻᒪᓗ ᐊᓯᐊᒍᑦ ᐱᕙᓪᓕᐊᔪᒃᑯᑦ ᐱᓕᕆᐊᓵᐅᑉ.

<u>"ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᓐᓂᕐᒧᑦ"</u>

ᒪᕿᐃᓕᖓᑐᐃᓐᓇᕆᐊᓕᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ "ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᓐᓂᕐᒧᑦ" ᐃᓱᒪᓕᐅᕐᓂᕐᒧᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖓᓄᑦ:

1. ᑲᔪᓯᑐᓂ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖓᓂᒃ, ᓵᖅᑭᑎᑕᐅᕐᑯᔭᐅᔪᒃ ᐊᑐᕐᑯᓕᖅᑕᐅᔪᓂᒃ ᑐᓯᕋᖅᓯᒪᔪᒃᑯᑦ.
2. ᕿᒪᑐᐃᓐᓇᕐᓗᒍ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖅ ᑎᑭᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᒪᓕᖅᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ ᒥᑭᓪᓕᑎᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᕐᑑᓐᓃᑦ ᒥᑭᓪᓕᑭᓪᓕᐊᓗᑎᑦ ᐊᑦᑕᕐᓇᖅᑕᑐᓂᒃ ᐱᕕᓪᓕᕐᑯᓪᓗᒍ ᐱᓕᕆᐊᓵᐅᔪᑦ ᐱᐊᓂᒋᐊᕐᓂᕐᒧᑦ.

ᓴᕿᔮᖅᑐᖅ 2
ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᐅᓪᓗᓯᕐᒋᑦ



TMAC-ᑯᑦ ᐅᐸᐱᕆᔾᖃᖅᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕆᖅ ᐊᔪᖃᙱᓪᓗᓂ ᐱᓕᕆᐊᕐᕆᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓇᔾᖃᖅᑐᖅ ᐃᑲᔪᖅᓗᓂ ᐱᖃᑕᐅᓯᒪᔪᓂᒃ ᐃᓚᒋᓗᒋᑦ ᕿᑎᖅᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᑐᙵᕝᕕᒃᑯᑦ. ᑕᒪᓐᓇ ᐱᐊᓂᖕᓂᖓ ᐊᑐᖅᑕᐅᔪᒃᑰᖓᔪᑦ ᐃᓚᖓ 2 ᑕᑯᑎᑦᑎᔪᖅ ᐊᖏᔪᒃᑯᑦ ᐃᓱᐊᓈᖅᓯᓂᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ ᓄᑖᒥᒃ ᐅᔾᕋᖕᓂᐊᖅᓂᖅᒧᑦ ᑕᒫᖅᕙᒻᒥᒃ ᑲᓇᑕᐸ ᐅᑭᐅᖅᑕᖅᑐᖕᒐᓂ. Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᖅᑯᑎᒋᔾᔪᔪᑦ ᑕᑯᑎᑦᑎᔪᖅ ᐊᖏᔪᒥᒃ ᐅᔾᕋᖕᓂᐊᖅᓂᖅᒧᑦ ᕿᓂᖅᓂᖅ ᐊᔪᖃᙱᒃᑲᓗᐊᖅᓂᖓᒎᑦ, ᐊᒻᒪᓗ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᕐᕆᖅ ᐱᖅᑯᑎᖏᑦ ᐱᑦᑕᐅᓂᖏᑦ ᐱᐅᔪᑦ. ᐊᔪᖃᙱᒃᑲᓗᐊᖅᓂᖓᒎᑦ ᐊᑦᑕᖅᓇᖅᑐᖅ ᐊᖏᔪᒃᑯᑦ ᒥᑭᓪᓕᖅᑕᐅᓯᒪᔪᑦ ᐊᐅᓚᓂᒃᑯᑦ ᐊᑭᓕᐅᑎᖏᓐᓄᑦ ᓇᔪᖅᕝᕕᐅᔪᓂᑦ ᐊᒻᒪᓗ ᓇᔪᖅᕝᕕᐅᙱᑦᑐᓂᑦ, ᐃᓚᒋᓗᒍ ᓴᓇᓂᖅ ᓇᔪᖅᕝᕕᖓᓂ ᓄᓇᑖᑦ ᐊᑐᖅᐸᒃᑕᖏᓐᓄᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᖏᒍᑦ. ᐱᕙᓪᓕᐊᓂᖓ ᐸᖅᓇᐅᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓂᒃᑯᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐱᓕᕆᐊᒃᖃᖅᓂᒃᑯᑦ ᕿᓄᐅᔾᔭᕝᕕᐅᖃᖅᑐᒃᑯᑦ ᕿᓄᐅᔭᓕᐅᕋᓱᐊᖅᓂᒃᑯᑦ ᐊᒻᒪᓗ ᓴᓇᓗᑎᒃ ᑕᐃᒪᐅᔪᒃᑯᑦ ᐱᖅᑯᑎᒋᔭᐅᔪᓂᒃ ᑕᐃᒪᐅᖏᓐᓇᕋᓱᐊᖅᓗᒋᑦ ᕿᓄᐅᔭᐃᑦ ᐊᖏᓪᓕᕚᓪᓕᕈᓐᓇᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᖃᓂᖅᕝᕕᐅᔪᓐᓇᖅᓂᖅᒧᑦ ᐊᑐᖅᑎᑦᑎᕙᓪᓕᐊᓂᖅᒧᑦ.

ᓇᓚᐅᑦᑖᖅᓂᒃᑯᑦ ᐃᑲᔫᑏᑦ ᐱᓕᕆᐊᕐᕋᒧᑦ ᓄᓇᖃᖅᑐᓂᒃ ᐃᓚᒋᔭᖃᖅᑐᑦ ᐃᖅᑲᓇᐃᔮᕐᕆᓂᒃ ᐊᒻᒪᓗ ᕿᓄᐅᔭᖃᖅᓂᕆᔭᐅᕙᒃᑐᒃᑯᑦ ᐃᑲᔪᑎᓂᒃ ᐃᑲᔪᖅᓗᓂ ᐃᓅᓯᕆᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐃᓄᐃᑦ ᐃᓱᐊᓈᖅᕝᕕᕐᕆᖏᓐᓄᑦ ᑲᔪᓯᓗᓂ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ ᕿᓄᐅᔭᓕᐅᖅᕝᕕᒋᔭᐅᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᒃᑯᑦ ᕿᑎᖅᒥᐅᑕᓄᑦ.

<u>ᐊᔪᖃᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᓇᓗᓇᐃᖅᓂᖅᒧᑦ ᐱᓕᕆᐊᕐᕋᒧᑦ</u>

ᓇᔪᖅᕝᕕᐅᔪᖅ ᐃᓕᔭᐅᕙᒃᑐᓂᒃ ᖃᓄᐃᑦᑐᒃᑯᑦ ᒥᑭᓪᓕᕚᓪᓕᖅᑎᑦᑎᔪᖅ ᐊᒥᓱᓂᒃ ᐊᔪᖃᙱᒃᑲᓗᐊᖅᓂᖓᒍ ᐊᓱᐊᒍᑦ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ ᐃᓚᖓ 2 ᓱᓇᒃᑯᑖᖏᓐᓂᒃ. ᐱᕙᓪᓕᐊᔪᑦ ᓇᒻᒥᓂᒃᑯᑦ ᓇᔪᖅᕝᕕᐅᔪᑦ ᐱᔭᕆᐊᖃᖅᑐᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐆᑦᑑᑎᒋᓗᒍ ᐱᑦᑕᐅᓯᕚᓪᓕᖅᓂᖅ ᑕᑯᒃᓴᐅᔪᓂᒃ, ᐃᓕᖕᕕᒋᔭᐅᔪᓂᒃ, ᐃᑯᒪᓄᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᓂᒃ, ᐅᖅᓱᒧᑦ ᐱᖅᑯᑎᓂᒃ ᐊᑐᒐᕐᕆᓂᒃ ᐊᒻᒪᓗ ᐃᓪᓗᓕᐅᒃᑲᓐᓂᖅᓂᖅᒧᑦ. ᑎᑎᕋᖅᓯᒪᓂᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖓ ᓇᔪᖅᕝᕕᐅᔪᓄᑦ ᑐᕌᖅᓯᒪᔪᑦ ᐊᔪᖃᙱᑦᑐᒃᑯᑦ ᓴᓇᔭᐅᓂᖓᓄᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᓯᕕᐅᓗᓂ ᓇᒻᒥᓂᒃᑯᑦ ᓇᔪᖅᕝᕕᐅᔪᑦ ᐱᓕᕆᐊᕐᕆᐅᔪᑦ ᐅᔾᕋᖕᓂᐊᖅᕝᕕᒻᒥ, ᑕᐃᒫᒃ ᐊᖏᔪᒃᑯᑦ ᓂᕈᐊᕈᑕᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᐋᖅᑮᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᖃᓄᐃᑑᓂᐊᖅᓂᖓᓄᑦ ᐃᓚᖓᓄᑦ ᐱᐊᓂᑦᑎᐊᕆᐊᖅᓗᒍ ᖃᓄᐃᑑᓂᐊᖅᓂᖓᓄᑦ ᓴᓇᕝᕕᐅᓂᐊᖅᑐᓂᒃ ᐃᒪᒥᑰᖓᔪᒃᑯᑦ ᓇᔪᖅᕝᕕᒋᔭᐅᔪᓂᑦ

ᐊᔪᖃᙱᒃᑲᓗᐊᖅᓂᖓᓄᑦ ᐱᐊᓂᒋᐊᖅᓂᖅᒧᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕆᖅ ᐊᖏᓂᖅᓴᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ Hᐆᐸ ᑲᖏᖅᓱᐊ ᐱᐅᑦ. ᐊᔪᖃᙱᒃᑲᓗᐊᖅᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᖅᕕᒋᔭᐅᓂᐊᖅᑐᒧᑦ ᐊᕐᔭᖅᑐᐃᓂᖅᒧᑦ ᐅᒥᐊᖅᔪᐊᓂᙶᖅᑐᓂᒃ, ᐊᖅᑯᑎᐅᓂᐊᖅᑐᒥᒃ ᐹᓴᑕᓐ ᓇᔪᖅᕝᕙᖓᓄᑦ ᓄᓇᒃᑯᑦ ᐊᒻᒪᓗ ᑎᒻᒥᒆᒃᑯᑦ, ᓄᓇᒃᑯᑦ ᐊᑐᖅᑕᐅᕙᖕᓂᒃᑯᑦ ᐅᔾᕋᖕᓂᐊᖅᕝᕕᒋᓗᒍ ᐊᑑᑎᖕᒋᓐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐊᑖᓂ ᐅᔾᕋᖕᓂᐊᖅᕝᕕᐅᕙᒃᑐᒃᑯᑦ, ᐊᒥᓲᓂᖏᑦ ᐊᒻᒪᓗ ᓇᒦᓐᓂᐊᖅᓂᖏᑦ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ, ᓇᓖᕆᑎᓂᒃ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᓐᓄᑦ ᐊᐅᓚᓂᖅ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅᒧᑦ ᐊᒻᒪᓗ ᐊᑐᖅᓂᖅᒧᑦ ᐃᑯᒪᓄᑦ. ᐊᖏᓗᐊᖅᑐᒃᑯᑦ, ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᓇᓕᒌᒐᕐᕆᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓴᓇᔭᐅᓯᒪᔪᒃᑯᑦ ᐊᒻᒪᓗ ᕿᓄᐅᔭᓕᐅᕐᓂᐅᔪᒃᑯᑦ ᐱᐊᓂᒃᑕᐅᔪᓐᓇᖅᑐᒃᑯᑦ, ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔪᒃᑯᑦ, ᐅᑎᖅᑎᑦᑎᓂᖅ ᐊᔪᖃᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ, ᓄᓇᕆᔭᐅᔪᓄᑦ ᐊᖏᖅᓯᒪᓂᖅ, ᐊᒻᒪᓗ ᐃᓅᖅᑎᒌᒃᑐᑦ-ᕿᓄᐅᔭᓕᐅᖃᑦᑕᕐᓂᖏᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ. TMAC-ᑯᑦ ᐅᐸᐱᕆᔾᖃᖅᑐᑦ ᐱᓕᕆᐊᕐᕋᒧᑦ ᑕᑯᑎᑕᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓂᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᖓᓕᖅᑐᒃᑯᑦ EIS-ᑯᓐᓂᑦ ᖃᐅᔨᓴᖅᓂᒃᑯᑦ ᐊᒥᓱᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓕᖅᑯᔭᐅᔪᒃᑯᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓂᒃ ᓂᐅᒪᓐᑦ (Newmont) ᑎᓯᐱᕆ 2011-ᖑᑎᓪᓗᒍ.

ᕿᓇᐅᔭᓕᐅᖅ ᓂᕆᔭᐅᕙᒃᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅᒧᑦ ᐊᕙᑎᖓ

<u>ᐃᖅᑲᓇᐃᔮᕐᕆᒧᑦ ᐱᕙᓪᓕᐊᔪᑦ</u>

ᑕᒪᒃᑭᒎᑦ ᐊᒥᓲᓂᖏᑦ ᐊᐅᓚᓂᖅᒧᑦᐅ-ᐅᔾᕋᖕᓂᐊᖅᕝᕕᐅᐸ, ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕆᖅ ᐊᐅᓚᓂᐊᖅᑐᑦ ᐃᒪᖅᑲ 10470-ᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑎ ᐊᖅᕿᒎᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᕐᕆᒧᑦ ᑲᓇᑕᒥ. ᐃᓚᒋᓗᒋᑦ 2,307-ᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑎ ᐊᖅᕿᒎᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᕐᕆᓂᒃ ᐃᓚᒋᔭᖃᖅᑐᓂᒃ ᓴᓇᓂᖅᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ (6,685 ᐃᖅᑲᓇᐃᔭᖅᑎ ᐊᖅᕿᒎᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᕐᕆᓂᒃ ᑲᑎᓪᓗᒋᑦ [ᖃᓂᒋᔭᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᑦ, ᖃᓂᙵᒋᑦᑐᓂᒃ ᑲᒪᒋᔭᐅᔪᑦ ᐊᒻᒪᓗ ᓄᐃᕙᓪᓕᐊᔪᓂᒃ] ᐃᖅᑲᓇᐃᔭᕐᕆᐃᑦ), ᐊᒻᒪᓗ

8,162 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᖃᓂᒋᔭᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ (27, 245 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᑲᑎᓪᓗᒋᑦ) ᐃᓚᒋᔭᐅᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᐊᐅᓚᔪᓂᒃ. ᐃᖅᑲᓇᐃᔭᕐᓃᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᔪᒃᑯᑦ 411-ᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᐊᔾᔨᒌᓐᓂᒃᑯᑦ ᐅᑭᐅᖓ 1-ᒥ, ᐊᖏᓪᓕᕙᓪᓕᐊᓗᓂ 808-ᓂᒃ ᐅᑭᐅᖓ ᐱᖓᓱᐊᓂ, ᒥᑭᓪᓕᕙᓪᓕᐊᓗᓂ ᒪᓕᓐᓂᖓᒍᑦ ᒪᕐᕉᓐᓂᒃ ᐅᑭᐅᖓᓂ, ᐊᒻᒪᓗ ᐊᐅᓚᓕᓂᒫᓂᖓᒍᑦ ᐃᓚᖓᓄᑦ, ᐊᑯᓐᓂᖓᓂ 824-865 ᐃᖅᑲᓇᐃᔮᕐᕕᐅᔪᓂᒃ.

ᓄᓇᕗᒻᒥ, 346 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᖃᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐊᒻᒪ 960-ᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᖃᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᕐᒃᓂᖅ ᐊᐅᓚᑎᓪᓗᒍ. ᖃᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᓗᒃᑖᑦ ᐃᑲᔫᑎᑦ ᓄᓇᕗᒻᒥ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐃᓕᑕᕆᔭᐅᓗᑎᒃ ᕿᑎᕐᒥᐅᓄᑦ ᐊᐅᓚᑎᓪᓗᒋᑦ, ᐊᒻᒪᓗ ᐊᖏᔪᒃᑯᑦ (90 ᐳᓴᓂᒃ) ᓄᓇᕗᒻᒥ ᐃᖅᑲᓇᐃᔮᒧᑦ ᐃᑲᔫᑎᓂᒃ ᓴᓇᑎᓪᓗᒋᑦ ᐃᓱᒪᒋᔭᐅᕐᑲᑕᐅᔪᑦ ᕿᑎᕐᒥᐅᑕᐅᓗᑎᒃ. ᓇᓗᓇᐃᒃᑯᑕᖅ 1 ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᕕᒋᔭᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓱᑦ.

ᓴᖅᑭᑕᐅᓯᒪᔪᑦ 1. ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᖓᑦ

	ᓴᓇᓂᕐᒧᑦ (ᐅᑭᐅᖓ 1 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 4)			ᐊᐅᓚᓂᖓ (ᐅᑭᐅᖓ 5 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 14)		
ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐃᑲᔫᑏᑦ	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ
ᑲᑎᓪᓗᒋᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ (ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ)[1]	6,685	473	358	27,245	1,740	1,419
• ᖃᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ (ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ)	2,307	346	312	8,162	960 (ᕿᑎᕐᒥᐅᓕᒫᒥ)	
GDP ($ ᒥᓕᐊᓐ)	$727.4	$58.1	$40.0	$3,073.7	$229.8	$190.4
ᑖᒃᓲᔭᕐᓂᖅ ($ ᒥᓕᐊᓐ)	$143.9	$10.1	$6.7	$528.4	$30.8	$24.1
• ᒐᕙᒪᕐᔪᐊᒃᑯᑦ	$81.2	$6.5	$4.5	$286.4	$18.6	$9.3
• ᓄᓇᓖᑦ/ᓄᓇᒋᔭᐅᔪᑦ	$62.7	$3.6	$2.2	$242.1	$12.2	$14.8
ᐃᖅᑲᓇᐃᔮᒧᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ ($ᒥᓕᐊᓐ)[2]	$526.6	$50.3	$36.2	$2,236.7	$192.1	$170.5
• ᖃᓂᑦᑐᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ	$287.1	$42.8	$34.3	$1,248.2	$147.1 (ᕿᑎᕐᒥᐅᓕᒫᒥ)	

ᓇᓗᓇᐃᒃᑯᑕᖅ: (1) "ᑲᑎᓪᓗᒋᑦ ᐃᖅᑲᓇᐃᔭᔅᓴᐃᑦ" ᓇᓚᐅᑦᑖᕐᓂᒋᔭᐅᔪᒃᑯᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᖃᓂᑦᑐᓂᒃ, ᖃᓂᒡᒋᑦᑐᓂᒃ, ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᔅᓱᑦ ᓯᕗᓂᒧᑦ (2) ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐃᑲᔫᑎᓂᒃ ᐱᕐᑕᐅᓪᓗᑎᒃ ᖃᓂᑦᑐᒃᑯᑦ, ᖃᓂᒡᒋᑦᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓄᑦ ᐃᓱᐊᓈᕐᕕᔅᓄᑦ.

ᓇᓗᓇᐃᒃᑯᑕᖅ: ERM, 2016. Hᐆᑉ ᖃᖏᖅᓱᐊ ᐱᓕᕆᐊᔅᓴᖅ: ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᖓᑦ ᖃᓄᐃᑦᑑᓂᖓ ᐅᓂᒃᑳᓕᐊᕐ. (Hope Bay Project: Economic Impact Model Report)

ᓄᓇᒋᔭᐅᔪᒥ ᐃᖅᑲᓇᐃᔮᔅᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᓇᓱᐊᕐᓂᕐᒧᑦ

TMAC-ᑯᑦ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ ᐃᓱᒪᒋᔭᕐᑲᖅᑐᑦ 15% ᐳᓴᓂᒃ ᓴᓇᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐅᔪᓂᒃ ᐊᒻᒪᓗ 30% ᐳᓴᓂᒃ ᐊᐅᓚᓂᖓᓄᑦ ᐱᓕᕆᐊᔅᓴᓂᒃ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ. ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᖏᑦ ᑐᕌᖓᓂᐊᖅᑐᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᓂᕐᒧᑦ ᕿᑎᕐᒥᐅᑕᓂᒃ ᓄᓇᖃᖅᑐᓂᒃ, ᐃᖃᓗᑦᑑᑦᑎᐊᖅ, ᖁᕐᓗᖅᑑᖅ, ᐅᖅᓱᖅᑑᖅ, ᑕᓗᕐᔪᐊᖅ ᐊᒻᒪᓗ ᑰᒑᕐᔪᖕᒥᑦ. ᒪᓕᓪᓗᒍ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ (IIBA) (ᒪᔾ 2015), ᖁᑦᑎᓐᓂᖅᐹᖅ ᓯᕗᓪᓕᐅᔭᕆᐊᓕᒃ ᐃᖅᑲᓇᐃᔮᔅᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᐃᓄᖕᓂᒃ ᕿᑎᕐᒥᐅᑕᓂᒃ.

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓗᒍ ᐊᖏᖃᑎᒋᓐᓂᒃᑯᑦ ᐱᓕᕆᓕᕐᔪᕐᓂᒃᑯᑦ ᐃᓯᐊᓈᖅᕕᔅᓴᒃᑯᑦ ᖃᑎᖅᒥᐅᑲᓄᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ. ᓇᓗᓇᐃᖅᓯᒪᔪᒃᑯᑦ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ, ᖃᑎᖅᒥᐅᑕᐃᑦ ᐊᔪᙱᓐᓂᖓᓄᑦ ᓇᒻᒥᓂᖃᖅᑐᑦ, ᑕᐃᒪᓐᓗᐊᑎᒍᑦ ᐊᖏᖃᑎᒋᖕᓂᒃᑯᑦ ᐱᓕᕆᕐᔪᕐᓂᒃᑯᑦ ᑐᖄᖓᔪᑦ ᐱᖁᑎᓂᒃ ᐊᒻᒪᓗ ᐱᔨᑦᑎᖁᐅᑎᓂᒃ ᑐᓂᔾᔪᐃᓯᒫᖒᑦᑐᓂᒃ ᖃᑎᖅᒥᐅᑕᓂᒃ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ. TMAC-ᑯᑦ ᐃᓚᒋᔭᖃᖅᑐᑎᒃ ᖃᑎᖅᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐃᑲᔪᖅᑎᒌᒃᑐᓂᒃ, ᐱᓕᕆᖃᑎᖃᓂᐊᖅᑐᑦ ᓵᖅᑭᑦᑎᓗᑎᒃ ᑐᓂᔭᐅᓂᒃᑯᑦ ᖁᕝᕙᔭᒃᑯᑦ ᓈᒻᒪᒋᔭᐅᔪᒃᑯᑦ ᐋᖅᑮᓯᓂᖅ ᐃᓕᓴᐃᓂᖏᑦ ᐃᓕᓐᓂᐊᕈᑎᔅᓴᓂᒃ ᐃᓄᖕᓄᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᓂᑦ ᐊᐅᓚᑦᑎᔾᔨᖕᒋᓐᓂᑦ. ᑕᐃᒪᐅᑎᓪᓗᒍ, TMAC-ᑯᑦ ᐅᐸᑲᔭᖅᑕᖅᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐃᑲᔪᖅᓂᐊᖅᑐᖅ ᐱᔪᓐᓇᖅᓂᖅ ᖃᓄᑐᐃᓐᓇᖅ ᓴᓇᕝᕕᓂᒃ ᖃᑎᖅᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐃᑲᔪᖅᕕᐅᓗᑎᒃ ᐊᖏᕙᓪᓕᐊᓂᖅᒧᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐃᓯᐊᓈᖅᕕᔅᓴᒃᑯᑦ ᓯᕗᓂᔅᓴᒧᑦ ᓄᓇᕗᒻᒥᐅᑕᓄᑦ.

ᐱᓕᕆᐊᔅᓴᓄᑦ ᓯᓂᒃᑕᖅᕖᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕈᑏᑦ

ᐃᓯᒪᒋᔭᐅᔪᑦ ᑲᑎᓪᓗᒋᑦ Hᐆᑉ ᑲᖏᖅᓱᐊᓂ ᐱᓕᕆᐊᔅᓴᖅ (ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅ ᐃᖅᑲᓇᐃᔭᖅᑎᖏᑦ) ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓂᐊᖅᑐᖅ 600-ᓂᒃ ᐃᓄᖕᓂᒃ. ᑐᐊᓇᔅ ᓯᓂᒃᑕᕝᕕᖓ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐃᓄᒃᑭᓐᓇᖅᑐᒥᒃ 400-ᓂᒃ ᐊᒻᒪᓗ 200-ᓂᒃ ᐃᓄᒃᑭᓐᓇᖅᑐᓂᒃ ᓯᓂᒃᑕᕝᕕᒻᒥ ᓴᓇᔭᐅᑎᓪᓗᒍ ᐹᔅᑕᓐᒥ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐱᓕᕆᔪᑦ ᒪᑦᓇᑦ ᓇᔪᕝᕕᐊᓂ ᓯᓂᒃᑕᖅᑕᑦᑕᕐᓂᐊᖅᑐᑦ ᑐᐊᓇᔅᒥ.

ᐱᓕᕆᐊᔅᓴᖅ ᑎᒻᒥᓲᖅᑲᖅᑲᑦᑕᕐᓂᐊᖅᑐᖅ ᑎᑭᑦᑐᒃᑯᑦ ᐊᐅᓪᓚᖅᑐᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ. ᑐᐊᕝᕙᖅᑐᒃᑯᑦ ᑎᒻᒥᓲᑦ ᐃᑦᒥᓐᑕᓐ (Edmonton) ᐊᒻᒪᓗ ᔭᓗᓇᐃᕝ (Yellowknife) ᐊᒻᒪᓗ ᓇᔪᕝᕕᐅᔪᒧᑦ ᐊᐅᓚᓂᐊᖅᑐᑦ ᑎᓴᒪᐃᖅᑕᕐᓗᑎᒃ ᐱᓇᓱᐊᕈᓯᒦᒥ, ᐊᒻᒪᓗ ᐊᐅᓪᓚᐃᕙᓪᓗᑎᒃ ᑎᑭᑎᑦᑎᕙᓪᓗᑎᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᓂᒃ ᓄᓇᕗᒻᒥᐅᑕᐅᙱᑦᑐᓂᒃ. ᓄᓇᕗᒻᒥᐅᑕᓂᒃ ᐊᖕᔭᖅᑕᐅᕙᖕᓂᐊᖅᑐᑦ ᓄᓇᓕᓂᙶᖅᑐᓂᒃ ᐃᕐᑲᓗᑦᑑᑦᑎᐊᒃᑯᑦ ᓇᔪᕐᕕᓪᓗᑦ. ᐃᖅᑲᓇᐃᔭᖅᑐᓕᒫᑦ ᐊᐅᓚᓂᐊᖅᑐᑦ ᐱᖓᓱᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ ᓄᖅᑲᖓᑲᓚᐅᕐᓂᖓᓗᑦ ᒪᓕᓪᓗᑎᒃ.

ᐱᓕᕆᐊᒃ ᓴᒧᑦ ᓴᓇᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᑦ

ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ

ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ (ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ) ᓇᔪᕝᕕᐅᔪᑦ ᓴᓇᓯᒪᓂᖏᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᓯᖏᓐᓄᑦ ᐊᐅᓚᓂᕐᒧᑦ/ᕿᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᓄᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓯᓐᓇᓇᐊᓕᒃ ᐃᑲᔪᕐᓂᒃᑯᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᓴᓇᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓚᒋᔭᖃᖅᑐᓂᒃ ᐅᑯᓂᖓ: ᑐᐊᓇᔅ ᓇᔪᕝᕙᐊ ᓯᓂᒃᑕᕝᕕᖓᓄᑦ ᐊᖏᓂᖓ 280-ᓂᒃ ᐃᓄᒃᑭᓐᓇᖅᑐᒥᒃ; ᑐᐊᓇᔅ ᒥᑦᑕᕝᕕᖓ; ᕘᑉ ᑲᖏᖅᓱᐊ ᐊᕐᔭᕝᕕᐅᕐᑲᑦᑕᖅᑐᓂᒃ ᐃᓪᓗᕐᔪᐊᖓᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᖓ ᑐᐊᓇᔅᒧᑦ; ᐊᒻᒪᓗ ᒪᑦᓇᑦ ᓯᕿᓐᓂᖓᑦᑕ ᓇᔪᕝᕕᖏᑦ ᐊᒻᒪᓗ ᐊᖅᑯᑎᐅᔪᓐᓇᖅᑐᓂᒃ; ᐊᒻᒪᓗ ᓯᓂᒃᑕᕝᕕᒃ ᐊᒻᒪᓗ ᒥᑦᑕᕝᕙ ᐹᔅᑕᓐᒥ.

ᓄᑖᖅ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᖏᑦ ᐊᐅᓚᔪᓇᖅᓂᕐᒧᑦ

ᖃᓂᓐᓂᖓᓄᑦ ᒪᑦᓇᑦ ᐊᕙᑎᖓ ᑐᐊᓇᔅ ᓇᔪᕝᕕᖓᓄᑦ, ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ ᓴᓇᕝᕕᖓ, ᐊᒻᒪᓗ TIA-ᑯᑦ ᑐᓂᔾᔫᑦ ᐃᓯᐊᓈᖅᕕᔅᓴᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ ᑕᐃᒪᐅᔪᓂᒃ ᐊᑐᖅᐸᒃᑕᖏᓐᓂᒃ ᐊᐅᓚᔪᓇᐅᑎᓂᒃ ᑐᐊᓇᔅᒥ, ᑕᐃᒫᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑭᓕᐅᑎᓂᒃ ᐊᑐᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᓯᕝᕕᐅᔪᓇᖅᓂᖓᓄᑦ. ᓇᓗᓇᐃᒃᑯᑕ 2 ᓇᓗᓇᐃᖅᓯᒪᔪᖅ ᐸᖅᓇᐅᑎᓄᑦ ᓄᑖᒥᒃ ᓴᓇᓂᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᔪᒧᑦ ᐃᓚᖓ 2-ᒧᑦ.

ᐊᑕᖅᓯᔪᒃᑯᑦ ᓴᐅᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᔭᖅᑲᒃᑕᖅᕖᑦ ᓇᔪᕝᕕᖏᑦ

ᐱᕙᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓯᒪᔪᑦ ᑲᔪᓯᑎᐊᕐᓂᖓᓄᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᓴᓇᕝᕖᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᑦ ᐱᖅᑲᓇᐊᖅᑲᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ ᐅᔭᖅᑲᒃᑕᖅᕕᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐊᑐᐃᓐᓇᐅᔭᔅᓴᓄᑦ ᐱᓕᕆᐊᔅᓴᖅ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᖅ ᐊᔪᖃᙱᓐᓂᖓᓄᑦ ᐅᔭᖅᑲᖕᓂᐊᖅᕙᖕᓂᒃ ᐊᒻᒪᓗ ᐅᔭᖅᑲᖕᓂᐊᖅᕙᖕᓂᖅ ᓴᖅᐳᑎᓂᒃ ᓄᓇᒧᑦ ᐊᑦᑕᖅᓇᖅᑕᐃᓕᒪᒧᑦ. 5 MT ᐊᖏᓂᖓᓂᒃ ᐅᔭᖅᑲᖕᓂᐊᖅᕙᐅᑉ ᓴᖅᐳᑎᖏᓂᒃ ᐊᑐᖅᑕᐅᔭᓇᐊᖅᑲᖅᑐᑦ ᐃᓚᖓ 2-ᒥ ᓴᓇᑎᓪᓗᒋᑦ.

ᓇᓗᓇᐃᒃᑯᑕᖅ 2. ᓄᕐᑦ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕆᓪᓕᐊᔪᑦ ᓴᓇᓯᒪᔪᓂᒃ

ᓇᒦᓐᓂᖓ	ᓴᓇᓂᖅ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᓪᓕᕆᓪᓕᐊᔪᓂᒃ ᐱᕆᓪᓕᐊᔪᑦ
ᕌᐳᑦ ᑲᖏᖅᓯᐊ	• ᓴᓇᓂᖅ ᐊᔾᔭᖅᑐᐃᓂᕐᒧᑦ ᐱᕐᑯᑎᓂᒃ ᑐᓚᕝᕕᖓᓂ ᕌᐳᑦ ᑲᖏᖅᓯᐊᓂ. • ᓴᓇᓂᖅ 10 ML ᐊᖏᓂᕐᑲᖅᑐᒥᒃ ᐅᖅᓴᖅᑕᕐᕕᒻᒥᒃ (ᒪᕐᕈᓘᑎᒃ ML5 ᐅᖅᓴᕐᕖᒃ) • ᐊᖏᓪᓕᕆᓪᓕᐊᓂᖅ ᐱᔮᑎᕋᐅᑎᓂᒃ/ᐊᖅᑯᑕᕐᑲᕐᓂᖅ ᐊᔾᔭᕐᕕᐅᔪᒧᑦ ᑐᓚᕝᕕᒻᒧᑦ.
ᑐᐊᕋᓴ ᓇᔪᕐᕕᖓ	• ᐊᖏᓪᓕᕆᓪᓕᐊᓂᖅ ᓯᓂᒃᑕᕐᕕᓂᒃ. • ᐊᖏᓪᓕᕆᓪᓕᐊᓂᖅ ᑐᐊᕋᓴ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓯᑉᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᕐᕕᐊᓂᒃ (TIA), ᐱᕚᓪᓕᕐᓗᒍ ᓯᕿᓐᓂᐊᑕ ᐊᒻᒪᓗ ᐱᖓᓐᓇᐅᑉ ᓴᓇᕝᕕᐅᑉ ᑰᕝᕕᖓ.
ᒪᑦᓇᑦ ᑐᓄᕕᐊ	• ᐱᐊᓂᒋᐊᓗᒍ ᒪᑦᓇᑦ ᑐᓄᕕᐊ ᓄᓇᐅᑉ ᐊᑖᓂ ᐱᓕᕆᐊᕆᔭᐅᔪᑦ. • ᐊᖏᓪᓕᕆᓪᓕᐊᓗᒍ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᖏᓐᓂᒃ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᓯᓂᒃᑕᕐᕕᑕᕐᑲᕐᓗᓂ ᐱᕆᓪᓕᐊᔪᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒥ, ᐃᓚᒋᓗᒍ ᐊᑐᖅᑕᐅᕆᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᓕᕆᓂᕐᒧᑦ ᓴᓇᕝᕕᐊᓂᒃ, ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᒃ, ᐃᓚᑕᐅᕆᓪᓕᐊᔪᓂᒃ ᓇᔪᕐᕕᖓᓂᒃ, ᐊᒻᒪᓗ ᑐᖅᑯᕐᕕᐅᕙᒃᑐᓂᒃ ᓇᔪᕐᕕᖓᓂᒃ. • ᓴᓇᓂᕐᒧᑦ 1,200 tbd ᐱᕆᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕕᒻᒥᒃ ᐊᒻᒪᓗ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᖓᓂᒃ ᒪᑦᓇ ᑐᓄᕕᐊᓂ. • ᓴᓇᓂᕐᒧᑦ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᕐᑲᕐᓂᑦ ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓯᑉᓴᐃᑦ ᐊᑐᖏᑦᑐᓂᒃ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᑐᐊᕋᓴ ᓯᕿᓐᓂᐊᓄᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓯᑉᓴᐃᑦ ᐊᑐᖏᓐᓂᖓᓄᑦ. • ᓴᓇᓂᖅ ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎᒥᒃ ᓴᓇᕝᕕᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ ᐱᕐᑯᔭᐅᓯᒪᔫᒃᑯᑦ ᐃᑲᔪᖅᑐᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᒥ ᐱᕆᓪᓕᐊᔪᓂᒃ. • ᓴᓇᓂᖅ ᐊᓯᖏᓐᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᓇᐊᕐᑲᖅᑐᓂᒃ ᐃᑲᔪᕐᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐊᒻᒪᓗ ᐊᔭᕋᖕᓂᓇᔭᐅᔪᓂᒃ ᐱᕆᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᕐᒥ, ᐃᓚᒋᓗᒍ ᐅᖅᓴᖅᑕᕐᕕᒃ, ᐅᔭᕋᐅᔭᒧᑦ ᐃᓕᕝᕕᒃᓴᒥᒃ, ᐅᔭᕋᐅᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᒃᓴᖓᓂᒃ ᐊᒻᒪᓗ ᐃᒪᒃᑯᑦ ᐅᑎᖅᑎᑕᐅᕝᕕᔅᓴᒥᒃ ᑕᓯᕐᒧᑦ. • ᓴᓇᓂᖅ ᐊᓯᖏᓐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐱᔪᓐᓇᐅᓂᖓᓄᑦ ᒪᓕᓪᓗᒍ ᐃᑲᔫᑎᔅᓴᓂᒃ ᑲᔪᓯᓂᕐᒧᑦ ᕿᓂᕐᓂᕐᒧᑦ ᐱᕆᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᕐᒥ ᐊᒻᒪᓗ ᐹᔅᑕᓐᒥ. • ᐱᕆᓪᓕᐊᓂᕐᒧᑦ ᓴᖅᓵᖅᑕᐅᕆᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓇᖑᕈᑎᔅᓴᒧᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᒥ
Madrid South	• ᐱᓂᐊᓂᖕᓂᕐᒧᑦ ᒪᑦᓇᑦ ᓯᕿᓐᓂᐊᑕ ᐊᑖᓂ ᐱᓕᕆᕝᕕᐅᔪᓂᒃ. • ᐊᖏᓪᓕᕆᓪᓕᐊᓂᕐᒧᑦ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᒪᑦᓇᑦ ᓯᕿᓐᓂᐊᓂ ᐱᕆᓪᓕᐊᔫᓐᓇᕐᓗᓂ ᐊᑐᖅᑕᐅᕆᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᓂᕐᒧᑦ ᐅᔭᕋᖕᓂᐊᕐᓂᖅ. • ᓴᓇᓂᖅ ᑕᒪᒃᑭᓐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔭᕆᐊᕐᑲᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᒧᑦ ᐱᕆᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᑦ ᓯᕿᓐᓂᐊᓂ ᐃᓚᒋᓗᒍ ᐅᖅᓴᖅᑕᕐᕕᒃ, ᐅᔭᕋᐅᔭᓄᑦ ᐃᓕᕝᕕᖓᓂᒃ, ᐅᔭᕋᐅᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᖓᓂᒃ ᐊᒻᒪᓗ ᑰᕝᕕᒥᒃ ᑕᓯᕐᒥᑦ. • ᐱᕆᓪᓕᐊᓂᖅ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᓴᓇᕝᕕᐅᔪᓄᑦ ᐊᒻᒪᓗ ᐃᓇᖏᖅᑕᐅᓂᐊᖅᑐᒧᑦ ᐃᓕᕝᕕᒥᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᒥ.
ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ	• ᓴᓇᓂᖅ ᒪᑦᓇᑦ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᖓᓂᒃ ᑲᔪᓯᔪᒧᑦ ᒪᑦᓇᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖏᓐᓄᑦ, ᐃᓚᒋᓗᒍ ᑰᕝᕕᐅᔪᒃᑯᑦ ᐊᖅᑯᑎᐅᔪᒃᑯᑦ. • ᐱᕆᓪᓕᐊᓂᖅ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᓴᓇᓂᕐᒧᑦ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᐅᔪᒥᒃ.
ᐹᔅᑕᓐ	• ᓴᓇᓂᖅ ᐅᑭᐅᒧᑦ ᐊᑐᖅᑕᐅᔾᔪᓇᖅᑐᒥᒃ ᒥᑦᑕᕐᕕᒻᒥᒃ ᐹᔅᑕᓐᒥ. • ᓴᓇᓂᖅ ᓯᓇᓗᒃᑖᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔾᔪᓇᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒧᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᕆᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᓂᖅ ᐱᕆᓪᓕᐊᓂᕐᒧᑦ ᐹᔅᑕᓐᒥ ᐃᓚᒋᓗᒍ ᓴᓇᓂᖅ ᓄᑖᒥᒃ ᓯᓂᒃᑕᕐᕕᒻᒥᒃ (200-ᓂᒃ ᐃᓪᓕᕐᑲᕐᓗᓂ) ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ (ᐊᓇᖅᑕᕐᕕᖕᒧᑦ ᓴᓗᒪᖅᓴᐅᑎ, ᐃᑯᐊᓪᓚᕝᕕᒃᓴᒥᒃ, ᐃᒪᕐᑲᐅᑎᕐᑲᕐᓂᖅ), ᐅᔭᕋᐅᔭᓄᑦ ᐃᓚᕝᕕᖓᓂᒃ, ᐅᔭᕋᐅᙱᑦᑐᓂᒃ ᐃᓚᕝᕕᖓᓂᒃ, ᐃᒪᓚᐅᕈᓐᓇᐅᑎᒥᒃ, ᐊᒻᒪᓗ ᐊᒻᒪᓗ ᐸᓂᕝᕖᒃᓴᓂᒃ ᐊᐅᓚᔪᓐᓇᐅᑎᓂᒃ ᓇᔪᕐᕕᓂᒃ (TMA), ᐃᓚᕝᕕᐅᔪᔅᓴᓂᒃ ᓇᔪᕐᕕᖓᓂᒃ, ᑲᔪᓯᓐᓇᕐᑎᐊᕈᑎᒥᒃ ᓴᓇᕝᕕᓂᒃ, ᑰᕝᕕᐅᔪᓂᒃ ᑕᓯᕐᓂᒃ. • ᓴᓇᓂᖅ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂ ᐊᑐᖅᑕᐅᕆᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᓕᕆᓂᒃᒧᑦ ᓴᓇᕝᕕᖓᓂᒃ. • ᓴᓇᓂᖅ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᒃ ᐊᒻᒪᓗ ᐅᖅᓴᖅᑕᕐᕕᐅᑉ ᓴᓇᕝᕕᖓᓂᒃ. • ᓴᓇᓂᖅ ᐃᒪᓂᒃ ᐊᑐᙱᑦᑐᓂᒃ ᓴᓗᒪᖅᓴᕐᕕᖓᓂᒃ ᓴᓇᕝᕕᒻᒥᒃ ᐃᓚᒋᓗᒍ ᐃᒋᑕᐅᓂᐊᖅᑐᓂᒃ ᐃᓚᕝᕕᖓᓂᒃ ᐊᐃᒪᐅᑲᑖᐸ ᑕᓯᖓᓂ. • ᐊᓯᖏᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔾᔪᓇᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᐅᓚᔪᒃᑯᑦ ᕿᓂᕐᓂᕐᒥᒃ ᐱᕆᓪᓕᐊᔪᓂᒃ ᐹᔅᑕᓐᒥ.

ᐊᒡᔭᖅᑐᐃᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓪᓚᑭᑎᑦ

ᕿᐳᑦ ᐃᑭᕋᓵᖓᓂ ᐊᒡᔭᕐᕕᐅᑦᑕᕐᓂᐊᖅᑐᖅ ᐅᖅᓱᒥᒃ, ᐱᕐᑯᑎᓂᒃ ᐊᒻᒪᓗ ᓴᓇᕐᕿᑎᓂᒃ ᐊᑐᖅᑕᐅᔭᕆᐊᖅᑲᖅᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᓵᖓᓂ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓚᓕᐅᑎᙱᓪᓗᒍ ᖃᖓᓂᖓᒍᑦ ᐊᒻᒪᓗ ᖃᖓᒃᑯᑦ ᐱᕐᑯᑎᓂᒃ ᑎᒻᒥᓲᒃᑰᕐᓂᒃᑯᑦ. ᐊᐅᓚᑎᓪᓗᒍ ᐃᓚᒋᔭᐅᔪᑦ, TMAC-ᑯᑦ ᓂᕈᐅᒃᑐᑦ ᐅᖅᓵᖅᑕᐅᖃᑦᑕᕐᓗᑎᒃ ᐱᖓᓱᐃᕐᓗᓂ ᐊᒡᔭᕕᐅᓗᑎᒃ, ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᑎᓴᒪᓄᑦ ᐊᒡᔭᖅᑐᐃᓂᖅ ᐱᕐᑯᑎᓂᒃ (ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᓴᓇᕐᕿᑎᓂᒃ, ᐱᕐᑯᑎᔅᓴᓄᑦ, ᓂᕿᓂᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕈᑎᓂᒃ) ᐊᐅᒪᑎᓪᓗᒍ ᓯᑯ ᐅᑭᐅᖓᓂ.

ᐃᓚᖓ 2 ᐊᑐᕐᓂᐊᖅᑐᖅ ᐱᓕᕆᐊᓵᓂᒃ ᓇᔪᕕᐅᔪᒥᒃ ᐊᖅᑯᑎᐅᔫᒃᑯᑦ. ᓇᑭᕐᓂᖓ ᑭᒡᓕᖅᑲᕐᓂᐊᖅᑐᑦ ᐊᑐᕐᑯᔭᐅᓗᑎᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᔅᔪᑎᖅᑲᖅᑐᓂᒃ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐊᒡᔭᖅᑕᐅᕙᖓᓂᐊᖅᑐᑦ ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑎᒻᒥᓅᒃᑯᑦ ᐃᑦᒪᓐᑕᓐᒥ (Edmonton), ᔭᓗᓇᐃᒥᑦ (Yellowknife), ᐅᑯᕗᓘᓐᓃᑦ ᕿᑎᕐᒥᐅᑕᓂᑦ ᓄᓇᖏᓐᓂᑦ. ᑎᒻᒥᓅᒃᑯᑦ ᐊᒡᔭᖅᑐᐃᓂᖅ ᐱᔾᔨᑎᕋᐅᑎ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᓂᐊᓄᑦ ᐊᐅᓪᓚᑭᕐᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᐱᕐᑯᑎᓂᒃ ᐊᒡᔭᐃᖃᑦᑕᕐᓂᕐᒧᑦ. ᓄᑖᒥᒃ 2,000 ᒥᑕᓂᒃ ᒥᑦᑕᕕᓕᐅᕐᓂᐊᖅᑐᑦ ᐋᔅᑕᓐ ᓇᔪᕕᖓᓂ. ᒥᑦᑕᕕᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐆᑦᑑᑎᒋᓗᒍ Dash-8 ᐊᒻᒪᓗ Boeing 737-200 ᑎᒻᒥᓲᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᖅ ᐊᖏᓂᖅᓴᓄᑦ ᑎᒻᒥᓲᓂᒃ Hercules C-130 ᑎᒻᒥᓲᖓᓂᒃ. ᑕᐃᒪᐅᔪᑦ ᐅᑭᐅᒧᑦ ᒥᑦᑕᕕᐅᔪᓂᒃ (ᐊᒻᒪᓗ ᓯᑯᒃᑯᑦ ᒥᑦᑕᕕᒃ) ᑐᐊᕆᔅ ᓇᔪᕕᐊᓂ.

ᒪᕐᕉᑦ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ

ᒪᕐᕉ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ (AWR) ᓄᑖᖑᓂᐊᖅᑐᖅ ᓴᓇᕗᒃ ᓴᓇᔭᐅᓂᐊᖅᑐᖅ ᐃᓚᖓ 2 ᐱᓕᕆᔅᓴᖓᓄᑦ. ᐊᖅᑯᑎ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐊᑕᐅᓯᒃᑯᑦ ᓄᓇᓯᐅᑎᖅᑲᕈᓐᓇᖅᑐᒥᒃ ᐊᖅᑯᑎ ᐃᓂᖅᑲᕐᓗᓂ ᐃᑳᕈᒪᔪᓄᑦ. ᐊᖏᔪᑦ ᓄᓇᓯᐅᕌᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓴᓇᓗᓂ ᐊᒻᒪᓗ ᐊᐅᓪᓚᑭᕐᓗᑎᒃ ᐊᖅᑯᑎᒃᑯᑎᑦ ᐊᒡᔭᖅᑐᐃᓗᓂ ᐅᔭᕋᔭᓂᒃ ᐊᒻᒪᓗ ᐃᒪᙱᖅᑎᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᐊᐅᓚᑎᓪᓗᒋᑦ ᐃᓚᖓᓂ.

ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐊᑐᕐᓂᖏᑦ

ᑐᐊᕆᔅ, ᒪᕐᕉᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐃᓕᖁᕕᖏᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᓄᓇ ᕿᕿᓯᒪᑎᓪᓗᒍ ᐊᒻᒪᓗ ᕿᕿᓯᒪᙱᑎᓪᓗᒍ ᓄᓇ. ᑕᐃᒪᓂᖓᒍᑦ, ᒪᕐᕉᑦ ᐃᓕᖁᕕᖓ ᐃᓕᔭᐅᕙᒃᑐᑦ ᑕᓯᐅᑉ ᐊᑖᓄᑦ, ᑕᐃᒫᒃ ᕿᕿᓯᒪᙱᑦᑑᑦᑐᑦ, ᓇᒥ ᐹᔅᑕᓐ ᐃᓕᖁᕕᖓᑦ ᕿᕿᓯᒪᓃᑦᑐᑦ. ᐃᓕᖁᕖᑦ ᐃᑳᖅᑕᐅᕙᖕᓂᐊᖅᑐᑦ ᐊᖅᑯᑕᐅᙱᑦᑑᒃᑯᑦ ᓄᓇᒃᑯᑦ, ᐊᒻᒪᓗ ᐊᖅᑯᑕᐅᙱᑦᑐᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᒡᔭᖅᑐᐃᓂᕐᒧᑦ ᐅᔭᕋᐅᔭᓂᒃ ᐊᒻᒪᓗ ᐊᑦᑕᑯᓂᒃ ᓄᓇᐅᑉ ᐊᑖᓂᑦ. ᓄᓇᐅᑉ ᐊᑖᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒥ ᐱᕙᓪᓕᐊᔪᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐊᒥᓯᒃᓪᓚᓂᒃ ᐊᔾᔨᒋᙱᑦᑐᓂᒃ ᐊᑐᐃᓐᓇᐅᕐᑯᓪᓗᒍ ᓄᓇᓕᕆᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᕐᑯᔭᐅᔪᒃᑯᑦ ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᖓᓄᑦ ᐃᓕᖁᕕᐅᕙᒃᑐᓄᑦ.

ᐊᑐᖅᑕᐅᙱᑦᑐᑦ ᐅᔭᕋᐃᑦ ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓯᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ

ᐊᑐᖅᑕᐅᔪᑦ ᐅᔭᕋᖕᓂᐊᕐᓂᕐᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᓂᒃ ᐅᔭᕋᐅᔭᓂᒃ ᐊᒡᔭᖅᑕᐅᔪᑦ ᓄᓇᒧᑦ,ᑕᐃᒫᒃ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᔪᕐᓇᙱᒃᑲᓕᓗᐊᕐᓂᖓᓄᑦ ᐃᒪᖅᑲᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓄᓇᒧᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓯᖅᑯᕐᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐅᖅᓯᒧᑦ ᐊᑐᖅᑕᐅᕐᑯᔭᐅᔪᓂᒃ ᐊᒡᔭᖅᑐᐃᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᒡᒥᑦ. ᐊᑐᙱᑦᑐᑦ ᐅᔭᕋᐅᔭᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕐᓂᕐᒧᑦ ᒪᑐᔭᐅᖅᑳᖅᑎᓐᓇᒍ. ᐃᒻᒥᒃᑰᖓᔪᒃᑯᑦ ᐅᔭᕋᖕᓂᐊᕐᕖᑦ ᓇᔪᕐᕕᖏᑦ ᐃᓚᒋᔭᖅᑲᖅᑐᑦ ᐊᑐᙱᑦᑐᓂᒃ ᐅᔭᕋᐅᔭᓂᒃ ᐃᓕᖁᕕᓵᖓᓂᒃ ᓇᔪᕕᖓ ᖃᓂᓐᓂᖅᐹᖓᒍᑦ ᐊᔪᕐᓇᙱᓐᓂᖓ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐃᓕᖁᕕᖓᓂᑦ. ᐊᑐᙱᑦᑐᑦ ᐅᔭᕋᐅᔭᐃᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᑐᖅᑕᐅᓯᒪᒃᑯᑦ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐆᑕᕐᓇᖅᑐᓂᒃ ᑯᕕᑦᑕᐃᓕᒪᓂᕐᒧᑦ.

ᐅᔭᕋᐅᔭᓄᑦ ᐊᐅᓚᓂᖅ ᐊᒻᒪᓗ ᐃᓚᔅᓴᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᑦ

ᓴᓇᑎᓪᓗᒋᑦ ᐃᓚᖓ 2, ᐅᔭᕋᐅᔭᐃᑦ ᑲᑎᖅᓱᖅᓯᒪᔪᑦ ᓴᖅᑭᑎᑕᐅᓂᐊᖅᑐᑦ ᒪᕐᕉᑦ ᑐᓄᕕᐊᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓂᐊᓂ, ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕕᑦᔭᖏᓐᓂ. ᑕᐃᒪᐅᔪᑦ ᑐᐊᕆᔅ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᑦ ᓴᓇᕗᖓ ᐊᐅᓚᑐᐃᓐᓇᕆᐊᓕᒃᑯᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᑐᖅᑕᐅᓗᓂ ᐃᓚᖓ 2-ᒥ; ᑐᐊᕆᔅ ᐅᔭᕋᐅᔭᐃᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᑲᔪᓯᖅᑲᑕᐅᓂᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ.

ᐅᔭᕋᐅᔭᐃᑦ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᖏᑦ ᐱᓕᕆᐊᑦ ᑐᐊᕆᔅᒥ, ᒪᕆᑦ ᑐᓄᕕᐊᓂ ᐊᒻᒪᓗ ᐹᔅᑕᓐᒥ ᓇᔪᕐᕕᖏᑦ; ᑕᒪᒃᑭᑦ ᐅᔭᕋᐅᔭᐃᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᑦ ᒪᑦᕆᑦ ᓯᕐᑭᓐᓂᐊᓂ ᐊᒡᔭᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ ᑐᐊᕆᔅᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᒪᑦᕆᑦ ᑐᓄᕕᐊᓄᑦ ᓴᓇᕝᕕᖓᓄᑦ. ᒪᑦᕆᑦ ᑐᓄᕕᐊ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᑦ ᓴᓇᕝᕕᖓ (1,200 tbd) ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐱᓕᕆᐊᑦ ᓴᓇᕝᕕᖓ (1,200 tpd) ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐃᒪᙳᖅᓯᒪᔪᓂᒃ ᐊᒡᔭᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅᒧᑦ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᓕᕆᐊᓄᑦ. ᓂᕆᐅᒃᑐᑦ ᐅᑭᐅᖓ 4 ᐅᑭᐅᖓ 6-ᒧᑦ, ᐅᔭᕋᐅᔭᐃᑦ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂᑦ ᐊᒡᔭᖅᑕᐅᓗᑎᒃ ᑐᐊᕆᔅᒧᑦ ᐹᔅᑕᓐᒥ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᖓᓄᑦ ᐱᓕᕆᐊᑦ ᓴᓇᕝᕕᖓ ᐊᐅᓚᒍᓐᓇᓕᕐᓂᖓᓄᑦ ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 6-ᖓᓂ.

ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐊᐅᓚᓂᖓ

ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᒪᑦᕆᑦ ᑐᓄᕕᐊᓂ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᓴᓇᕝᕕᖓᓂ ᐃᒻᒦᔭᖅᑕᐅᑦᑕᕐᓂᐊᖅᑐᑦ ᑐᐊᕆ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᓐᓄᑦ ᓱᓪᓗᓕᒃᑯᑦ ᐊᖅᑯᑎᖅᑲᖅᑐᒃᑯᑦ. ᐊᐅᓚᓂᖓ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᓐᓂᒃ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᖏᖅᑕᐅᓯᒪᓂᒃᑯᑦ. ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐹᔅᑕᓐᒥ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᓴᓇᕝᕕᖓ ᐸᓂᖅᓯᖅᑕᐅᓂᐊᖅᑐᑦ ᐹᔅᑕᓐᒥ.

ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ

ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᒪᓕᒃᑐᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ(Type) A ᐃᒪᕐᒧᑦ ᓚᐃᓴ 2AMDOH1323. ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᖅ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐱᓯᒪᑦᑎᓂᐊᖅᑐᑦ ᑕᒪᒃᑭᓐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᓄᓇᐅᑉ ᐋᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᒥ ᐃᒪᐃᑦ ᐃᒋᑕᐅᓯᒪᙱᑦᑐᒃᑯᑦ ᐃᓚᒋᔭᖃᙱᑦᑐᑦ, ᐃᓚᒋᓗᒍ: ᐃᒪᐃᑦ ᖃᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᒪᑦᕆᕐᒥᑦ ᑕᕐᓯᒥᙳᒫᖅᑐᑦ; ᐳᑦᑕᖓᔪᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᓄᑦ (ᓇᔪᕐᕕᐅᔪᓕᒫᑦ); ᐊᒻᒪᓗ ᐃᓚᐅᓯᒪᔪᑦ ᓄᓇᐅᑉ ᐃᒪᖓᓂᒃ ᒪᑦᕆᑦ ᓇᔪᕐᕕᖓᓂ. ᐃᒪᐃᑦ ᐃᒋᑕᐅᔭᕆᐊᖃᖅᑐᑦ ᐊᑐᕐᓂᖏᑦ (ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᖃᓄᐃᑦᑑᓂᖓ A ᐃᒪᕐᒧᑦ ᓚᐃᓴ) ᐃᒋᑕᐅᓂᐊᖅᑐᑦ ᕿᐳᑦ ᐃᑭᕋᓴᖓᓄᑦ ᑰᕝᕕᖓᒍᑦ. ᐃᒪᙳᖅᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐃᓕᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᐅᑉ ᐋᓄᑦ ᐅᔭᕋᐅᔭᐃᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᓂᒃ ᐱᖃᑎᖃᕐᓗᑎᒃ.

ᐊᖏᓂᖓ ᐃᒪᐅᑉ ᐅᑎᖅᑎᑦᑎᓂᖅ ᑐᐊᕆᔅᒥᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᐊᖏᓂᖅᐹᒃᑰᖓᓂᐊᖅᑐᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑐᕈᓐᓇᕐᑯᓪᓗᒍ ᐃᒪᑦᑕᐅᕙᐃᑦ ᐊᑐᖅᑕᐅᓂᖏᑦ ᑐᐊᕆᔅ ᑕᓯᐊᓂᑦ. ᑕᐃᒪᔪᑦ ᐃᒪᐃᑦ (ᑎᒍᔭᐅᔪᓐᓇᖅᑐᑦ) ᑐᐊᕆᔅ ᓇᔪᕐᕕᖓᓂ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᑐᖅᑕᐅᓗᓂ ᕝᕙᓐᑎ ᑕᓯᐊᓂᑦ (Windy Lake); ᓴᓇᕝᕙᓐᓂᑦ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅ ᑕᓯᖓᓂᑦ. ᐹᔅᑕᓐᒥ ᑕᐃᒪᐅᔪᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᒃᑯᑦ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᐃ,ᐅᑦᑕᓘᑉ ᑕᓯᖓᓂᑦ; ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᑦ, ᐃᓚᒋᓗᒍ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐃᒪᙳᖅᑕᐅᓯᒪᔪᑦ, ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕐᓂᐊᖅᑐᑦ, ᐊᒻᒪᓗ ᓴᓗᒪᖅᑕᐅᓗᑎᒃ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᑦ ᑯᕙᔭᐅᓗᑎᒃ ᐊᐃᒪᐅᑲᑦᑕᐅᑉ ᑕᓯᐊᓄᑦ ᑰᒃᑐᒃᑯᑦ. ᓴᓗᒪᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᐃᑦ ᐹᔅᑕᓐᒥ ᑯᕙᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᒧᑦ.

ᐊᑦᑕᑯᐃᑦ ᐊᐅᓚᓂᖓ

ᐊᑦᑕᕐᓇᙳᕐᑐᑦ ᐊᑦᑕᑯᐃᑦ ᐊᒃᒍᐃᑕᐅᓂᐊᖅᑐᖅ ᐊᒻᒪᓗ ᐃᒋᑕᐅᓗᑎᒃ ᓯᕐᑯᒥᕝᕙᒃᓴᒃᑯᑦ, ᓄᓇᒧᑦ ᐃᓕᓯᓂᖅ, ᐅᕝᕙᓘᓐᓃᑦ ᐃᑭᑕᐅᓗᑎᒃ. ᑕᐃᒪᐅᔪᑦ ᐊᑦᑕᑯᐃᑦ ᐱᔭᐅᓂᐊᖅᑐᑦ ᒪᑦᕆᕐᒥ ᓄᓇᓯᐅᑎᒃᑯᑦ ᑐᐊᕆᔅᒧᑦ ᐊᒻᒪᓗ ᐃᓕᔭᐅᓗᑎᒃ ᑐᐊᕆᔅ ᐊᑦᑰᓯᕝᕙᓪᓗᓂ ᐱᓕᕆᐊᕆᔭᐅᓗᑎᒃ ᐊᒻᒪᓗ ᐊᑦᑰᖅᑕᐅᓗᑎᒃ. ᓄᑖᒥᒃ ᓯᕐᑯᒥᒃᓴᐅᑎᓴᒥᒃ ᐊᒻᒪᓗ ᐊᑦᑯᒃᓴᕝᕕᒥᒃ ᓴᓇᓂᐊᖅᑐᑦ ᐹᔅᑕᓐᒥ.

ᑕᐃᒪᐅᓗᒃᑖᖅᑐᒃᑯᑦ ᐊᐅᓚᔾᔭᐅᔪᑦ ᐹᔅᑕᓐᒥ ᓯᓂᒃᑕᕝᕕᑦ ᐃᓚᖃᕐᓂᐊᖅᖅᑐᑦ ᓄᓇᒥᙳᐊᖅᑐᓂᒃ ᐊᓇᖅᑕᕝᕕᐅᑉ ᐊᒻᒪᓗ ᐃᒪᑦᑕᐅᙳᕐᑐᓂᒃ ᓴᓗᒪᖅᓴᐃᓂᕐᒧᑦ ᓴᓇᕝᕕᒥᒃ. ᐃᒋᑕᐅᔪᑦ ᓴᓗᒪᖅᓴᖅᑕᐅᓯᒪᔪᑦ ᐊᑦᑰᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᐃᒪᐅᑲᑦᑕᐅᑉ ᑕᓯᐊᓄᑦ ᐊᓯᙳᕐᓗ ᐃᒋᑕᐅᔪᑦ. ᒪᕐᕉᐃᑦ ᐃᑭᑕᐅᓂᐊᖅᑐᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ ᐃᒋᑕᐅᓗᑎᒃ

ᓄᓇᐅᑉ ᐊᑖᓄᑦ ᐃᓇᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᑦᑕᑯᓂᓪᓗ. ᓯᓂᒃᑕᕐᕕᖃᓛᖏᑦᑐᖅ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐅᕝᕙᓐᓐᓃᑦ ᓯᕿᓐᓂᐊᓂ ᓇᔪᕐᕕᐅᔪᓂᑦ; ᖃᕐᓂᖅᑐᑦ ᐊᒻᒪᓗ ᓴᓗᒪᐃᑦᑐᑦ ᐃᒪᐃᑦ ᐃᒋᑕᐅᓂᐊᖅᑐᑦ ᑲᑎᖅᓱᖅᑕᐅᓂᐊᖅᑐᑦ (ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᓴᓇᕝᕕᒃᑯᑦ) ᐊᒻᒪᓗ ᐊᓪᔭᖅᑕᐅᓗᑎᒃ ᐃᒋᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᓇᔅ ᓇᔪᕐᕕᐊᓄᑦ ᐊᓇᖅᑕᕐᕕᐅᑉ ᓴᓗᒻᒪᖅᓴᕐᕕᖑᒃ.

<u>ᐃᑯᒪᐃᑦ, ᑐᖅᑰᓯᕝᕖᑦ, ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐱᔾᔦᑎᕋᐅᑎᓄᑦ</u>

ᐃᑯᒪᐃᑦ ᑲᑎᓪᓗᒋᑦ ᐊᑐᖅᑕᐅᓂᖏᑦ ᐃᓚᖓ 2-ᒧᑦ (ᐅᔭᕋᖓᓂᐊᕐᕕᒃ, ᓯᕐᑯᒥᒃᑯᕝᕕᒃ, ᐊᒻᒪᓗ ᓇᔪᕐᕕᒻᒧᑦ-ᐃᓚᒋᔭᐅᔪᑦ ᓴᓇᕝᕕᐃᑦ) ᓂᕆᐅᒋᔭᐅᔪᑦ 85,000MWh/ᐅᑭᐅᒧᑦ. ᑕᐃᒪᐅᔪᖅ ᑐᐊᕆᔅᒥ ᐃᑯᒪᐅᓯᕝᕕᒃ ᓈᒻᒪᒃᑐᒥᒃ ᐊᖏᓂᕐᑲᖅᑐᖅ ᐃᑯᒪᐃᓂᕐᒧᑦ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ. ᐱᔪᓐᓇᐅᑎᒃᑯᑦ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᒻᒥᒃ ᓴᖅᑭᑎᑕᐅᓂᐊᖅᑐᖅ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ (ᐱᖓᓱᑦ 1.2 MW ᐊᖏᓂᖏᑦ) ᐊᒻᒪᓗ ᐹᔅᑕᓐ (ᐱᖓᓱᓂᒃ ᐊᕐᕕᓂᓖᑦ 1.2-MW ᐊᖏᓂᖏᑦ ᐃᓚᓕᐅᑎᓗᒍ 725-KW ᓇᒥᐅᑎᔅᓴᖓᓂᒃ). ᐃᑯ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᒪᑦᓇᑦ ᓯᕿᓐᓂᐊᓂ ᐊᑐᕐᕕᔅᓴᕐᓂᐊᖅᑐᑦ ᐃᑯᒪᒧᑦ ᐅᖅᓱᒃᑯᑦ ᐊᐅᓚᔪᓂᒃ (ᒪᕐᕉᒃ 725-KW ᐃᑯᒪᐃᑦ ᐅᖅᓱᒃᑯᑦ ᐊᐅᓚᔾᔪᒃᑯᑦ ᐃᓚᒋᓗᒍ 350-KW ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᓇᒥᐅᑎᓯᒪᓗᑎᒃ ᐃᑯᒪᐃᑦ ᐅᖅᓱᒧᑦ ᐊᐅᓚᔾᔪᒃᑯᑦ). ᐃᑯᒪᐃᑦ ᓴᕕᒐᔭᖏᑦ ᐃᓕᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᐅᔪᓕᒫᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᒃᑯᑦ ᐃᑯᒪᕐᑲᕐᓂᕐᒧᑦ ᐊᐅᓚᔾᔪᒃᑯᑦ ᐊᓄᓇᒃᑯᑦ ᖃᓂᕐᕕᐅᔪᖅ ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓗᓂ ᐅᖅᓱᐊᓗᒃᑯᑦ ᐃᑯᒪᓄᑦ ᑲᖏᖅᓯᒥ.

ᐅᖅᓱᐊᓗᒃᑯᑦ ᑎᑭᓐᓂᐊᖅᑐᑦ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᑐᓚᕝᕕᖓᓄᑦ ᐊᒻᒪᓗ ᑐᖅᑯᖅᑕᐅᓗᓂ ᐅᖅᓴᕐᕕᖓᓂ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ (35ML), ᐊᑐᒐᔅᓴᒃᑲᓐᓂᕐᓂᒃ ᑐᖅᑯᐃᓯᒪᕐᑲᑕᐅᓗᑎᒃ ᑕᐃᒪᐅᔪᓂᒃ ᑐᐊᕆᔅ ᐅᖅᓴᕐᕕᖓᓂ (7.5ML) ᐊᒻᒪᓗ ᓄᑖᖅ ᐅᖅᓴᕐᕖᑦ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ (4.5 ML) ᐊᒻᒪᓗ ᐹᔅᑕᓐᒥ (4.5 ML). ᓄᓇᓯᐅᑎᒃᑯᑦ ᐅᖅᓱᒃᓴᖅ ᐊᐅᓪᓚᖅᑎᑕᐅᕐᑲᑦᑕᕐᓂᐊᖅᑐᑦ ᕿᐳᑦ ᑲᖏᐊᓄᑦ ᐊᒻᒪᓗ ᓇᔪᕐᕕᐅᔪᓄᑦ. ᓯᖅᑯᕐᓂᐅᑏᑦ ᑐᖅᑯᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᖅᑰᓯᕝᕕᒻᒥ; ᑐᖅᑰᓯᕝᕖᑦ ᓇᔪᕐᕕᖏᑦ ᑐᐊᕆᔅ ᓇᔪᕐᕕᖓᓂ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᓴᖅ ᑐᖅᑰᓯᕝᕕᒃ ᓴᓇᕝᕕᐅᔪᓂᑦ ᓴᖅᑭᑦᑎᓂᐊᖅᑐᑦ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂ. ᐊᑦᑕᕐᓇᖅᑐᑦ ᐱᕐᑐᑏᑦ (ᐃᓚᒃᓴᐃᑦ) ᐊᐅᓪᓚᖅᑎᑕᐅᓂᐊᖅᑐᑦ, ᑲᒪᒋᔭᐅᓂᐊᖅᑐᑦ ᑐᖅᑯᖅᓯᒪᔭᐅᓂᒃᑯᑦ ᒪᓕᓪᓗᒍ ᐱᕐᑯᔭᐅᓯᒪᔪᒃᑯᑦ ᐊᐅᓪᓛᕐᓂᖅ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᕐᑯᑎᓂᒃ ᐱᕐᑯᔭᖓᓂᒃ; ᓯᕗᓪᓕᖅᐹᖅ ᐊᑦᑕᕐᓇᖅᑐᑦ ᑐᖅᑰᓯᕝᕖᑦ ᓴᓇᕝᕕᖏᑦ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓃᑦᑐᑦ. ᐊᑦᑕᕐᓇᖅᑐᑦ ᐊᑦᑕᑯᐃᑦ ᐲᖅᑕᐅᓂᐊᖅᑐᖅ ᓇᔪᕐᕕᐅᔪᒥᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐃᒋᑕᐅᓂᐊᖅᑐᓂᒃ.

Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᔅᓴᖅ ᑭᒡᓕᕐᑲᖅᑐᑦ ᐃᑳᕈᑎᓂᒃ ᓇᔪᕐᕕᖓᓄᑦ ᐱᔾᔪᑎᕐᑲᖅᑐᒍ. ᑭᒃᑯᓕᒫᑦ ᐃᑳᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓚᖅᑐᑦ ᓇᔪᕐᕕᒻᒥᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᐊᐅᓪᓚᕐᓂᕐᒧᑦ ᑎᒻᒥᓱᒃᑯᑦ, ᐊᒻᒪᓗ ᒪᓕᕐᑯᔭᐅᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᑉ ᐱᕐᑯᔭᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᓂᖏᓐᓂᒃ. ᐃᒥᐊᓗᒃᑕᖅᑲᕆᐊᖅᑲᙵᒪᕆᒃᑐᑦ ᐊᒻᒪᓗ ᐳᓗᐊᑦᑎᔭᕐᔫᑎᑕᖅᑲᕆᐊᖅᑲᙵᒪᕆᒃᑐᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐃᓕᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᐅᔨᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑭᔪᖃᕐᓂᖅᐸᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐊᓂᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᓕᒐᔅᓴᓂᒃ ᑲᒪᒋᔭᐅᓂᐊᖅᑐᑦ. ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᐱᖃᕐᓂᕐᒥᒃ ᐃᓕᑦᑎᓯᒪᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᐱᕐᑯᑎᓂᒃ ᐱᖃᕐᓗᑎᒃ ᑐᐊᕕᕐᓇᖅᑐᖃᓕᕐᓂᖅᐸᑦ.

ᐊᕙᑏᑦ ᐊᐅᓚᓂᖓ

TMAC-ᑯᑦ ᐊᕙᑎᐅᑉ ᐊᐅᓂᖓᓄᑦ ᐋᖅᑭᒃᓯᒪᔪᑦ (EMS) ᖁᑦᑎᓐᓂᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓐᓇᐅᓗᓂ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᑐᖅᑎᑕᐅᔪᒪᓕᖅᑐᓂᒃ ᓴᖅᑭᑦᑎᓂᕐᒧᑦ ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ (EMPS). ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐃᓚᒋᔭᖅᑲᖅᑐᑦ ᐊᒥᓱᒃᑯᑦ ᐃᓕᖏᒃᑐᒃᑯᑦ-ᑮᓇᐅᔭᓕᐅᖅᑕᐅᕙᒃᑐᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓕᑕᖅᑕᐅᓯᒪᔪᑦ ᑕᒪᒃᑭᓐᓄᑦ ᓇᒥᓂᕆᔭᐅᔪᒧᑦ. ᑕᐃᒪᐅᓪᓗᐊᕐᓂᖓᓄᑦ, ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ ᑐᓂᓯᔪᑦ TMAC-ᑯᑦ ᑕᐅᑦᑐᖃᕐᓂᒃᑯᑦ ᑲᐅᔾᔭᕐᓂᖅ, ᖃᐅᔾᔭᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐅᓂᒃᑳᓕᐅᕐᓗᑎᒃ ᖃᓄᐃᓕᐅᖅᑕᐅᔪᓂᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᐅᓚᒋᐊᕐᓗᑎᑦ ᐊᔾᔨᓐᖏᖅᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐱᕚᓪᓕᕐᑯᓪᓗᒍ ᐃᓅᖅᑲᑎᒌᑦ-ᑮᓇᐅᔭᓕᐅᕐᓂᓇᔭᐅᔪᑦ ᐃᑲᔪᑎᖏᓐᓂᒃ.

ᐃᓚᖏᑦ ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒪᐅᔪᑦ ᒫᓐᓇᓖᒃᑯᑦ ᐃᓚᖓᓂᙵᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᐅᑦᒥ, ᐊᒻᒪᓗ TMAC-ᑯᑦ ᓂᕆᐅᙱᑦᑐᑦ ᐃᓗᓕᓗᒃᑖᖏᓐᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐊᓯᙳᖅᐸᓪᓕᐊᓗᓂ ᐊᖏᔪᒃᑯᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ. ᑭᓯᐊᓂ, ᐸᕐᓇᐅᑎᑦ ᓄᑖᙳᖅᑎᑕᐅᕐᑲᑦᑕᕐᓂᐊᖅᑐᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ ᐱᕐᑯᔭᓂᙴᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐅᓂᒃᑳᓕᐅᕐᓗᑎᒃ ᐊᑐᕆᐊᖅᑐᒃᑯᑦ, ᐊᓯᙳᖅᐸᓪᓕᐊᔪᓂᒃ ᐊᐅᓚᑕᐅᔪᓂᒃ

ᖃᓄᐃᑦᑑᓂᖓᓄᑦ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑐᑭᓯᐊᖦᖢᑎᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᓱᖏᐅᑎᔪᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ) ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖅ ᐃᓚᖓ 2 ᓄᓇᒫᒥ ᐊᕙᑎᓕᕆᔮᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᐊᒻᒪᓗ ᓄᓇᒫᒥ ᐃᒪᓕᕆᔮᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᐱᕙᓪᓕᐊᓕᖅᑎᓪᓗᒋᑦ.

ᒪᑐᓐᖓᐊᖓ ᒪᓗ ᐅᑎᖅᑎᕝ ᑎᓂᖅ

ᑕᒪᕐᒥᑲᓪᓚᒃ Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᓕᕆᔅᓵᖅ ᓇᔪᕐᕕᖓ ᐊᐅᓚᐃᓐᓇᖅᑐᒃᑯᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓪᓗᒋᑦ ᐃᓚᖓᓂᒃ ᐱᓕᕆᐊᔅᓵᒧᑦ. ᑭᓯᐊᓂ, ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᖓᓄᑦ, ᓇᔪᕐᕕᐅᔪᑦ ᐊᑐᖅᑕᐅᔭᕆᐊᕐᑲᙱᓕᖅᑐᓂᒃ ᐱᓕᕆᐊᔅᓵᒧᑦ ᐱᓕᕆᐊᔅᓵᒧᑦ ᐅᑎᖅᑎᑕᐅᓂᐊᖅᑐᑦ.

ᐃᓚᖓ 2 ᒪᑐᓂᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᐊᕐᓂᒧᑦ ᐸᕐᓇᐅᑎᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑐᓂᔭᐅᓯᒪᓪᓗᑎᒃ ᐱᖓᓱᒃᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ:

- ○ **ᓇᐃᑦᑐᒃᑯᑦ ᐅᔾᔨᖕᓂᐊᕐᕕᐅᑉ ᒪᑐᓯᒪᓂᖓ** ᐱᔪᓐᓇᐅᔪᓐᓇᖅᑐᖅ ᐱᕙᓪᓕᐊᔪᑦ ᓄᖅᑲᖅᑎᑕᐅᓯᒪᑎᓪᓗᒋᑦ ᐅᑭᐅᙳᙱᑦᑐᒧᑦ. ᐱᓕᕆᐊᔅᓴᐅᔪᖅ ᒥᐊᓂᕆᔭᐅᓗᓂ ᐊᒻᒪᓗ ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎᐅᓂᐊᖅᑐᑦ, ᐱᕐᑯᑏᑦ ᐊᒻᒪᓗ ᓴᓇᕝᕕᑦ ᑲᔪᓯᑦᑎᐊᙱᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᑯᓪᓗᒋᑦ ᑲᔪᓯᓂᕐᒧᑦ ᐊᐅᓚᓂᕐᒧᑦ, ᑲᔪᓯᑦᑎᐊᙱᓐᓇᕐᓂᕐᒧᓪᓗ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᕙᑎᐅᑉ ᓴᐳᒻᒥᓂᖓᓄᑦ ᐊᑐᖅᑐᓂᒃ.
- ○ **ᐊᑯᓂᐅᔫᒃᑯᑦ ᐅᔾᔨᖕᓂᐊᕐᕕᐅᑉ ᒪᑐᓂᖓ** ᐱᔪᓐᓇᐅᔪᓐᓇᖅᑐᑦ ᓄᖅᑲᖅᑎᑕᐅᓯᒪᓕᖅᑎᓪᓗᒋᑦ (ᒥᐊᓂᕆᔭᐅᔪᑦ ᐊᒻᒪᓗ ᑲᔪᓯᑦᑎᐊᙱᓐᓇᕐᓂᒃᑯᑦ) ᐊᑕᐅᓯᕐᒥᑦ ᐅᑭᐅᒥᑦ ᑳᖏᐅᑎᓯᒪᔫᒃᑯᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᑮᓇᐅᔭᐃᕈᑎᓂᖓᓄᑦ). ᓇᓗᓇᐃᖅᓯᒪᔫᒃᑯᑦ ᑕᒪᐅᓇ, TMAC-ᑯᑦ ᓇᓗᓇᐃᖅᓯᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᔪᑦ ᑲᔪᓯᑦᑎᐊᙱᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ; ᓴᓇᕝᕕᓗᒃᑖᑦ ᐊᒻᒪᓗ ᐱᕐᑯᑏᑦ ᐊᐅᓚᔪᓐᓇᖂᓐᓂᖅᑎᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᐅᓚᔪᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐅᑭᐅᖑᔪᒥ, ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑐᑦ ᐃᒋᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓯᖅᑯᕐᓇᖅᑐᑦ ᐋᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᐅᔪᒥᑦ. ᐃᓚᖏᑦ ᐃᖅᑲᓇᐃᔭᖅᐃᑦ (ᐊᕙᑎᓕᕆᔩᑦ) ᑲᒪᒋᔭᕐᑲᕐᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᔪᒥ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ. ᐊᑯᓂᐅᔫᒃᑯᑦ ᒥᐊᓂᕆᓂᖅ ᐊᒻᒪᓗ ᑲᔪᓯᑎᑕᐅᑦᑎᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᑦ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᑲᔪᓯᓗᓂ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᒪᓕᓪᓗᒋᑦ.
- ○ **ᒪᑐᔭᐅᓂᖓ ᐅᔾᔨᖕᓂᐊᕐᕕᒃ** ᒪᑐᔭᐅᓂᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᖃᐅᓯᐅᓯᒪᔫᒃᑯᑦ ᐃᓚᖓ 2 ᒪᑐᓂᖅ ᐅᔾᔨᖕᓂᐊᕐᕕᒻᒥ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐸᕐᓇᐅᑎᖏᓐᓂ. ᐃᓚᒋᔭᖃᖅᑐᑦ ᐲᖅᓯᓂᕐᒥᒃ ᓇᑉᐸᖅᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ. ᑐᐊᓇᔅ ᐊᒻᒪᓗ ᐸᔅᑕᓐ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᔅᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓴᓇᕝᕕᑦ ᐋᖅᑭᒃᑕᐅᓂᐊᖅᑐᑦ ᐊᑯᓂᐅᔫᒃᑯᑦ ᒪᑐᓯᒪᓂᐊᖅᑐᒃᑯᑦ, ᐅᑎᖅᑎᑦᑎᓗᑎᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓗᑎᒃ ᓇᓗᓇᐃᕐᓗᑎᒃ ᐊᕙᑎᐅᑉ ᑕᒪᒃᑮᖅᓯᓂᕐᒧᑦ, ᐸᔅᑕᓐ ᒥᕝᕕᖓ ᐊᒻᒪᓗ ᒪᑦᑎᑦ-ᐸᔅᑕᓐᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᖓ ᑕᐃᒪᐅᑐᐃᓐᓇᕐᓂᐊᖅᑐᖅ ᕿᕿᓂᖓᒍᑦ ᐸᓯᒻᒥᔭᐅᓂᖓᓄᑦ, ᑭᓯᐊᓂ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᑎᑎᕋᖅᓯᒪᔪᑦ ᒪᓕᒋᐊᓖᑦ) ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᓴᓇᓯᒪᔪᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᑯᕙᕝᕖᑦ, ᐊᑖᒍᑦ ᑯᕙᕝᕖᑦ, ᐃᑳᕝᕖᑦ) ᐲᖅᑕᐅᓂᐊᖅᑐᑦ.
- ○ ᓇᔪᕐᕕᐅᔪᖅ ᕿᒪᒃᑕᐅᓂᖓ ᑐᕌᖅᓯᒪᔪᑦ ᒪᑐᓂᐊᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᓕᕆᐊᔅᓵᖅ ᓇᔪᕐᕕᖓ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕆᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕖᑦ ᐊᔪᕐᓇᙱᑦᑐᒃᑯᑦ ᐊᒻᒪᓗ, ᐊᑐᐃᓐᓇᐅᔫᒃᑯᑦ, ᐃᒻᒥᒃᑯᑦ-ᑲᔪᓯᔪᓂᒃ ᓄᓇᒥᐅᑕᐃᑦ ᑲᑎᔪᓐᓇᖅᐸᑕ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᕙᑎᖓᓄᑦ ᐊᒻᒪᓗ ᐃᓅᖓᓄᑦ ᐱᕙᓪᓕᐊᔭᐅᔪᓂᒃ. TMAC-ᑯᑦ ᒪᑐᓂᕐᒥᒃ ᑐᙵᕝᕕᖏᑦ ᑐᕌᖓᖏᑦ ᐊᒻᒪᓗ ᐃᓗᓕᖏᑦ ᐱᕙᓪᓕᐊᑕᐅᓯᒪᔪᑦ ᐱᐊᓂᖕᓂᕐᒧᑦ ᓯᕗᓂᒧᑦ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒥᒃ ᐱᔪᒪᔭᒃᑯᑦ ᓇᐃᑦᑐᒃᑯᑦ ᐊᑲᐅᔫᓇᖅᑐᒃᑯᑦ ᐊᑐᕐᓂᖅ. ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᖃᐅᔨᓴᕐᓂᖅ ᖃᐅᔨᓴᕐᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᒻᒥ ᖃᖓᒃᑯᑎᒃᑯᑦ ᐊᑐᐃᓐᓇᐅᓗᓂ ᑐᑖᕐᕕᐅᓯᒪᔫᒃᑯᑦ ᒪᓕᓪᓗᑎᒃ ᒪᑐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᐊᓂᒃᑕᐅᑎᐊᕐᓂᖓᓄᑦ ᐱᕐᑯᔭᓕᐅᖅᑏᑦ ᐊᖏᖅᑕᐅᓯᒪᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐃᑲᔪᖅᑎᒌᒃᑐᓄᑦ.

ᓇᓗᓇᐃᔭᐃᓂᖅ ᐊᒻ ᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᖅ

ᑮᒃᑯᑐᐃᓐᓇᕐᓄᑦ ᓇᓗᓇᐃᔭᐃᓂᖅ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᖅ

TMA-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑮᒃᑯᑐᐃᓐᓇᕐᓄᑦ ᓇᓗᓇᐃᔭᐃᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᕐᒥᒃ. ᑮᒃᑯᑐᐃᓐᓇᐃᑦ ᑐᑭᓯᐊᔾᔪᑎᖏᑦ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖏᑦ ᐱᐊᓂᑦᑎᐊᖅᑕᐅᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕋᖓᓄᑦ ᐊᔾᔨᒌᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᐃᓚᒋᓗᒍ ᓄᓇᓕᒃᑯᑦ ᑲᑎᒪᖃᑎᒌᖕᓂᖅ ᐊᒻᒪᓗ ᐊᑕᐅᓯᒃᑯᑦ ᐅᖃᖃᑎᖃᕐᓂᖅ Hᐋᒻᓚᒃᑯᓐᓄᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᒻᒪᓗ ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑲᑎᒪᔾᔩᑦ, ᐊᒻᒪᓗ ᓂᕈᐊᑎᓕᓐᓂᒃᑯᑦ ᑲᑎᒪᓂᕐᒧᑦ ᐃᓐᓇᐃᓪᓗ ᐊᒻᒪᓗ ᐊᓯᕙᖅᑏᑦ ᐊᖑᓇᓱᐊᖅᑏᑦ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ. ᖃᐅᔨᒋᐊᕈᑏᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ, ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᐅᖃᐅᓯᐅᔪᒃᑯᑦ ᑐᓂᔭᐅᓯᒪᔪᑦ ᓇᒧᑐᐃᓐᓇᖅ ᐊᒻᒪᓗ ᐃᓄᒃᑎᑑᖅᑎᑕᐅᓯᒪᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐃᓄᐃᓐᓇᖅᑐᑦ. ᐃᓚᖓ 2 ᐊᖏᖅᓯᒪᓂᒃᑯᑦ ᐃᓕᓐᓂᐊᕈᑎᓴᐃᑦ ᓄᑖᙶᖅᑎᑕᐅᓯᒪᔪᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᖏᑦ ᑐᓂᓯᓯᒪᔪᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐱᖅᓱᖅᑐᑎᒃ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖏᓐᓂᒃ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᒧᑦ.

ᒐᕙᒪᒃᑯᑦ ᐊᖏᖃᑎᒌᖕᓂᖅ

TMAC-ᑯᑦ ᒐᕙᒪᒃᑯᑦ ᐊᖏᖃᑎᒌᖕᓂᖅ ᐱᕙᓪᓕᐊᔪᑦ ᑐᕌᖓᔪᑦ ᐱᔨᑦᑎᕋᐅᑎᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᒥᐅᔪᒃᑯᑦ ᑐᑭᓯᐊᓇᑦᑎᐊᖅᑐᒃᑯᑦ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕋᖓᓄᑦ. ᒪᓕᒋᐊᓖᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐊᖅᑯᑎᒧᑦ ᐅᖃᐅᓯᐅᕐᒋᓐᓇᖅᑐᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᒥᐅᔪᓄᑦ ᐱᔪᓐᓇᐅᑎᒋᔪᓐᓇᕐᓂᖓᓄᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ. ᑕᒪᒃᑭᑦ ᐱᓕᕆᐊᕐᕋᒧᑦ-ᐊᑕᔪᑦ ᐅᖃᐅᓯᐅᔪᑦ ᒐᕙᒪᒃᑯᓐᓄᑦ ᑎᒥᐅᔪᓄᑦ ᐊᔾᔨᓕᐅᖅᑕᐅᓯᒪᔪᑦᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔩᖏᓐᓄᑦ ᓴᖅᑭᑎᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᑮᒃᑯᑐᐃᓐᓇᕐᓄᑦ.

ᓯᑎᐱᕆ 2016-ᖑᑎᓪᓗᒍ, TMAC-ᑯᑦ ᖃᐃᖁᔩᓚᐅᖅᑐᑦ ᐅᖃᖅᑎᐅᔪᓂᒃ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᒃᓂ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᑉ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔩᖏᓐᓄᑦ ᑕᑯᓗᑎᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᕐᕋᖓᓂᒃ (ᐃᓚᒋᓗᒍ ᓴᓇᕝᕚᑦ ᐊᒻᒪᓗ ᐃᓚᖓ 2 ᓇᔪᖅᑲᖏᓐᓂᒃ).

ᐃᓕᖅᑯᓯᐅᔾᔪᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ

ᐃᓕᖅᑯᓯᐅᔾᔪᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ (TK) ᑐᑭᖓ ᐊᖅᑐᖅᑕᐅᓘᖑᔪᖅ ᓇᓗᓇᐃᕐᓗᒍ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐱᔭᐅᓯᒪᔪᑦ ᐃᓄᖕᓄᒃ ᓄᓇᒋᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓂᒃ, ᓯᓚᕐᔪᐊᑉ ᐱᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᐅᕐᓂᒃᑯᑦ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐱᓕᕆᖃᑎᒌᑦᑎᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑲᐅᓈᕐᓂᕐᒧᑦ ᐃᓅᓯᐅᔪᒥ. ᐃᓕᖅᑯᓯᐅᔾᔪᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᑐᓂᓯᔪᑦ ᐊᑭᑐᔩᑎᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᒃᑯᑦ ᐃᓂᖃᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑯᓂᐅᙱᑦᑐᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᐊᓯᕙᕐᓂᖅ, ᐊᖑᓇᓱᖕᓂᒃᑯᑦ, ᐃᖃᓗᒃᓯᐅᕐᓂᒃᑯᑦ, ᐆᒪᔪᓂᒃ ᓇᔪᖅᑲᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐᓂᖅ ᓄᓇᒥ ᓂᕈᐊᖅᑕᐅᓯᒪᔪᓂᒃ. ᑐᓂᓯᔪᓐᓇᖅᑐᖅ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᕐ ᓄᓇᒋᔭᐅᔪᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐃᓅᖃᑎᒌᖕᓂᖅ-ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᒃᑯᑦ ᒪᓕᒃᑐᓂᒃ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓂᒃ, ᐅᐱᕐᓂᒃᑯᑦ, ᐊᑲᐅᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᓯᖏᑎᒍᑦ ᑕᐃᒪᐅᔪᓂᒃ.

TMAC-ᑯᑦ ᐃᓱᒪᓕᐅᖅᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᕋᖓᓄᑦ ᐋᖅᑮᓯᒪᓂᖓᓄᑦ, ᖃᐅᔨᓴᖅᑕᐅᔪᒧᑦ ᖃᐅᓴᖅᑕᐅᖃᓯᐅᑎᒋᐊᓖᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖅ ᐅᐸᓇᔭᐅᔪᓂᒃ ᓄᓇᒧᑦ ᐊᑕᔪᓂᒃ ᐃᓚᒌᒃᑐᓂᑦ (VECs) ᐊᒻᒪᓗ ᐅᐸᓇᔭᐅᔪᑦ ᐃᓅᖃᑎᒌᒃ-ᑮᓇᐅᔭᓕᐅᕐᓂᕆᕚᑕᖏᑦ ᐃᓚᒋᒃᑐᓂᒃ (VSEC's), ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᓂᒃ. ᐊᖏᔪᒃᑯᑦ ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᑲᑎᖅᓱᐃᓯᒪᔪᑦ ᐱᓕᕆᐊᕐᕋᒧᑦ ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖏᓐᓄᑦ ᓇᐅᓇᐃᔭᐅᒃᑯᑦ ᐃᓕᖅᑯᓯᓕᕆᔩᒃᑯᓐᓂᑦ ᐱᓕᕆᐊᕐᕋᖓᒍᑦ (NTKP) ᑎᑎᕋᖅᓯᒪᔪᓂᒃ. ᐅᓇᐃᔭᐅᒃᑯᑦ ᐃᓕᖅᑯᓯᓕᕆᔩᒃᑯᑦ ᑐᙵᕗᕕᐅᔪᑦ ᑎᑎᕋᖅᑕᓯᒪᔪᓂ ᐊᒻᒪᓗ ᓄᓇᒧᑦ-ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖏᑎᒍᑦ ᖃᐅᔨᒪᓂᑎᒍᑦ ᕿᑎᕐᒥᐅᑕᓂᑦ. ᐱᓕᕆᐊᕐᕋᖅ ᓇᔪᖅᑲᖓ ᑕᑯᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᒃᑯᑦ ᖃᓄᐃᓕᐅᖅᑕᐅᖃᑦᑕᕐᓂᑯᓂᒃ ᖃᖓᓯᖅ ᐃᓄᖕᓄᑦ, ᑕᑯᒃᓴᐅᔪᒃᑯᑦ ᐊᒥᓱᓂᒃ ᑲᑎᖃᑦᑕᕐᓂᖏᑦ ᓄᓇᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐᓂᒃᑯᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ RSA-ᒥ.ᑕᐃᒪᐅᓇᓱᒋᔭᐅᔪᑦ ᐱᖃᓗᐊᙱᓐᓂᖓᓄᑦ ᓄᓇᒥ, ᐃᒪᑦᑎᐊᕙᖓᓄᑦ, ᐊᒻᒪᓗ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᒃ ᓇᓂᔭᐅᓯᒪᔪᓂᒃ ᓄᓇᒋᔭᐅᔪᒥ ᐊᒻᒪᓗ ᐊᖑᓇᓱᐊᖃᑦᑕᖅᑕᖏᑦᑕ ᐃᓄᖕᓄᑦ.

ᑎᑎᕋᖅᓯᒪᔪᒃᑯᑦ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ (ᐊᒻᒪᓗ ᑎᒥᐅᑦᑯᑕᐅᔪᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᕆᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ *ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᔪᑲᖕᒋᑦ ᐅᑭᐅᖑᓂᑦ IQ)*ᖃᐅᔨᒃᑲᐃᓚᐅᖅᑐᑦ ᓂᕐᔪᑏᑦ ᖃᐅᔨᓴᕐᓂᕆᓐᓂᒃ ᖃᖓᓯᓴᖅ ᐱᓐᓂᑯᓂᒃ ᐊᒻᒪᓗ ᐅᓪᓗᒥᒧᑦ ᑎᑭᓪᓗᒍ ᖃᓄᐃᑉᐸᓪᓕᐊᖃᑦᑕᕐᓂᕆᑦ ᓂᕐᔪᑎᓄᑦ ᐊᐅᓪᓛᕐᓂᕆᐊᒃᑕᕆᑦ ᐊᒻᒪᓗ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᓐᓇᕐᓂᖅ ᓂᕐᔪᑎᓄᑦ ᐊᐅᓪᓚᖅᑐᓂᒃ. ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᖅ ᐱᓕᕆᐊᓴᐃᑦ ᑲᑎᒪᖃᑎᖃᓚᐅᖅᑐᑦ ᓄᓇᒋᔭᐅᔪᓂᒃ ᐅᖃᖅᑎᐅᔪᓂᒃ ᑐᑭᓯᐊᕝᔪᕝᔨᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᖃᖃᑎᒌᒃᑐᑎᒃ ᐊᓯᖏᓐᓂᒃ ᐱᓕᕆᐊᓴᐅᔪᓂᒃ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᖏᓂᒃ ᐊᐅᓚᔪᓐᓇᕐᓂᕐᒧᑦ ᐆᑦᑑᑎᒋᓗᒍ ᐊᖅᑯᑏᑦ ᓴᓇᔭᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᓂᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᐅᔪᒃᑯᑦ ᓂᕐᔪᑎᓄᑦ.

ᐊᕙᑎᐅᑉ ᖃᓄᐃᓐᓂᖓ

ᖃᓄᐃᑦ ᓛᓂᖓ

ᓯᓚᖓ Hᐆᑉ ᖃᖏᖅᓯᐊᒥ ᐱᓕᕆᐊᓭᖅ ᐃᒃᑮᕐᓇᕐᓂᖅᐹᖑᔪᑦ. ᒥᑭᔪᒥᒃ ᐃᒻᒥᕐᕕᐅᓯᒪᔪᖅ ᓯᓚᒃᑯᑦ, ᐊᒻᒪᓗ ᐃᒃᑮᕐᓇᕐᓂᖓ ᕿᕿᓯᒪᐃᓐᓇᖅᑐᖅ ᐅᑭᐅᓗᒃᑖᖅᑲᔾᔪᓄᑦ, 20 ᐆᓇᕐᓂᖓᓄᑦ ᑎᑭᑉᐸᓪᓗᓂ ᓇᐃᑦᑐᒃᑯᑦ ᐊᐅᔭᒥ. ᐊᐅᔭᒃᑯᑦ ᖃᐅᒪᐃᓐᓇᖅᑐᑦ, ᑖᖅᑎᓪᓗᒍ, ᐅᓐᓄᐊᓴᒃᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᒃᑮᕐᓇᐃᓐᓇᖅᑎᓪᓗᒍ ᐅᑭᐅᒥ.

ᐃᓄᐃᑦ ᐅᖃᖅᓯᒪᔪᑦ ᐃᓚᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ (ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓇᐅᓂᐃᔭᐅᑎᑦ ᐃᓕᖅᑯᓯᓕᓇᕝᑦ ᐅᓂᒃᑳᖓᓂ), ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᓯᒪᓂᕆᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᓯᓚᐅᑉ ᖃᓄᐃᓕᐅᖃᑦᑕᖅᑐᒥᓂᖓᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐅᑭᐅᑦ ᑕᓪᓕᒪᐅᓕᖅᑐᓂᒃ. ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᐊᕐᓂᖓᓄᑦ ᓯᓚ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᓇᓗᓇᖅᑐᖅ, ᐅᐸᑎᓴᐅᔪᑦ ᐱᕙᓪᓕᐊᔪᑦ ᓯᓚᒧᑦ ᕿᑦᑎᓐᓂᒃᑯᑦ ᐃᒃᑮᕐᓇᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐃᒥᕝᕕᐅᓂᖓᓄᑦ, ᐊᓯᙳᖅᐸᓪᓕᐊᑎᑦᑎᔪᓐᓇᖅᑐᖅ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓂ ᐊᒻᒪᓗ ᐊᐳᑎᐅᑉ ᐊᑦᑎᓐᓂᖓᓂᒃ.

ᓯᓚᐅᑉ ᐊᓂᕐᓂᕐᓴᖓ Hᐆᑉ ᑲᖏᖅᓯᐊᓂ ᓇᔪᕝᕕᖓ ᐊᒻᒪᓗ ᓇᒥᑐᐃᓐᓇᖅ ᓄᓇᕗᒻᒥ ᖃᓄᐃᙱᑦᑐᖅ ᐊᖏᓂᖅᓴᒃᑯᑦ, ᐃᓱᒪᒋᓗᒍ ᒥᑭᓐᓂᖓᓄᑦ ᐆᓇᖅᓯᓂᖓᒍᑦ ᓯᑐᕐᓇᖅᑐᖅ ᐊᖏᔪᒃᑯᑦ ᓄᓇᖃᕐᓂᕆᔭᐅᓂᙳᖅᑐᓂᒃ. Hᐆᑉ ᑲᖏᖅᓯᐊᑉ ᓯᓚᑖᓂ ᐱᓕᕆᐊᓭᖅ ᓇᔪᕝᕕᖓ, ᐊᖏᓂᖅᓴᒃᑯᑦ ᓯᓚᒍᐊᖅᑎᑕᐅᓯᒪᔪᑦ ᐅᖅᓱᐊᓗᒻᒥᑦ ᐊᐅᓚᔪᓇᐅᑎᖏᓐᓂᒃ ᐊᑐᖅᑕᐅᔪᓂᒃ, ᐅᖅᑰᓯᕝᕕᑦ, ᓄᓇᓯᐅᑏᑦ, ᓯᑉᓛᑦ, ᐊᖏᔪᑦ ᓄᓇᓯᐅᑏᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᓂᑦ. ᑐᓴᕐᓃᓗᐊᙳᕆᑦᑐᑦ.

ᐃᓚᖓ 2 Hᐆᑉ ᑲᖏᖅᓯᐊᓂ ᐱᓕᕆᐊᓭᖅ ᓇᔪᕝᕕᖓ ᑲᓇᑕᐅᑉ ᓇᓗᓇᐃᒃᑯᑕᖓᓃᑦᑐᖅ, ᐊᖏᔪᒃᑯᑦ ᓄᓇᓕᐅᖅᓯᒪᔪᖅ ᖃᖓᓂᑕᒃᑯᑦ ᐅᑯᐊᓗᓂᙳᖅᑐᓂᒃ ᐅᔭᕋᐃᑦ ᓴᓂᖓᖅᑕᐅᓯᒪᔪᑦ ᓯᕐᒥᓂᑦ. ᓴᖅᑲᖅᓯᒪᔪᑦ ᐅᔭᕋᐃᑦ ᓇᑎᖓᓂᑦ ᓇᓂᔭᐅᔪᓐᓇᖅᑐᑦ. ᓴᐅᔭᐅᓂᑯᐃᑦ ᕿᓂᖅᑕᐃᑦ ᑲᑕᒃᑕᐅᓯᒪᔪᑦ ᓯᕐᒥᒧᑦ ᐊᒻᒪᓗ ᑰᖓᓄᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᕿᕿᓐᓇᖅᑐᒥ ᓄᓇᒥ ᕿᑎᕐᒥᐅᑦ ᓄᓇᖓᓂ, ᓄᓇᕋᖅᑐᓂ ᐊᒻᒪᓗ ᐅᔭᕋᖅᑐᓂ ᕿᕿᓯᒪᐃᓐᓇᖅᑐᓂᒃ ᐅᑭᐅᓕᒫᒧᑦ.

ᐆᒪᔪᐃᑦ ᖃᓄᐃᓐᓂᖓ

ᐅᔭᕋᖅᑐᒥ, ᐃᒪᖅᑐᒥ ᐊᒻᒪᓗ ᐃᓐᓈᕈᖅᑲᙱᑦᑐᒥ ᓄᓇᒥ, ᓇᑉᐹᖅᑐᑦ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᑦ ᑕᐃᒪᐅᔪᑦ ᐊᒥᓲᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᖅᑐᓂ ᑕᑕᖅᑐᓂᒃ ᓄᓇᑐᐃᓐᓇᒥ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᐅᔫᑉ ᓇᔪᕝᕕᕆᔭᖓᓂ. ᓇᑉᐹᖅᑐᑦ ᓇᐃᑦᑐᑦ ᐊᒻᒪᓗ ᐊᕚᓚᕿᐊᖅᑐᑦ, ᐃᒪᐅᑉ ᖃᓂᐊᓂ ᓇᑉᐹᖅᑐᓂᒃ, ᐅᖅᐱᓚᖅᑐᓂ ᐊᒻᒪᓗ ᖃᑯᖅᑐᓂᒃ ᐊᒻᒪᓗ ᕿᓂᖅᑐᓂᒃ ᑯᒪᐅᔭᓂᒃ ᐃᓚᖏᓐᓂ ᓇᔪᕝᕕᐅᔪᓂ. ᐃᕕᒃᑕᖅᑐᓂ ᐊᒻᒪᓗ ᑭᓂᐸᔪᑦ ᓄᓇᐃᑦ ᕗᒃᑭᑐᒦᓐᓂᖅᓴᐅᔪᑦ. 870-ᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐱᕈᖅᓯᐊᖅᑐᑦ ᐃᓚᖓ 2 ᓇᔪᕝᕕᐊᓂ, ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᑎᖓᐅᔭᓂᒃ, ᒪᓐᓂᖅᓂᒃ ᐊᒻᒪᓗ ᑯᐊᔭᕐᓇᖅᑐᓂᒃ.

ᓄᓇᐅᑉ ᓂᕐᔪᑎᖏᑦ ᓄᓇᒋᔭᐅᔪᒥ ᑐᒃᑐᐃᑦ (ᑕᕝᕙᓐ/ᔪᓂᐊᓐ ᐊᒻᒪᓗ ᑎᕝᔭᓕᐅᑉ ᒥᒃᓵᓂᕐᒥᐅᑕᐃ ᑐᒃᑐᖏᑦ) ᐅᒥᖓᒪᐃᑦ, ᐊᒃᖁᐃᑦ, ᐊᕐᕖᑦ ᐊᒻᒪᓗ ᐊᒪᕈᐃᑦ, ᒪᕐᕈᓂᒃ ᓂᐅᖃᖅᑐᓂᒃ, ᐃᒪᕐᒥᐅᑕᓂᒃ ᐊᒻᒪᓗ ᓄᓇᒥ ᖁᐸᓄᐊᓂᒃ ᐱᐊᓛᖅᑖᖃᑦᑕᖅᑐᓂᒃ. ᑐᒃᑐᐃᑦ ᐊᒻᒪᓗ ᑐᒃᑐᒃᓯᐅᕐᓂᖅ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᓇᕙᒃ, ᓇᓗᓇᐃᔾᔪᓯᖏᑦ, ᖁᕕᐊᒋᔭᖏᑦ ᐊᒻᒪᓗ ᐃᓅᖃᑎᒌᓐᓂᖅ ᐱᒻᒪᕆᐅᕗᖅ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᓄᓇᖃᖅᑐᓂᒃ ᓄᓇᕗᒻᒥ.

ᑎᓭᒪᐃᑦ ᐊᔾᔨᒌᖕᒋᑦᑐᓂᒃ ᐃᓐᓈᕈᓂ ᖁᐸᓄᐊᑦ ᐱᐊᓛᖅᑖᖃᑦᑕᖅᑐᑦ (ᕿᒡᒐᕕᐊᕐᔪᐊᓂᒃ, ᕿᒡᒐᕕᓂᒃ, ᖁᐸᓄᐊᕐᓂᐅᑏᑦ ᐊᒻᒪᓗ ᓇᒃᑐᕋᓖᑦ) ᐊᒻᒪᓗ ᐱᖓᓯᐃᑦ ᓄᓇᑐᐃᓐᓇᒥ ᒪᕈᓐᓂᒃ ᓂᐅᖃᖅᑐᓂᒃ (ᐅᒃᐲᑦ ᐊᒻᒪᓗ ᖁᐸᓄᐊᕐᓂᐅᑏᑦ) ᓇᔪᕕᒋᔪᓐᓇᖅᑕᖕᒋᑦ. ᐃᒪᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᐅᑉ ᓇᔪᕕᐊᓂ ᑲᖑᖃᖅᑐᓂ, ᖁᒡᔪᖃᖅᑐᓂ,, ᒥᑎᖃᖅᑐᓂ, ᓇᐅᔭᖃᖅᑐᓂ, ᐃᒥᖅᑯᑕᐃᓚᖃᖅᑐᓂ, ᑎᓭᒪᑎᒍᑦ ᐊᔾᔨᒌᖕᒋᑦᑐᓂᒃ ᖃᖅᓴᐅᓂᒃ ᐊᒻᒪᓗ ᑕᑎᒡᒐᓂᒃ

ᑲᑎᓪᓗᒋᑦ 14-ᓂᒃ ᐊᔾᔨᒌᖕᒋᑦᑐᓂᒃ ᐃᖃᓗᙶᓂᒃ ᑕᓯᕐᓂᑦ ᐊᒻᒪᓗ ᑰᖏᑦᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᐅᑉ ᓇᔪᕕᒌᔭᓂ. ᐊᒥᖅᓂᖅᓴᐃᑦ ᖁᓕᖏᓗᐊᖅᑐᓂᒃ ᑲᒃᑮᓚᖓᔪᖃᖅᑐᓂᒃ (ninespine stickleback) ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐃᖃᓗᒐᓂᒃ, ᐃᖃᓗᒃᐱᓂᒃ, ᓯᓗᑉᐸᐅᒐᓂᒃ, ᑲᓇᔪᓂᒃ, ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᑯᓇᔅᑯ (Crisco) ᓀᔅ ᑯᓇᔅᑯ (Least Crisco), ᑎᒃᑖᓀᑦ, ᓯᓕᓐᓂᖅᓴᓂᒃ ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᓵᑦᑐᓂᒃ ᐃᖃᓗᙶᓂᒃ, ᑎᓭᒪᓂᒃ ᓇᒡᔪᓕᙶᓂᒃ ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᐆᒐᓂᒃ, ᐅᓪᓗᓇᐊᕋᔫᖅᑐᓂᒃ (starry fish) ᐃᖃᓗᙶᓂᒃ. ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᖕᒋᑦᑐᑦ ᓇᓂᔭᐅᓯᒪᔪᑦ ᑰᒃᑯᑦ ᕋᐳᑦ ᐲᒧᑦ ᑎᑭᑦᑐᒍ.

ᑕᓇᐅᒥ ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᖕᒋᑦᑐᑦ ᓴᕗᓐ (Saffron) ᐆᒐᓂᒃ, ᐊᒻᒪᔭᓂᒃ, ᐅᑭᐅᖅᑕᖅᑐᒥ ᐃᖃᓗᐃᑦ, ᑲᕙᓯᓖᓂᒃ, ᑎᓭᒪᓂᒃ ᓇᒡᔪᓕᙶᓂᒃ ᑲᓇᔪᐃᑦ, ᐃᖃᓗᑉᐱᓂᒃ, ᐊᒻᒪᓗ ᐆᒐᓂᒃ. ᓇᑦᑏᑦ ᐃᓛᓐᓂᒃᑯᑦ ᑕᑯᔭᐅᓱᖅᑐᑦ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ.

ᐃᓅᔪᑦ ᖃᓇᐃᓐᓂᖓ

ᐃᓅᖅᑲᑎᒌᖕᓂᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᓕᐅᖅᐸᓪᓕᐊᓂᖏᑦ ᐊᔾᔨᒌᒋᔭᖃᖕᒋᑦᑐᑦ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᐊᓯᙳᖅᓯᒪᓪᓗᓂ ᐊᖏᔪᒃᑯᑦ 50-ᓂᒃ ᐅᑭᐅᑦ ᖄᖏᖅᓯᒪᓕᖅᑐᓂᒃ. 1950-ᖏᓐᓂ ᐊᒻᒪᓗ 1960 ᐱᒋᐊᓕᕆᖅᑎᓪᓗᒍ ᐊᒥᓱᑦ ᐃᓄᐃᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓕᓚᐅᖅᑐᑦ ᓄᑎᖅᑐᖅᐸᓪᓕᐊᓪᓗᑎᒃ ᐊᖑᓇᓱᖅᑲᑎᒌᓐᓂᕐᒧᑦ ᑲᑎᖅᓱᐃᕙᓪᓕᐊᓂᕐᒧᑦ ᓄᓇᒋᔭᐅᓂᐊᖅᑐᒧᑦ ᐊᑯᓂᐅᔪᒥᒃ ᐅᕙᓘᓐᓃᑦ ᓄᓇᒋᔭᐅᔪᒧᑦ ᓄᑎᖅᑐᖅᑐᑎᒃ. Pelt ᐱᕙᓪᓕᐊᓪᓗᑎᒃ ᐊᑭᖏᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ 1950-ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᒥᓱᓂᒃ ᐊᔾᔨᒌᒥᒃ ᖃᓂᒪᐅᑏᑦ ᐊᒥᓱᓄᑦ ᑐᖁᓪᓗᑎᒃ ᐃᓄᐃᑦ, ᒐᕙᒪᒃᑯᓐᓂᑦ ᕿᓇᐅᔭᓂᒃ ᐃᑲᔫᑎᓂᒃ ᓴᖅᑭᓚᐅᖅᑐᖅ 1947-ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᑲᔫᑎᑐᐊᕆᔭᐅᓪᓗᓂ ᐊᒥᓱᓄᑦ ᓄᑦᑎᖅᑐᓄᑦ ᓄᓇᒋᔭᐅᔪᒧᑦ. ᐅᕙᑦᑎᐊᕈ, ᐃᓄᐃᑦ ᑲᑎᖅᑲᑎᒌᖕᓂᖏᑦ ᖃᖓᙳᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᓚᒌᓐᓂᖏᑦ ᒪᓕᓪᓗᒋᑦ ᑭᓱᐊᓂ ᓄᓇᒋᔭᐅᔪᑦ ᑲᑎᖅᑎᖅᑲᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᒥᓱᒃᑯᑦ ᐃᓚᒌᒃᑐᓂᒃ ᐃᓚᒌᖅᑲᑎᙵᒋᒃᑲᓗᐊᖅᑐᓂᒃ

ᓄᑦᑎᖅᑐᕐᓂᖅ ᕿᓇᐅᔭᓕᐅᕐᓂᕐᒧᑦ ᐊᔪᕐᓇᖅᓯᕙᓪᓕᐊᓪᓗᓂ ᐃᓅᖅᑲᑎᒌᒃᑐᓄᑦ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖓᒍᑦ. ᐊᓯᕙᖅᑏᑦ ᐊᖑᓇᓱᒃᑏᑦ, ᐃᑉᐱᒋᔭᐅᑦᑎᐊᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᐅᓚᔾᔭᐅᓂᕐᒧᑦ, ᐱᓕᕆᐊᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓕᓚᐅᖅᑐᑦ, ᐊᔾᔨᒌᖕᒋᑦᑐᓂᒃ ᐱᐊᓂᒍᑕᐅᓪᓗᑎᒃ. ᐊᔪᕐᓇᖕᒋᑦᑐᒃᑯᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓪᓗᓂ ᕿᓇᐅᔭᓕᐅᖅᑕᐅᓂᒃᑯᑦ ᓂᐅᕕᕈᓐᓇᕐᓂᖅ. ᓄᓇᒋᔭᐅᔪᒥ, ᕿᓇᐅᔭᖅᑲᕐᓂᕆᔭᐅᔪᑦ ᑕᐃᒪᐅᖏᓐᓇᖅᑐᑦ, ᐊᒻᒪᓗ ᐱᕐᑯᑏᑦ ᐊᑐᖅᑐᐊᖅᑕᐅᖕᒋᓐᓂᖅᓴᐅᓕᖅᑐᑎᒃ. ᐃᓐᓇᕐᓄᑦ ᐊᐅᓚᑎᑕᐅᕙᓚᐅᖅᑐᑦ ᒐᕙᒪᒃᑯᓄᑦ ᓅᑎᑕᐅᓪᓗᑎᒃ. ᐋᓐᓂᐊᕐᕕᖅᑲᓕᖅᑐᑎᒃ ᐊᒻᒪᓗ ᒐᕙᒪᒃᑯᑦ ᐊᑭᓕᖅᑕᐅᕙᓪᓕᐊᓪᓗᑎᒃ ᐊᖏᓪᓕᕙᓪᓕᐊᓪᓗᑎᒃ ᓄᑕᕋᖅᑖᑕᕐᓂᕐᒧᑦ.

ᖃᓄᐃᑦᑑᓂᖓ ᐃᓅᖅᑲᑎᒌᖕᓂᕐᒧᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖅᑲᕐᓂᕆᔭᐅᔪᑦ ᐃᓯᒪᒋᔭᐅᖕᒋᑦᑐᑦ 'ᖃᖓᓂᑕᑐᑦ' ᐊᒻᒪᓗ 'ᓄᑖᒃᑯᑦ' ᑭᓱᐊᓂ ᐊᑕᐅᑦᑎᒃᑯᑦ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᐃᓄᖕᓄᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᓅᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓪᓗᑎᒃ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᐃᓅᓯᕆᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖅᑲᕐᓂᕆᔭᐅᔪᓂᒃ ᐃᓅᓯᖏᓐᓂ ᐊᓯᙳᖅᐸᓪᓕᐊᓪᓗᑎᒃ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᑕᐃᒫᒃ ᑐᒃᓯᕋᖅᑕᐅᓯᒪᔪᖅ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓗᓂ ᑐᓂᓯᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᓅᖅᑲᑎᒌᒃᑐᓄᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖅᑲᕐᓂᕆᔭᐅᔪᓄᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᕐᒧᑦ. ᑭᑎᕐᒥᐅᑦ ᑲᔪᓯᓯᒪᔪᑦ ᐊᔪᕐᓇᖅᑐᒃᑯᑦ ᐃᓅᖅᑲᑎᒌᖕᓂᕐᒧᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᓕᐅᕐᓂᕐᒧᑦ, ᐃᖅᑲᓇᐃᔮᖃᕐᓂᕐᒧᑦ ᐊᒥᓲᓂᖏᑦ, ᐃᓕᓐᓂᐊᕐᓂᒃᓯᒪᓗᐊᕐᓂᖏᓐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐱᐅᓯᕝᕕᓕᕆᐊᖅᑲᕐᓂᖓᓄᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ.

ᓄᓇᕗᒻᒥ ᕿᓂᖅᑐᖅ ᓄᖑᓯᐃᑦᑐᓂᒃ, ᑎᓯᓂᖅᐹᓂᒃ ᐅᔭᕋᕐᓂᒃ, ᑲᓐᓄᕐᑯᓂᒃ ᐊᒻᒪᓗ ᓴᕙᒐᐅᔭᔅᓴᓂᒃ, ᑭᑭᐊᒃᓴᓂᒃ ᐊᒻᒪᓗ ᑯᓇᔅᑐᓂᒃ (Crystal). ᕿᑎᕐᒥᐅᓂ ᐊᐅᓚᔪᖃᖕᒋᑦᑐᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᑭᓱᐊᓂ ᐱᖓᓱᓂᒃ ᕿᓂᖅᑕᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᓄᑦ ᐊᒻᒪᓗ 14-ᓂᒃ ᐅᔭᕋᐅᔭᓂᒃ ᕿᓂᖅᑕᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᐅᔪᓂᒃ.

ᓄᓇᒥᔭᐅᔪᒥ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕐᕕᖃᖅᑐᓂᒃ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ ᐱᑕᖃᖅᑐᖅ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ. ᐱᓕᕆᐊᕐᕕᖃᖅᑐᑦ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒥᒃ ᒥᑭᓂᖅᓴᖅ, ᐃᓚᒋᓪᓗᒍ ᐊᓯᕙᕐᓂᐅᑎᑦ ᐊᖑᓇᓱᒃᓂᐊᕈᑎᓂᒃ, ᒥᐊᓂᕆᔭᐅᓂᒃᑯᑦ ᓄᓇᖑᐊᕐᓂᖅ ᐊᒻᒪᓗ ᑕᒻᒪᕐᕕᑦ, ᐊᒻᒪᓗ ᐳᓛᕐᖅᑐᓕᕆᓂᕐᒧᑦ (ᐆᑦᑐᑎᒋᓗᒍ, ᓄᓇᒧᑦ ᐳᓛᕆᐊᖅᑐᖅᑐᓂᒃ, ᕿᕕᐊᕐᔪᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᒥᐊᒃᑯᑦ ᐊᐅᓪᓛᕐᓂᕐᒧᑦ). ᐊᑕᐅᓯᖅ ᑕᒻᒫᕐᕕᒃ ᑐᓂᓯᑦᓯᖅ ᐳᓛᕐᖅᑐᓂᒃ ᐱᙳᐊᕐᓂᒃᑯᑦ (ᐆᑦᑐᑎᒋᓗᒍ, ᐱᓱᕋᕐᓂᖅ, ᓂᕐᔪᑎᓂᒃ ᑕᐅᑐᒋᐊᖅᑐᕐᓂᖅ ᐊᒻᒪᓗ ᐊᔾᔨᓕᐅᕆᓂᖅ). ᐊᓯᕙᖅᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᒃᑏᑦ ᑮᓇᐅᔭᓕᐅᖅᑲᑦᑕᖅᑐᑦ ᐅᒥᖕᒪᓂᑦ, ᑐᒃᑐᓄᑦ, ᐊᒪᕈᓄᑦ ᐊᒻᒪᓗ ᖃᖅᑲᓄᑦ. ᓄᓇᒧᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᖅ ᐊᓯᕙᖅᓂᖅ, ᐃᐅᑦᑕᖅᓂᕐᒧᑦ, ᐃᖃᓗᒃᓯᐅᕐᓂᕐᒧᑦ ᑕᒫᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐᓂᕐᒧᑦ. ᐊᖑᓇᓱᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐃᒻᒥᒃᑯᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑎᒃ ᐊᒻᒪᓗ ᑐᓂᐅᖅᑲᐃᕙᒃᑐᑎᒃ ᓄᓇᒥᔭᐅᔪᒧᑦ.

ᐱᓕᕆᐊᒃ ᓴᐳᑉ ᐃᓅᖃᑎᒌᖕᖏᑦ ᑕᐅᑎᓂᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᑦ

ᐅᑉ ᐱᓇᔭᐅᔪᑦ ᓱᓇᒃ ᑯᑖᖑᖃ

ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ (VEC) ᐊᒻᒪᓗ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᖃᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᓕᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᓇᓪᓕᒌᖅᓯᒪᔪᑦ, ᓱᓇᒃᑯᑖᖑᔪᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᐃᓄᖕᓂᑦ ᐊᕙᑎᐅᔪᓂᒃ ᐃᓱᒪᒋᔭᐅᔪᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓱᓇᒃᑯᑖᓂᒃ, ᐊᕙᑎᐅᓂᕐᒧᑦ, ᕿᓇᐅᔭᓕᐅᕐᓂᓕᔭᐅᔪᒃᑯᑦ, ᐃᓅᖃᑎᒌᖕᓂᕐᒧᑦ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᐊᒻᒪᓗ ᐃᑦᑕᕐᓂᑕᒃᑯᑦ ᐱᒻᒪᕆᐅᔪᑦ. ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖅ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑭᒃᑯᑐᐃᓐᓇᓂᑦ ᐅᖃᐅᔾᔪᖅᑕᐅᓯᒪᔪᒃᑯᑦ, ᐊᑐᐊᒐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᖃᐅᔨᓴᕐᓂᖅ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᔪᑎᖏᑦ, ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓕᕐᑯᔭᐅᒌᕐᓂᒃᑯᑦ ᐃᓚᒋᔭᐅᔪᓐᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᑦ EIS ᓇᓗᓇᐃᕐᕕᖓᓂᑦ; ᓂᕈᐊᕐᓴᐃᑦ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐊᒻᒪᓗ ᐊᒻᒪᓗ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᖃᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᓕᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐃᓱᒪᒋᔭᐅᖃᑕᐅᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᕐᓂᖓᓄᑦ ᐊᔪᖅᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᖃᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᒧᑦ.

ᑐᑭᓯᐊᔾᔪᑎᒍᑦ, TMAC-ᑯᑦ ᖃᐅᔨᓚᐅᖅᑐᑦ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐊᒻᒪᓗ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᖃᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᓕᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐅᖃᐅᓯᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᒧᑦ. ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᑦ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐃᓚᒋᔭᖃᖅᑐᑦ ᓯᓚᒧᑦ, ᓄᓇᒧᑦ, ᐃᒪᕐᒧᑦ, ᑕᕆᐅᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐊᕙᑎᐅᔪᓂᒃ ᐊᒻᒪᓗ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐊᑖᓂ ᓇᓕᐊᒃᑯᕐᓂᖕᒋᑦ.

ᒪᓕᓪᓗᒍ ᐃᓚᖕᒋᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᖅ 3-5 ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᐅᓯᒪᔪᓂᒃ EIS ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᒻᒥᒃᑰᖅᓯᒪᔪᓂᒃ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ ᐊᒻᒪᓗ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᖃᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᓕᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕐᒥᑦ, ᑐᒃᓯᕋᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖕᒐᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᓴᓗᒪᐃᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐊᒻᒪᓗ ᐊᖏᓂᖅᓴᒃᑯᑦ ᐊᔾᔨᐆᙱᑦᑐᓂᒃ ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ.

ᓯᑕᐅᑉ ᐊᕙᑎᖓ

ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖅ ᓄᓇᓯᐅᑎᓂᒃ ᐊᑐᕐᓂᖅ ᐊᒻᒪᓗ ᐃᑯᒪᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ ᓯᓚᒧᐊᖅᑦᑕᕐᓂᐊᖅᑐᑦ, ᐊᔪᕐᓇᙱᓐᓂᖃᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᓂᖅᖠᖅᑐᖅᑕᐅᕚᒃᑐᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ. ᑭᓯᐊᓂ, ᐱᓕᕆᐊᓴᖅ ᓇᔪᕐᕕᐊᑕ ᐅᖓᓯᓐᓂᖓᒍᑦ ᓄᓇᒥᔭᐅᔪᒥᑦ, ᑕᐃᒪᐅᑐᐃᓐᓇᓇᐊᓕᒃ ᐊᓂᖅᖠᖅᑕᐅᕙᓪᓗᓂ ᐃᓄᖕᓂᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ ᖃᖓᒃᑯᑦ ᑕᐃᒪᐅᑎᓪᓗᒋᑦ.

ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖅ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐱᕈᖅᓯᕕᐅᑉ ᓱᓪᓚᐅᔪᖓᓂᒃ ᑕᐃᒪᐅᖏᓐᓇᖅᑎᓪᓗᒋᑦ ᐱᔮᑎᒋᓪᓗᒍ ᐃᑯᒪᐃᑦ ᐊᒻᒪᓗ ᐊᖁᑎᓯᐅᑏᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ (ᐆᑦᑐᑎᒋᓗᒍ ᐃᑯᐊᓪᓚᒃᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᓯᖅᑯᖅᑲᑦᑕᖅᑐᓂᒃ). ᑖᒃᑯᐊ ᐱᕙᓪᓕᐊᔪᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᑎᓪᓗᖕᒋᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓪᓗᒋᑦ ᐃᓚᖓᓄᑦ. ᐱᕈᖅᓯᐊᓄᑦ ᓱᓪᓚᐅᔪᖓ ᓈᓴᖅᑕᐅᔾᔭᖅᑐᖅ ᐊᓯᖏᓐᓄᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓄᑦ ᐱᓕᕆᐊᓴᒋᔭᐅᔪᓂᑦ ᓄᓇᕗᒻᒥ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᒥ, ᑭᓯᐊᓂ ᒥᑭᓂᖅᓴᒃᑯᑦ ᓈᓴᐃᓂᖅ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᓯᓚᕐᔪᐊᒥ ᐱᕈᖅᓯᕕᐅᑉ ᓱᓪᓚᐅᔪᖓᓂᑦ ᓈᓴᐃᓂᕐᒧᑦ.

ᓯᓚᐅᑉ ᐊᑭᑎᖓ	ᓄᓇᐅᑉ ᐊᑭᑎᖓ	ᐃᒪᕐᑎᐊᕙᒃ ᐊᑭᑎᖓ	ᑕᕆᐅᕐᒥᐅᑕᐃ	ᐃᓅᓯᓄᑦ ᐊᑭᑎᖓ
• ᓇᒥᓗᒃᑖᖅ ᓯᓚᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᑐᓴᕐᓃᓐᓂᖓ ᐊᒻᒪᓗ ᓴᔪᖕᓂᖓ	• ᐱᕈᖅᓯᐊᑦ • ᓄᓇᐅᑉ ᖃᓄᐃᑦᑑᓂᖏᑦ ᐱᒻᒪᕆᐅᔪᑦ • ᑐᒃᑐ • ᐊᒃᓴ • ᐅᒥᖕᒪᒃ • ᓂᕐᔪᐃᑦ ᐊᒥᖅᑲᖅᑐᑦ • ᖁᐸᓄᐊᑦ • ᐃᒪᕐᒥ ᖁᐸᓄᐊᑦ • ᓄᓇᒥ ᖁᐸᓄᐊᑦ	• ᖁᑏᓂ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᓴᐅᕗᐅᓂᑯᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ • ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖓ • ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ ▪ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑲᕕᓯᓕᒃ ▪ ᑕᓯᕐᒥ ᐃᖃᓗᖖᐃᑦ ▪ ᐃᖃᓗᒃᐱᒃ ▪ ᑲᕕᓯᓕᒃ	• ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᓴᐅᔾᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖓ • ᐃᖃᓄᐃᑦ ᓇᔪᕐᕕᖓ • ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ ▪ ᐃᖃᓗᒃᐱᒃ ▪ ᐆᑲᖅ • ᓇᑦᑎᖅ • ᑕᕆᐅᒥ ᖁᐸᓄᐊᑦ	• ᐃᑦᑕᕐᓂᑕᓕᖅᑯᑦ ᓇᔪᕐᕕᖏᑦ • ᑮᓇᐅᔾᓕᐅᕐᓂᖅᓯᐅᔪᑦ ᐱᕋᓪᓕᐊᔪᑦ • ᓇᒻᒥᓂᕐᑲᕐᓂᕐᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᐃᑦ • ᐃᖅᑲᓇᐃᔮᑏᑦ • ᐃᓕᓐᓂᐊᕐᓂᖅ ᐊᒻᒪᓗ ᐃᓕᑎᑕᐅᓂᖅ • ᐊᐅᓪᓛᕐᓂᖅ, ᐃᓪᓗᓕᕆᓂᖅ, ᐊᒻᒪᓗ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᖏᑦ ᐊᐅᓚᔪᓇᕐᖁᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐱᔨᑦᑎᕋᐅᑏᑦ • ᓄᓇᒋᔭᐅᔪᒥ ᐋᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐃᓅᑎᐊᕐᓂᖅ • ᐱᓕᕆᕝᕕᖅᑲᖅᑐᓄᑦ ᐆᒻᒪᖅᑯᑏᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᑦ • ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᙳᐊᕐᓂᖅ ᐊᒻᒪᓗ ᖃᐅᔨᒪᓂᖅ • ᐃᓅᑉ ᐋᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐊᑭᑎᐅᑉ ᐊᑦᑕᕐᓇᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ

ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ 3. ᓇᐃᑦᑐᒃᑯᑦ ᐅᓂᒃᑳᑦ ᓯᓚᐅᑉ ᐊᒻᒪᓗ ᓄᓇᐅᑉ ᐊᕙᑎᖓᑦ ᐃᓚᒃᓴᒧᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ

ᓇᔪᖅᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᖅᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖁᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
	ᑐᓵᓐᓂᑦᑐᑦ ᐊᒻᒪᓗ ᓴᔪᖕᓂᖅ	• ᐱᕙᓪᓕᐊᔪᑦ ᐃᓄᖕᓄᑦ • ᐱᕙᓪᓕᐊᔪᑦ ᓂᖅᔪᑎᓄᑦ	• ᓇᓗᓇᐃᑦᑎᐊᕐᓂᖅ ᐱᖁᑏᑦ ᓈᒻᒪᑦᑎᐊᖅᑐᓂᒃ • ᐃᒐᓕᓂᒃ ᐊᒻᒪᓗ ᓂᐸᐃᔭᐅᑎᑦ; • ᐊᑐᕐᓗᑎᒃ ᒪᑐᒐᔅᓴᓂᒃ, ᐃᑭᖃᖅᑐᓂᒃ ᑭᒡᓕᖃᖅᑐᓂᒃ, ᑐᓴᕐᓇᖅᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪᓗ ᑕᓕᓗᒋᑦ ᓄᖅᑲᖓᔪᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᓂᒃ ᐊᐅᓚᔪᓐᓇᖅᑐᓂᒃ (ᑐᓵᓐᓂᖅᑎᑦᑎᔪᓐᓃᕐᓂᖅ ᐊᑐᖅᑕᐅᔪᓂᒃ) ᖃᐅᔨᓭᐅᓯᒪᔪᑦ. • ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐱᖁᑏᑦ ᑲᔪᓯᑦᑎᐊᕈᓐᓇᕐᓂᖏᑦ. • ᐃᓪᓗᒥ ᑐᓵᓐᓂᑦᑕᐃᓕᒪᓂᕐᒧᑦ. ᓯᖁᒥᑎᑦᑎᓲᑦ ᐃᑯᒪᒃᑯᑦ, ᐃᑯᒪᐃᑦ ᐊᐅᓚᔪᓇᐅᑦ, ᐊᑐᖅᑕᐅᕙᓪᓚᐊᔪᓂᒃ ᐱᓕᕆᐊᑦ ᐊᒻᒪᓗ ᐱᖁᑎᓂᒃ ᐱᓕᕆᐊᖃᕐᓂᖅ (ᓯᖁᒥᑎᑦᑎᓂᕐᒧᑦ) ᓴᓇᕗᕕᐅᔪᑦ. • ᐊᖏᔪᑦ ᓄᓇᓯᐅᑎ ᐊᖅᑭᐊᖅᓯᒪᓗᑎᒃ ᐊᖅᑯᑎᒃᑯᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᖁᐸᓄᐊᓂᒃ, ᐱᔪᓐᓇᕐᓂᒃᑯᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᐅᓪᓛᕐᓂᖅ ᑐᓵᓐᓂᑦᑕᐃᓕᓯᐊᕐᓂᕐᒧᑦ	• ᐱᕙᓪᓕᐊᔪᑦ ᐃᓄᖕᓄᑦ • ᐱᕙᓪᓕᐊᔪᑦ ᓂᖅᔪᑎᓄᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ (ᑕᒃᑯᓄᖓ ᓄᓇᒥ ᓂᕿᔪᑏᑦ VECs)
ᐱᕈᖅᓯᐊᑦ ᐊᒻᒪᓗ ᑕᑯᔪᒥᓇᖅᑐᑦ ᓄᓇᐃᑦ ᖃᓄᐃᓐᓂᖏᑦ	ᐱᕈᖅᓯᐊᑦ	• ᐃᕈᖅᓯᐊᖃᕈᓐᓃᕐᓂᖅ	• ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓇᔪᖅᕕᓕᐅᕐᓗᓂ ᓴᓇᓯᒪᔫᒃᑯᑦ • ᐱᑦᑕᐃᓕᓂᖅ ᓱᕋᓴᐃᑦᑐᓂᒃ ᓇᔪᖅᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐱᖃᓗᐊᙱᑦᑐᓂᒃ ᐱᕈᖅᓯᐊᓂᒃ ᐱᓕᕆᔅᓴᒧᑦ ᓴᓇᓂᐊᖅᑎᓪᓗᒋᑦ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᑦᑕᐃᓕᓂᖅ ᐱᕈᖅᓯᐊᓂ, ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓂᒃ ᐊᒻᒪᓗ ᓴᓪᓂᒃ ᐱᓕᕆᐊᔅᓴᐅᑉ ᓇᔪᖅᕕᖏᓐᓂ • ᐊᕙᑖᓂ • ᑭᒡᓕᖃᖅᑎᑦᑎᓂᖅ ᓯᐅᕋᓂᒃ - ᓯᐅᕋᖃᖅᑕᐃᓕᒪᓂᖅ ᐊᖅᑯᑎᒥᑦ • ᓱᒃᑲᓂᕐᒧᑦ ᑭᒡᓕᖃᖅᑎᑦᓂᖅ ᐊᖅᑯᑎᒥ ᓯᐅᕋᖃᖅᑕᐃᓕᒪᓂᕐᒧᑦ • ᓄᓇᓯᐅᑎᖃᙱᑎᑕᐅᓗᑎᒃ ᐊᖅᑯᑎᓄᑦ ᐊᒻᒪᓗ	• ᐃᕈᖅᓯᐊᖃᕈᓐᓃᕐᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
		• ᐊᓯᙳᖅᑎᑦᑎᓂᖅ ᐱᕈᖅᓯᐊᓂᒃ		• ᖃᐅᔨᒪᔭᐅᙱᖅᑐᖅ	-

ᓇᐸᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᒥᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᕐᒥᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᓕᕆᐅᓂᖓᓄᑦᑲᒡᓯᐅᓂᖓ
			ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖓᓂ ᐊᒻᒪᓗ ᓱᒃᑯᑦ ᐊᖅᑯᑏᑦ • ᒥᑭᓐᓂᖅᐸᒌᑦ ᓴᒃᑲᓂᒃ ᓱᕋᒃᑕᐃᓕᒪᓂᕐᒧᑦ(ᓱᕋᒃᐸᓪᓕᐊᔪᑦ) ᓴᖅᑭᑎᑦᑎᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓪᓗᑎᒃ ᓱᕋᒃᐸᓪᓕᐊᔪᓂᒃ ᑲᒪᑦᑎᐊᕐᓂᖅ • ᐊᖏᓂᖅᐹᒃᑯᑦ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐊᑐᙱᑦᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐱᔭᐅᓯᒪᔪᓂᒃ ᐱᔪᓐᓇᕐᓂᖓᓄᑦ • ᕿᐅᔨᓴᕐᓂᖅ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐅᑎᖅᑎᑦᑎᓂᐊᕐᓗᓂ ᐱᕐᑯᔭᐅᔪᒃᑯᑦ • ᓈᓚᒃᑐᒃᑯᑦ ᐃᓕᔭᐅᕝᕕᓂᒃ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐱᓯᒪᑦᑎᒋᐊᕐᓂᕐᒧᑦ ᓄᓇᐅᑉ ᕿᕐᕿᓯᒪᓂᖓᓂᒃ		
	ᑕᑯᒥᓇᖅᑐᑦ ᓄᓇᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ	• ᐱᖃᕈᓐᓃᕐᓂᖅ ᑕᑯᒥᓇᖅᑐᓂᒃ ᓄᓇᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ	• ᐱᑦᑕᐃᓕᓂᖅ ᐱᖃᓗᐊᙱᑦᑐᓂᒃ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐱᖃᓗᐊᙱᑦᑐᓂᒃ ᐱᕈᖅᓯᐊᓂᒃ ᐱᓕᕆᐊᓯᒧᑦ ᐋᖅᑮᑎᓪᓗᒋᑦ • ᒥᑭᓂᖅᐹᒃᑯᑦ ᐱᔭᐅᑦᑕᐃᓕᓂᖅ ᐱᕈᖅᓯᐊᓂᒃ, ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓂᒃ ᐊᒻᒪᓗ ᓄᓇᕋᓂᒃ ᐱᓕᕆᐊᓯᐅᑉ ᐊᕙᑎᖓᓂ	• ᐱᖃᕈᓐᓃᕐᓂᖅ ᑕᑯᒥᓇᖅᑐᓂᒃ ᓄᓇᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ	ᐱᓕᕆᐅᙱᑦᑐᖅ
		• ᐊᓯᙰᖅᐸᓪᓕᐊᓂᖅ ᑕᑯᔪᒥᓇᖅᑐᓂᒃ ᓄᓇᐅᑉ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ	• ᑮᓪᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᓱᐅᕋᐅᕐᓂᒃ - ᓱᐅᕋᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖅᑯᑎᒧᑦ • ᓱᒃᑲᓂᕐᒧᑦ ᑮᓪᓕᕐᑲᕐᓗᓂ ᐊᖅᑯᑎᒥ ᓱᐅᕋᕐᑲᖅᑕᐃᓕᒪᓂᕐᒧᑦ • ᓄᓇᓱᐅᑎᕐᑲᙱᑎᑕᐅᓗᑎᒃ ᓇᔪᕐᕕᐅᔪᓄᑦ ᐊᖅᑯᑎᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐅᔭᕋᒃᑕᕐᕖᑦ ᓇᔪᕐᕕᖓᓂ ᐊᒻᒪᓗ ᓱᒃᑯᑦ ᐊᖅᑯᑏᑦ • ᒥᑭᓐᓂᖅᐸᒌᑦ ᓴᒃᑲᓂᒃ ᓱᕋᒃᑕᐃᓕᒪᓂᕐᒧᑦ (ᓱᕋᒃᐸᓪᓕᐊᔪᑦ) ᓴᖅᑭᑎᑦᑎᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓪᓗᑎᒃ ᓱᕐᑯᒥᑦᑎᕙᓪᓕᐊᔪᓂᒃ ᑲᒪᑦᑎᐊᕐᓂᖅ • ᐊᖏᓂᖅᐹᒃᑯᑦ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐊᑐᙱᑦᑐᓂᒃ ᐱᔭᐅᓯᒪᔪᓂᒃ ᐱᔪᓐᓇᕐᓂᖓᓄᑦ • ᕿᐅᔨᓴᕐᓂᖅ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐅᑎᖅᑎᑦᑎᓂᐊᕐᓗᓂ ᐱᔾᔪᑎᓴᓂᒃ • ᓈᓚᒃᑐᒃᑯᑦ ᐃᓕᔭᐅᕝᕕᓂᒃ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐱᓯᒪᑦᑎᒋᐊᕐᓂᕐᒧᑦ ᓄᓇᐅᑉ ᕿᕐᕿᓯᒪᓂᖓᓂᒃ	• ᖃᐅᔨᒪᔪᕐᑲᙱᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖅᑎᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
ᓄᓇᐅᑉ ᓂᕐᔪᑎᖏᑦ ᐊᒻᒪᓗ ᓂᕐᔪᐃᑦ ᓇᔪᕐᕕᖏᑦ	ᑕᕕᓐ(Dophin) ᐊᒻᒪᓗ ᔫᓂᐊᓐ (Union)	• ᓂᕐᔪᐃᑦ ᓇᔪᖅᑕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᐊᐅᓪᓛᖅᑎᑦᑎᔪᓐᓃᕐᓂᖅ • ᓇᔪᕐᕕᒻᒧᐊᖅᑎᑦᑎᓂᖅ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕚᓪᓕᐊᑕᐅᔪᑦ ᐃᑳᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᕿᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᐃᒪᒃᑯᑦ ᐊᖕᔭᖅᑐᐃᓂᖅ ᐅᒥᐊᒃᑯᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᓱᑯᒃᑯᑦ ᑕᕕᓐ ᐊᒻᒪᓗ ᔪᓂᐊᓐ ᑐᒃᑐᖏᑦ ᐊᐅᓪᓛᕐᓂᖏᓐᓄᑦ ᑏᔅ (Dease) ᕿᖏᖅᓱᐊᓂ • ᐸᕐᓇᐅᑎᕐᑲᕐᓂᖅ ᑐᒥᓕᐅᕐᓂᖅ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓂᕐᔪᑎᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᖁᕕᓕᐅᕐᓗᓂ ᑐᒥᓕᐅᕐᓂᖅ • ᑭᒡᓕᕐᑲᕐᓗᓂ ᓱᐅᕋᕐᑲᕐᓂᖅ - ᓱᐅᕋᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎ ᐱᕐᑯᑎᓂᒃ ᑭᒡᓕᕐᑲᕆᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ • ᖃᐅᔨᓴᕐᓂᖅ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᖄᖅᓰᓂᕐᒧ ᑐᒃᑐᐃᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᑕᐃᒪᐅᔪᓂᒃ • ᓱᒃᑲᓂᕐᒧᑦ ᑭᒡᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᑐᓗᕐᑲᑎᕐᑲᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ • TMAC-ᑯᑦ ᐊᓯᕗᖅᑕᐃᓕᒪᓂᕐᑲᖅᑐᑦ ᐊᑐᐊᕐᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᖅᑯᑎᒃᑯᑦ ᐅᑭᐅᖁᓗᒃᑖᖅ ᐃᑲᔫᑕᐅᓗᑎᒃ ᐃᑳᖅᐸᓪᓕᐊᔪᓂᒃ ᓂᕐᔪᑎᓂᒃ. • ᐊᐳᑎᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ ᐊᖅᑯᑎᒃᑯᑦ. • Hᐃᓕᑳᑉᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᒍᑦ ᐊᒻᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖓᓂᖔᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. • ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᕈᑉ ᐃᓴᕈᖓ ᑲᔪᓯᔪᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖁᑦᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ	• ᓂᕐᔪᐃᑦ ᓇᔪᖅᑕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᕐᓗᐊᕐᑭᔭᖅᑐᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
	ᑎᕝᔭᓕᒃ/ᐊHᐃᐊᒃ ᑐᒃᑐᖏᑦ	• ᓂᕐᔪᐃᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᕿᔮᖅᑐᑦ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᐃᒪᒃᑯᑦ ᐊᖕᔭᖅᑐᐃᓂᖅ ᐅᒥᐊᒃᑯᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ	• ᓂᕐᔪᐃᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᕿᔮᖅᑐᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᔪᖅᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᒥᑦ (VEC)	ᐊᔪᖅᓇᙱᒃᑲᓗᐊᖕᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖃᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᕐᒥᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᕐᒐᓄᑦᖃᓭᓯᐅᓂᕐᒐ
		ᐊᐅᓪᓛᖕᑐᓂᒃ • ᖃᐃᑎᑦᑎᔦᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᖁᑐᐃᓐᓇᖕᑐᑦ • ᐊᕐᒦᓪᓕᕚᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᕐᒍᓇᓱᕐᓂᕐᒧᑦᐊᓱᙳᖕᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᕐᒐᓄᑦ	ᓱᑯᒃᑯᑦ ᑕᕕᓐ ᐊᒻᒪᓗ ᔪᓂᐊᓐ ᑐᒃᑐᕐᒥᑦ ᐊᐅᓪᓛᕐᓂᕐᒥᓐᓄᑦ ᑏᓯ (Dease) ᖃᕐᒥᖕᓱᐊᓂ • ᐸᕐᓇᐅᑎᖃᕐᓂᖅ ᐃᓂᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖕᑐᓂᒃ ᓂᕐᔦᑎᓂᒃ ᓇᔪᖅᕕᐅᔪᓂᒃ • ᒥᑭᓐᓂᖕᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᐃᓂᓕᐅᕐᓂᕐᒧᑦ • ᑭᒡᓕᖅᑲᕐᓗᓂ ᓱᐅᕿᖅᑲᕐᓂᖅ - ᓱᐅᕿᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖕᑯᑎᒃᑯᑦ • ᑲᔪᓯᑦᑎᐊᕐᒥᓐᓇᕈᑎ ᐱᖁᑎᓂᒃ ᑭᒡᓕᖅᑲᓇᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ • ᖃᐅᔾᔭᖅᓂᖅ ᐱᒋᐊᖕᑳᖕᑎᓐᓇᒥᑦ ᖄᖕᓲᓂᕐᒧ ᑭᒡᓕᖅᑲᖕᑎᑦᑎᒋᐊᕐᓗᒋᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᑐᒃᑐᓂᒃ ᑕᐃᒪᐅᔪᓂᒃ • ᓱᒃᑲᔫᒃᑯᑦ ᑭᒡᓕᖅᑲᖕᑎᑦᑎᓂ ᒥᑭᓂᖕᐹᒃᑯᑦ ᑐᓗᖕᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔦᑎᓂᒃ • TMAC-ᑯᑦ ᐊᓯᕙᕐᓂᕐᒧᑦ ᐱᖁᔭᐅᙱᑦᑐᑦ ᐃᖕᑲᓇᐃᔭᖕᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᖅᕕᐅᔪᓂᒃ ᐊᖕᑯᑎᒃᑯᑦ ᐅᑭᐅᒨᓗᒃᑖᖅ ᐃᑲᔫᑕᐅᓗᑎᒃ ᐃᑳᖕᐸᓪᓕᐊᔪᓂᒃ ᓂᕐᔦᑎᓂᒃ. • ᐊᐳᑎᓂᒃ ᐊᐅᓚᓂᖅ ᐊᖕᑯᑎᒃᑯᑦ. • Hᐃᓕᑳᑉᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖕᒐᒍᑦ ᐊᒻᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖕᒐᓂᖕᒑᖕᒐᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. • ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᓲᑉ ᐃᓭᕈᖕᒐ ᑲᔪᓯᔪᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖁᑦᑎᓐᓂᖕᒐᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ.		
	ᐅᒥᖕᒪᐃᑦ	• ᓂᕐᔦᑏᑦ ᓇᔪᖅᕕᖅᑲᕈᓐᓃᕐᓂᕐᒥᑦ • ᓂᐱᓕᐅᕿᔫᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖕᑐᓂᒃ • ᖃᐃᑎᑦᑎᔦᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ	• ᐃᖕᑲᓇᐃᔭᖕᑎᒧᑦ ᖃᐅᔾᔭᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᐸᕐᓇᐅᑎᖃᕐᓂᖅ ᓴᓇᕝᕕᓄᑦ ᑐᒥᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖕᑐᓂᒃ ᓂᕐᔦᑎᓄᑦ ᓇᔪᖅᕕᐅᔪᓂᒃ • ᒥᑭᓐᓂᖕᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᖅᑲᖕᑐᓂᒃ	• ᓂᕐᔦᑏᑦ ᓇᔪᖅᕕᖅᑲᕈᓐᓃᕐᓂᕐᒥᑦ • ᓂᐱᓕᐅᕿᔫᕐᓂᖅ	• ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
		• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓱᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᑭᒻᓕᕐᑲᕐᓗᓂ ᓯᐅᕋᕐᑲᕐᓂᖅ - ᓯᐅᕋᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑲᔪᓯᑎᐊᖏᓐᓇᕈᑎ ᐱᕐᑯᑎᓂᒃ ᑭᓪᓕᕐᑲᕆᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ • ᕐᑲᐅᔮᔅᓂᖅ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᕐᑳᖅᔫᓂᕐᒧ ᑭᓪᓕᕐᑲᖅᑎᑦᑎᒋᐊᕐᓗᒋᑦ ᓂᐱᓕᖅᑮᔅᓂᑦ ᐅᒥᖕᒪᕐᑲᕐᓂᖅᐸᑦ • ᓲᒃᑲᔫᒃᑯᑦ ᑭᓪᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑐᓗᖅᓯᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ • TMAC-ᑯᑦ ᐊᓯᕙᕐᓂᕐᒧᑦ ᐱᕐᑯᔮᐅᙱᑦᑐᑦ ᐃᖅᑲᓇᐃᔮᖅᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᖅᑯᑎᒃᑯᑦ ᑎᒻᒥᓲᒧᐊᖅᐸᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᒧᐊᖅᐸᓪᓕᐊᔪᓂᒃ ᐅᑭᐅᒧᓗᒃᑖᖅ ᐊᖅᑯᑎᒃᑯᑦ ᐃᑲᔫᑕᐅᓗᑎᒃ ᐃᑳᖅᐸᓪᓕᐊᔪᓂᒃ ᓂᕐᔪᑎᓂᒃ. • ᐊᕗᑎᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐊᖅᑯᑎᒃᑯᑦ. • Hᐃᓕᑳᐸᑐᑦᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᒍᑦ ᐊᒻᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖓᓂᖔᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. • ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᓲᒃ ᐃᓴᕈᖓ ᑲᔪᓯᔪᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖁᑦᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ.		
	ᐊᒃᓴ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᑮᔅᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ • ᕐᑲᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓱᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔮᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᐸᕐᓇᐅᑎᕐᑲᕐᓂᖅ ᑐᒥᓕᐅᕐᓂᖅ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓂᕐᔪᑎᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓂᒃ ᑐᒥᓂᒃ • ᑭᓪᓕᕐᑲᕐᓗᓂ ᓯᐅᕋᕐᑲᕐᓂᖅ - ᓯᐅᕋᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑲᔪᓯᑎᐊᖏᓐᓇᕈᑎ ᐱᕐᑯᑎᓂᒃ ᑭᓪᓕᕐᑲᕆᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ • ᕐᑲᐅᔮᔅᓂᖅ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᕐᑳᖅᔫᓂᕐᒧ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ · ᕐᑲᐃᑎᑦᑎᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ	ᐱᓕᕆᐅᙱᑦᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᖃᖅᓯᐅᓂᖓ
			ᕿᓪᓕᕐᑲᖅᑎᑦᑎᒋᐊᕐᓗᒋᑦ ᑐᓴᕐᓂᕿᓂᕐᒧᑦ ᐊᒃᓴᕐᑲᕐᓂᖅᐸᑦ ᑕᐃᒪᐅᔪᓂᒃ • ᓱᒃᑲᔪᒃᑯᑦ ᕿᓪᓕᕐᑲᕐᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑐᓗᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ • TMAC-ᑯᑦ ᐊᓯᕗᕐᓂᕐᒧᑦ ᐱᕐᑯᔭᐅᙱᑦᑐᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᖅᑯᑎᒃᑯᑦ ᑎᒻᒥᓲᒧᐊᖅᐸᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᒧᐊᖅᐸᓪᓕᐊᔪᓂᒃ ᐅᑭᐅᒧᓗᒃᑖᖅ ᐊᖅᑯᑎᒃᑯᑦ ᐃᑲᔫᑕᐅᓗᑎᒃ ᐃᑳᖅᐸᓪᓕᐊᔪᓂᒃ ᓂᕐᔪᑎᓂᒃ. • ᐊᐳᑎᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ ᐊᖅᑯᑎᒃᑯᑦ. • Hᐃᓕᑳᑉᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᒍᑦ ᐊᒻᒪᓗ 600 ᒥᑕᓂᒃ ᓴᓂᖓᓂᖑᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. • ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᓲᑉ ᐃᓭᕈᖓ ᑲᔪᓯᔪᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖁᑦᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ. • ᐊᑦᑕᑯᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ, ᑕᒻᒫᕐᕕᐅᑉ ᐊᓇᕐᕕᖓᓂᒃ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐃᓕᓐᐊᕐᓂᖅ ᕿᓪᓕᕐᑲᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᐃᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᒻᒧᑦ ᐊᒃᓴᓂᒃ		
	ᒥᖅᑯᖅᑲᖅᑐᑦ (ᖃᕐᕕᒃ)	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᕐᑲᕆᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᕿᔮᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ • ᖃᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᓭᓴᓂᒃ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓕᐅᕐᓂᖅ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᑦᑐᓂᒃ ᓂᕐᔪᑎᓂᒃ • ᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓕᐅᕐᓂᖅ • ᕿᓪᓕᕐᑲᕐᓗᓂ ᓱᐅᕋᕐᑲᕐᓂᖅ - ᓱᐅᕋᐅᑎᓄᑦ ᐃᓚᓭᐃᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎ ᐱᕐᑯᑎᓂᒃ ᕿᓪᓕᕐᑲᓇᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ • ᓱᒃᑲᔪᒃᑯᑦ ᕿᓪᓕᕐᑲᕐᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑐᓗᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᕐᑲᕆᓐᓃᕐᓂᖏᑦ • ᖃᐃᑎᑦᑎᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᐩᕝᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᓪᓚᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᓪᓚᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕿᒃᓯᐅᓂᖓ
			• TMAC-ᑯᑦ ᐊᓯᐱᕐᓂᕐᒧᑦ ᐱᕐᑯᔭᐅᙱᑦᑐᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕝᕕᐅᔪᓂᒃ ᐊᖅᑯᑎᒃᑯᑦ ᐅᑭᐅᒧᑲᒃᑖᖅ ᐃᑲᔫᑕᐅᓗᑎᒃ ᐃᑳᖅᐸᓪᓕᐊᔪᓂᒃ ᓂᕐᔪᑎᓂᒃ. • ᐊᐳᑎᓂᒃ ᐊᐅᓚᓂᖅ ᐊᖅᑯᑎᒃᑯᑦ. • Hᐃᓕᑳᐸᑦᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᒍᑦ ᐊᒻᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖓᓂᖔᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. • ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᓲᑉ ᐃᓴᕈᖓ ᑲᔪᓯᔪᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖁᑦᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ. • ᐊᑦᑕᑯᓂᒃ ᐊᐅᓚᓂᖅ, ᑕᒻᒫᕝᕕᐅᑉ ᐊᓇᕝᕕᖓ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐃᓕᓐᓂᐊᕐᓂᖅ ᑭᒡᓕᕐᑲᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᐃᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᒻᒧᑦ ᒥᖅᑯᖃᖅᑐᓂᒃ		
	ᖁᐸᓄᐊᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕝᕙᖃᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᑭᔮᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ • ᖃᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐃᓕᕆᐊᓴᓂᒃ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᖅ ᑐᒥᓕᐅᕐᓂᕐᒧᑦ • ᓱᓇᖃᖅᑕᐃᓕᓂᖅ ᐊᒻᒪᓗ ᓴᓇᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᒃᑯᑦ ᓇᔪᕝᕕᐅᔪᓂᒃ ᐱᑭᐅᓕᐅᖅᑐᓂᒃ ᖁᐸᓄᐊᓂᒃ ᐱᕐᑯᔭᐅᓯᒪᔪᑦ ᓯᓚᑖᒍᑦ ᐊᑦᑕᕐᓇᕐᓂᖓ ᖃᖓᐅᓂᒃᑯᑦ ᒪᓕᓪᓗᒍ • (ᐱᑭᐅᓕᐅᕐᓂᐊᓕᖅᑎᓪᓗᒋᑦ) ᐅᕝᕙᓘᓐᓃᑦ ᖃᐅᔮᓴᕐᓂᐊᖅᑎᓪᓗᒋᑦ ᐱᑭᐅᓂᒃ ᖃᐅᔮᓴᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑎᓪᓗᒍ; • ᐱᑦᑕᐃᓕᒪᓂᖅ ᐱᑭᐅᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐱᑭᐅᓄᑦ ᓇᔪᕝᕕᐅᔪᓂᒃ ᖃᖓᑐᐃᓐᓇᖅ ᐊᔪᕐᓇᙱᑦᑐᒃᑯᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕝᕙᖃᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᖅᑭᓕᔫᕐᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
	ᐃᒪᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕝᕙᖃᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᑭᔮᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᓴᐃᑦ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓕᐅᕐᓂᖅ • ᐱᓪᓚᓕᐊᓂᖅ ᓄᓇᒥ ᓱᓇᖅᑲᙱᓪᓗᓂ ᓯᓚᑖᒍᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕝᕙᖃᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᖅᑭᓕᐅᖅᑎᑦᑎᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕐᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒋᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕐᑲᔅᓯᐅᓂᖓ
		• ᖃᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓱᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᑕᐅᓕᐅᖅᑐᓂᒃ ᓱᓇᕐᑲᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᖃᐅᔮᕐᓂᖅ ᐃᒪᕐᐅᑕᓄᑦ ᕐᑯᐸᓄᐊᓄᑦ ᓴᓇᔪᓐᓇᙱᑉᐸᑕ ᐱᑕᐅᓕᐅᕐᓇᙱᑎᓪᓗᒍ ᐱᕐᑯᔭᓃᑦᑐᓂᒃ ᐱᕐᑯᔭᐅᙱᑦᑐᓂᒃ ᐊᓯᕙᕐᓂᖅ, ᐊᑦᑕᑯᓕᐅᕐᓂᖅ ᐊᒻᒪᓗ ᓂᕆᑎᑦᑎᓂᖅ ᓂᕐᔪᑎᓂᒃ; • ᓱᒃᑲᔪᒃᑯᑦ ᑭᒡᓕᕐᑲᕐᓂᖅ, ᓂᕐᔪᑏᑦ ᓯᕗᓪᓕᐅᑎᓗᒋᑦ ᐊᒻᒪᓗ ᓱᐅᕋᒧᑦ ᑲᒪᓂᖅ ᐊᖅᑯᑎᓂᒃ; • ᐱᑦᑕᐃᓕᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᖏᔪᓂᒃ ᐊᖏᔫᒃᑯᑦ ᒥᓴᖅᐸᓪᓕᐊᔪᓂᒃ • ᐱᑦᑕᐃᓕᓂᖅ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᐱᕐᑯᐅᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕐᑯᐅᕕᐅᔪᓂᒃ .		
	ᓄᓇᒥ ᕐᑯᐸᓄᐊᑦ	• ᓂᕐᔪᏒᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᓕᐅᕐᑮᔭᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ • ᖃᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓱᙳᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᓯᐃᑦ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓂᒃ • ᒪᓕᓐᓂᐊᖅᑐᑦ ᐱᓂᖅ ᐱᖃᙱᑦᑐᒃᑯᑦ ᓯᓚᑖᒍᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᑕᐅᓕᐅᖅᑐᓂᒃ ᓄᓇᒥᐅᑕᓂᒃ ᕐᑯᐸᓗᐊᓂᒃ ᓴᓇᔪᓐᓇᙱᑉᐸᑕ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᑕᐅᓕᐅᓕᖅᑎᓪᓗᒋᑦ • ᓇᓗᓇᐃᑦᑎᐊᕐᓗᑎᒃ ᐊᑦᑕᑯᓂᒃ ᑲᒪᓂᕐᒧᑦ ᓴᓇᕝᕕᒻᒧᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᔅᓯᒧᑦ ᐃᒡᓗᕐᔪᐊᖏᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᖓᓄᑦ ᓂᒃᔪᑎᓂᒃ; • ᐊᑐᐊᒐᐃᑦ ᐱᕐᑯᔩᙱᑦᑐᓂᒃ ᐊᓯᕙᕐᓂᕐᒧᑦ ᓇᔪᕐᕕᐅᔪᒥ, ᐊᑦᑕᑯᓕᐅᕐᓂᖅ ᐊᒻᒪᓗ ᓂᕆᑎᑦᑎᓂᖅ ᓂᕐᔪᑎᓂᒃ; • ᓱᒃᑲᔪᒃᑯᑦ ᑭᒡᓕᕐᑲᕐᓂᖅ, ᓂᕐᔪᑏᑦ ᓯᕗᓪᓕᐅᑎᓗᒋᑦ ᐊᒻᒪᓗ ᓱᐅᕋᒧᑦ ᑲᒪᓂᖅ ᐊᖅᑯᑎᓂᒃ; • ᐱᑦᑕᐃᓕᓂᖅ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᐱᕐᑯᐅᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕐᑯᐅᕕᐅᔪᓂᒃ	• ᓂᕐᔪᏒᑦ ᓇᔪᕐᕕᕐᑲᕈᓐᓃᕐᓂᖏᑦ • ᓂᐱᖅᑭᓕᐅᖅᑎᑦᑎᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᑦ

ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ 4. ᓇᐃᑦᑐᒃᑯᑦ ᐃᒪᑦᑎᐊᕙᒻᒧᑦ ᐊᒻᒪᓗ ᑕᕆᐅᑉ ᐊᕙᑎᖓᒋᑦ ᐃᓚᒃᓴᒧᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᒋᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖅᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᖃᔅᓯᐅᓂᖓ
ᖄᖓᓃᑦᑐᓂᒃ ᐃᒪᓕᕆᓂᖅ	ᖄᖓᒍᑦ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ	• ᐊᖅᑭᒃᓯᓂᖅ ᑯᒃᑐᓂᒃ ᐊᕆᔅᒥ ᐃᒪᒃᑯᕝᕕᒃ • ᐋᖅᑭᒃᓯᓂᖅ ᑯᖕᓂᒃ ᐊᓄᕆᑎᓪᓗᒍ ᐃᒪᒃᑯᕝᕕᒃ • ᐋᖅᑭᒃᓯᓂᖅ ᑯᒃᑐᓂᒃ ᐊᐅᒪᐅᑲᑕᒥ ᐃᒪᒃᑯᕝᕕᒃ	• ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᕐᓗᑎᒃ ᐊᒻᒪᓗ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᒃᒧᑦ ᐃᒪᕐᒥᒃ • ᐊᑐᖅᑎᑦᑎᑲᓂᓐᓂᕐᓂᖅ ᐊᒻᒪᓗ ᐊᑐᒃᑲᓐᓂᕐᓂᖅ ᐃᒪᕐᓂᒃ • ᒪᓕᓪᓗᑎᒃ ᐱᔾᔪᑕᐅᔪᓂᒃ ᒪᓕᒐᔅᓴᓂᒃ ᐃᒪᐃᓭᓂᐊᖅᑎᓪᓗᒋᑦ • ᐃᒪᕝᕕᒻᒧᑦ ᓴᓇᓭᐅᓯᒪᔪᑦ ᖁᑦᑎᒃᑐᓂᒃ ᑰᒃᑐᓄᑦ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᓱᕋᕐᓂᕐᒧᑦ ᑲᒪᔪᓐᓇᕐᓂᖅ ᐊᑑᑎᓂᒃ • ᒪᓕᑦᑎᐊᓂᖅ ᒪᓕᒐᓂᒃ ᒪᓕᒋᕐᑲᖅᑐᓂᒃ ᓱᓪᓗᐊᓗᓂᒃ ᑲᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᒪᓕᕆᓂᕐᒧᑦ • ᖃᐅᔨᓴᕐᓂᖅ ᑕᓯᕐᓂᒃ ᐊᒻᒪᓗ TIA • ᐊᑐᕐᓂᖅ ᓄᓇᐅᑉ ᐃᒪᖓᓂᒃ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑐᕋᓱᐊᕐᓂᕐᒧᑦ ᐃᒪᑦᑎᐊᕙᓂᒃ ᖃᓄᑎᒋ ᐊᑐᖅᓯᕙᓐᓂᕐᒧᑦ	• ᐋᖅᑭᒋᐊᕐᓂᖅ ᑰᒃᑐᓂᒃ ᑐᐊᕆᔅᒥ • ᐃᒪᕝᕕᓂᒃ • ᐋᖅᑭᒋᐊᓂᖅ ᑰᒃᑐᓂᒃ ᐊᓄᕆᑐᔪᓂᒃ ᐃᒪᕝᕕᓂᒃ • ᐋᖅᑭᒋᐊᕐᓂᖅ ᑰᒃᑐᓂᒃ ᐊᐃᒪᐅᑲᑦᑕᓗᒻᒥ ᐃᒪᕝᕕᓂᒃ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
ᐃᒪᑦᑕᐅᔪᑦ ᖃᓄᐃᓐᓂᖓ		• ᓇᔪᕐᕕᐅᔪᒥ ᐸᕐᓇᖕᓂᖅ , • ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᐊᑦᑕᑯᐃᓂᖅ ᓇᔪᕐᕕᒻᒥ • ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒥ ᐃᒪᖅ • ᐃᒪᕐᒥᒃ ᐊᑐᕐᓂᖅ • ᐅᔭᕋᒃᑕᕐᕕᒃ ᐊᒻᒪᓗ • ᓇᔪᕐᕕᒻᒧᑦ ᐸᕐᓇᖕᓂᖅ, ᓴᓇᓂᖅ • ᓴᐅᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᒃ ᐊᒻᒪᓗ ᖀᖅᑲᑦᑕᖅᑐᑦ • ᐅᖅᓱᖅ ᐅᖅᓱᐊᓗᒃ ᐊᒻᒪᓗ PHA ᓴᓗᒻᒪᖅᑕᐅᔪᑦ ᐊᓇᖅᑕᕐᕕᒃ ᓱᐅᕋᓂᒃ ᐃᒋᑦᑎᓂᖅ	• ᓴᓇᓯᒪᔪᓂᒃ ᑕᐃᒪᐅᔪᓂᒃ ᐊᑐᕐᓗᑎᒃ ᑐᐊᕆᔅᒥ ᐱᓕᕆᐊᓵᐅᔪᑦ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᑎᒃ ᑐᒥᓂᒃ ᐃᓚᖓ 2 ᓴᓇᓯᒪᔪᓂᒃ • ᓴᓇᓂᖅ ᑎᓯᔾᔪᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᕙᒃᑯᑦ ᐊᒻᒪᓗ ᓄᓇᒃᑯᑦ ᑎᓯᓂᖓᓄᑦ ᐊᖅᑯᑎᓕᐅᕐᓗᓂ • ᐊᑐᒃᑲᓐᓂᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᒥ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐃᒪᖓᓂᒃ • ᒪᓕᑦᑎᐊᕐᓂᖅ ᒐᕙᒪᕐᔪᐊᒃᑯᑦ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᑉ ᒪᓕᒐᖏᓐᓂᒃ ᓱᓚᒧᐊᖅᑎᑦᑎᓂᐊᕐᓂᕐᒧᑦ, ᐃᒪᓕᕆᓂᕐᒧᑦ, ᖀᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᒥᖅᑕᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐊᑑᑎᓂᒃ • ᒪᓕᓪᓗᒍ BMP-ᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔭᖏᑦ ᐊᐅᓚᓂᖅ/ᐸᕐᓇᐅᑎᑦ ᐱᕐᑲᑎᐅᓯᓗᒍ ᐃᓚᖓ 2 ᐃᒪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ	• ᓇᔪᕐᕕᒻᒧᑦ ᐸᕐᓇᖕᓂᖅ, ᓴᓇᓂᖅ • ᓴᐅᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᒃ ᐊᒻᒪᓗ ᖀᖅᑲᑦᑕᖅᑐᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᐟᕝᕕᐅᐟᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖅᑎᑦ (VEC)	ᐊᔾᕐᓇᖕᒋᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔾᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖕᒋᓐᓂᖅᑎᑦ	ᐃᓚᒃᓴᐅᔾᓄᑦ ᐱᕙᓪᓕᐊᔾᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᒃᓯᐅᓂᖓ
			ᐸᕐᓇᐅᑎᑦ (AWMP) • ᓴᓗᒻᒪᖅᓴᕐᓂᖅ ᐊᓇᖅᑕᕝᕕᒻᒥᒃ ᐊᒻᒪᓗ ᐃᒪᕐᒥᒃ ᐊᑐᐃᓐᓇᐅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᑯᕕᓯᓂᖅ ᓄᓇᒧᑦ ᐅᕙᓘᓐᓃᑦ ᐃᒪᕝᕕᐅᔾᒧᑦ ᐱᕐᑯᓯᐅᔾᒃᑯᑦ ᒪᓕᒋᑎᒍᑦ ᐊᒻᒪᓗ ᐱᔾᓐᓇᐅᑎᔅᓴᒃᑯᑦ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᓴᐅᓴᐅᔾᓂᒃ ᐊᒻᒪᓗ ᓱᕋᒃᐸᓪᓕᐊᔾᓂᒃ ᑲᒪᔾᓐᓇᕐᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑰᒃᑐᑦ ᓄᓇᒧᐊᕐᓂᖅᑎᑦ ᐊᒻᒪᓗ ᐃᒪᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᔾᓄᑦ ᓴᓇᓯᒪᔾᓄᑦ • ᑐᖅᑯᖅᓯᒪᓂᖅ ᐅᖅᓱᓂᒃ ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᖕᓂᒃ ᐊᐃᑉᐸᖓᒍᑦ ᑐᖅᑯᕝᕕᔅᓴᖅᑲᕐᓗᑎᒃ ᐋᖅᑭᒃᓯᒪᔾᓂᒃ • ᖃᐅᔨᓴᖃᑦᑕᕐᓂᖅ ᐊᐅᓚᔾᓂᒃ ᓴᓇᓯᒪᔾᓂᒃ ᐊᒻᒪᓗ ᐋᖅᑮᒃᓯᒋᐊᕐᓂᖅ ᓇᔾᕝᕕᐅᔾᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐱᕐᑯᓯᐅᔾᒃᑯᑦ ᐃᒪᓕᕆᓂᕐᒧᑦ ᓚᐃᓴ.		
ᐃᒪᑦᑎᐊᑦ ᓴᐅᓴᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	ᓴᐅᓴᐅᓂᑯᐃᑦ ᖃᓄᐃᑦᑐᓂᖓ	• ᓇᔾᕝᕕᐅᔾᒥ ᐸᕐᓇᖕᓂᖅ , • ᓴᓇᓂᖅ, ᐃᒋᑦᑎᓂᖅ ᓇᔾᕝᕖᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᒃ ᐃᒪᖅ ᐅᔭᕋᒃᑕᕝᕕᒃ ᐃᒪᖅ • ᐅᔭᕋᑕᕝᕕᒃ ᖄᖃᑦᑕᖅᑐᑦ ᐅᖅᓱᖅ ᐅᖅᓱᐊᓗ ᐊᒻᒪᓗ PHA ᓴᓗᒻᒪᖅᑕᐅᔾᑦ ᐊᓇᖅᑕᕝᕕᒃ ᓯᐅᕋᒥᒃ ᐃᒋᑦᑎᓂᖅ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	• ᓇᔾᕝᕕᐅᔾᒥ ᐸᕐᓇᖕᓂᖅ , • ᓴᓇᓂᖅ, ᐃᒋᑦᑎᓂᖅ ᓇᔾᕝᕖᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᒃ ᐃᒪᖅ	ᐱᒻᒪᕆᐅᖕᒋᑦᑐᖅ
ᐃᒪᑦᑎᐊᕙᒃ ᐃᖃᓗᖕᒋᑦ	ᐃᖃᓗᐃᑦ ᓇᔾᕝᕕᖓ	• ᐆᒪᔾᓂᒃ ᓇᔾᕝᕕᐅᔾᓐᓃᖅᑐᓂᒃ ᐅᕙᓘᓐᓃᑦ ᐋᖅᑭᒃᓯᓂᖅ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖅᑎᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᖕᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔾᕝᕕᖕᒋᓐᓄᑦ • ᐱᕐᑯᓯᐅᖕᒋᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔾᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᓗᒋᑦ ᐊᕙᑎᒧᑦ ᐸᓱᒻᒥᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ • ᓴᓇᓯᒪᔾᑦ ᓇᔾᕝᕕᐅᔾᑦ ᐱᔭᐅᑦᑕᐃᓕᒪᓂᕐᒧᑦ	ᖃᐅᔨᒪᔭᐅᖕᒋᑦᑐᖅ	-

ᓇᐱᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓯᕗᓕᖅᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐋᔩᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᐅᓯᐅᓂᖓ
			ᐃᖃᓐᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᔪᕐᓇᙱᓐᓂᖕᒐᓄᑦ • ᓴᓇᓯᒪᔪᑦ ᐋᖅᑭᒃᓯᒪᓂᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᐅᓗᓂ ᑐᒥᓂᒃ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᓂᕐᒧᑦ ᐃᒪᕐᑎᐊᕙᖕᓄᒃ ᐃᖃᓗᓐᓄᑦ ᓇᔪᖅᑕᐅᔪᓂᒃ • ᐋᖅᑭᒃᓯᓂᖅ ᐃᑳᖅᑐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᑲᔪᓯᑦᑎᐊᕈᓐᓇᕐᑯᓪᓗᒍ ᐃᖃᓗᐃᑦ ᐃᑳᕐᓂᕐᒧᑦ ᐃᒪᐅᔪᒃᑯᑦ ᐃᑳᖅᑐᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑭᒡᓕᖃᖅᑎᑦᑎᓂᖅ • ᐃᒪᐃᔭᐃᓂᕐᒧᑦ ᐊᑐᒃᑲᓐᓂᕐᓗᒋᑦ ᐃᒪᐃᑦ, ᑭᒡᓕᖃᕐᓂᖅ ᓄᓇᐅᑉ ᐃᒪᖓᓂᒃ ᑰᒃᐸᓪᓕᐊᔪᓂᒃ, ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᒪᓕᒋᐊᓕᒃᑯᑦ ᐱᕐᑰᔪᒃᑯᑦ ᐃᒪᓕᕆᔾᒃᑯᓐᓂᑦ ᑐᓂᔭᐅᑎᓪᓗᒋᑦ • ᐋᖅᑮᓂᖅ ᐱᑐᐃᓐᓇᐅᔭᕆᐊᖃᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓗᓂ DFO-ᑯᓐᓄᑦ		
		• ᐊᓯᙴᖅᐸᓪᓕᐊᔪᑦ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖏᑦ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᖓ ᖃᓄᐃᓪᓂᖓ ᐊᒻᒪᓗ ᐃᒪᑦᑎᐊᕙᒃ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓪᓕᖓ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ:ᐅᑭᐅᖅᑕᖅᑐᒥ ᑲᕙᓯᓕᒃ	• ᑐᖁᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕕᖕᒋᓐᓄᑦ • ᐱᕐᑯᔭᐅᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᑯᕕᔭᐅᔪᓂᒃ ᓱᓪᓗᐊᓗᒃᑯᑦ ᐱᑦᑕᐃᓕᓂᖅ ᐱᔾᔪᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓇᐅᓕᖕᓂᕐᒧᑦ ᐃᖃᓗᖕᓂᒃ • ᑐᓴᖅᑭᓇᓂᖅ ᐊᒻᒪᓗ ᓴᔪᒃᑐᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᖄᖅᓯᓂᐊᖅᑎᓪᓗᒋᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙴᖅᐸᓪᓕᐊᔪᑦ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖏᑦ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᐃᒪᑦᑎᐊᕙᒃ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᖕᒋᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖕᒋᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᕐᒪᕆᐅᓂᖓᓄᑦᑲᒃᓯᐅᓂᖓ
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ: ᐃᓯᐅᕋᓕᑦᑖᖅ	• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ • ᐱᕐᑯᔭᐅᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑯᕕᔭᐅᔪᓂᒃ ᓯᓪᓗᐊᓂᑦ ᐱᑦᑕᐃᓕᒪᓗᒍ ᐱᔮᕆᓂᖅ ᐊᒻᒪᓗ ᐊᓇᐅᓕᓂᖅ • ᑐᓴᕐᓂᕿᑦᑐᑦ ᐊᒻᒪᓗ ᓴᔪᒃᑐᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᖄᖅᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ	ᖃᐅᔾᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖏᑦ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᐃᒪᑦᑎᐊᕙᒃ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖏᑦ	ᖃᐅᔾᒪᔭᐅᙱᑦᑐᖅ	-
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ: ᐃᖃᓗᒃᐲᑦ (ᐃᒪᑦᑎᐊᕙᒦᑦᑐᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᑯᑦ)	• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ • ᐱᕐᑯᔭᐅᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑯᕕᔭᐅᔪᓂᒃ ᓯᓪᓗᐊᓂᑦ ᐱᑦᑕᐃᓕᒪᓗᒍ ᐱᔮᕆᓂᖅ ᐊᒻᒪᓗ ᐊᓇᐅᓕᓂᖅ • ᑐᓴᕐᓂᕿᑦᑐᑦ ᐊᒻᒪᓗ ᓴᔪᒃᑐᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᖄᖅᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ	ᖃᐅᔾᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖏᑦ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᐃᒪᑦᑎᐊᕙᒃ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖏᑦ	ᖃᐅᔾᒪᔭᐅᙱᑦᑐᖅ	

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᓖᖏᑦ (VEC)	ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑕᐃᓕᒪᓂᒃᑯᑦ ᐋᔩᕆᖏᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ: ᑯᕆᔅᑰ/ᐃᖃᓗᒐᐃᑦ (Cisco/ Whitefish) (ᐃᒪᑦᑎᐊᕙᒦᑦᑐᑦ ᑎᑎᕋᒃᑕᐅᓯᒪᓂᑯᑦ)	• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᖓᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ • ᐱᕐᑯᔭᐅᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑯᕕᔭᐅᔪᓂᒃ ᓱᓪᓗᐊᓂᑦ ᐱᑦᑕᐃᓕᒪᓗᒍ ᐱᔾᔪᑎᓂᖅ ᐊᒻᒪᓗ ᐊᓇᐅᓕᓂᖅ • ᑐᓴᕐᓂᕿᑦᑐᑦ ᐊᒻᒪᓗ ᓴᔪᒃᑐᓂᒃ ᖃᐅᔨᓵᑎᓂᒃ ᖄᖅᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᐅᐸ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖏᑦ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᐃᒪᑦᑎᐊᕙᒃ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖏᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
ᑕᓇᐅᕐᒥ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᕐᕕᖓ ᐸᕐᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᕐᕖᐅᔪᖅ ᐃᒪᖓ ᐃᒪᖅ ᐅᖅᓱᖅ, ᐅᖅᓱᐊᓗᐃᑦ ᐊᒻᒪᓗ PHA • ᐃᒋᑦᑎᓂᖅ ᓱᐅᕋᓂᒃ ᐃᓕᓯᓂᖅ	• ᓴᓇᓯᒪᔪᓂᒃ ᑕᐃᒪᐅᔪᓂᒃ ᐊᑐᕐᓗᑎᒃ ᑐᐊᕆᔅᒥ ᐱᓕᕆᐊᔅᓴᐅᔪᑦ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕙᓕᐅᕐᓗᑎᒃ • ᓴᓇᓂᖅ ᑎᓯᔫᒃᑯᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᕙᒃᑯᑦ ᐊᖅᑯᑎᓕᐅᕐᓗᓂ, ᓄᓇᑕᓕᐊᖅᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᓂᒃ • ᐊᑐᒃᑲᓐᓂᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᒥ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐃᒪᖓᓂᒃ • ᒪᓕᑦᑎᐊᕐᓂᖅ ᒐᕙᒪᕐᔪᐊᒃᑯᑦ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᑉ ᒪᓕᒐᖏᓐᓂᒃ ᓯᓚᒧᐊᖅᑎᑦᑎᓂᐊᕐᓂᕐᒧᑦ, ᐃᒪᓕᕆᓂᕐᒧᑦ, ᖄᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᒥᖅᑕᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐋᖅᑎᓂᒃ • ᒪᓕᓪᓗᒍ BMP-ᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔭᖏᑦ ᐊᐅᓚᓂᖅ/ᐸᕐᓇᐅᑎᑦ ᐱᖃᑎᐅᓯᓗᒍ ᐃᓚᖓ 2 ᐃᒪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐸᕐᓇᐅᑎᑦ (AWMP)	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᕐᕕᖓ ᐸᕐᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ • ᓇᔪᕐᕕᐅᔪᖅ ᐃᒪᖓ ᑯᕕᔭᐅᔪᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᓕᖅᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᑎᑦ (VEC)	ᐊᔪᖅᓇᖕᒋᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐋᔾᔨᕕᖕᒋᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
			• ᓴᓗᒻᒪᖃᖅᓯᓂᖅ ᐊᓇᖅᑕᖅᕕᒻᒥᒃ ᐊᒻᒪᓗ ᐃᒪᖏᒃ ᐊᑐᐃᓐᓇᐅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᑯᕕᓯᓂᖅ ᓄᓇᒧᑦ ᐆᑦᑑᓗᓐᓃᑦ ᐃᒪᖅᕕᐅᔪᒧᑦ ᐱᖁᔭᐅᔫᒃᑯᑦ ᒪᓕᒐᑎᒍᑦ ᐊᒻᒪᓗ ᐱᔪᓐᓇᐅᑎᔅᓴᒃᑯᑦ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᓴᐅᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓱᕋᒃᐸᓪᓕᐊᔪᓂᒃ ᑲᒪᔪᓐᓇᖅᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑰᒃᑐᑦ ᓄᓇᒧᐊᖅᓂᖏᑦ ᐊᒻᒪᓗ ᐃᒪᓕᕆᓂᖅᒧᑦ ᐊᐅᓚᑕᐅᔪᓄᑦ ᓴᓇᓯᒪᔪᓄᑦ • ᑐᖅᑯᖅᓯᒪᓂᖅ ᐅᖅᓱᓂᒃ ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᖕᓂᒃ ᐊᐃᑉᐸᖓᒍᑦ ᑐᖅᑯᖅᕕᔅᓴᖅᓗᑎᒃ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ • ᖃᐅᔨᓴᖃᑦᑕᖅᓂᖅ ᐊᐅᓚᔪᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐋᖅᑮᒃᓯᒋᐊᖅᓂᖅ ᓇᔪᖅᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐸᖅᓇᐅᑎᓂᒃ ᐱᖁᔭᐅᔫᒃᑯᑦ ᐃᒪᓕᕆᓂᖅᒧᑦ ᓚᐃᓴ.		
ᑕᕆᐅᒥ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᖓ	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᖅᕕᖓ ᐸᖅᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᖅᕕᐅᔪᖅ ᐃᒪᖓ ᐃᒪᖅ ᐅᖅᓱᖅ, ᐅᖅᓱᐊᓗᐃᑦ ᐊᒻᒪᓗ PHA • ᐃᒋᑦᑎᓂᖅ • ᓱᐅᕋᓂᒃ ᐃᓕᓯᓂᖅ	• ᐋᔾᔨᖓ ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᖅᕕᖓ ᐸᖅᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
	ᐃᖅᑲᓗᐃᑦ ᓇᔪᖅᑕᐅᔪᑦ	• ᓇᔪᖅᕕᐅᔪᓐᓃᖅᑐᑦ ᐆᑦᑑᓗᓐᓃᑦ ᐋᖅᑭᒃᓯᓂᖅ	• DFO-ᑯᑦ ᓇᓗᓇᐃᖅᓯᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᖅᒧᑦ ᐊᑦᑕᖅᓇᖅᑐᓂᒃ ᐃᖅᑲᓗᓄᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖅᑲᓗᐃᑦ ᓇᔪᖅᕕᖏᓐᓄᑦ • ᓴᓇᓯᒪᔪᒃ ᐋᖅᑭᒃᓯᒪᓂᖓ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᖅᓂᖅ ᓇᔪᖅᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᒪᓂᖅᒧᑦ ᓱᕋᖅᓇᖅᑐᓂᒃ ᑕᕆᐅᑉ ᐃᒪᖓᓂ ᓇᔪᖅᕕᐅᔪᑦ ᐋᖅᑮᓂᖅ ᐱᑐᐃᓐᓇᐅᔭᕆᐊᖅᑲᖅᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓗᓂ DFO-ᑯᓐᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙵᖅᐸᓪᓕᐊᔪᑦ ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᕆᐅᒥ	• ᐊᑐᖅᓂᖅ ᓱᖅᑯᒥᑦᑎᔪᑎᒥᒃ ᓴᓇᑎᓪᓗᒋᑦ ᐃᒃᓴᖅᕕᒻᒥ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖁᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔾᔨᐅᓂᖓ
		ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	• ᒥᑭᓂᖅᐹᒃᑯᑦ ᐅᒥᐊᒃᑯᑦ ᓱᒃᑲᓂᕐᒧᑦ ᕋᕗᑦ ᑲᖏᖅᓱᐊᓂ • ᑕᑯᓗᒍ ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᓇᐅᑉ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ		
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᓂᖏᑦ: ᐃᖃᓗᒃᐲᑦ (ᑕᓇᐅᕐᒥᙱᖅᑐᑦ ᐃᒪᕐᑎᐊᕙᖕᒧᐊᖅᑐᑦ ᖃᖓᓯᒃᑯᑦ ᖃᓄᐃᓕᐅᖅᑲᑦᑕᕐᓂᖏᑦ)	• ᑐᕐᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ • ᖄᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᑐᓴᕿᓂᕐᒧᑦ ᖃᐅᔨᓴᕈᑎᑦ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ • ᐊᑐᕐᓂᖅ ᐃᓱᖅᑐᓂᒃ ᓴᓗᒪᐃᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᒪᓕᓇᑎᓪᓗᒋᑦ • ᑕᑯᓗᒍ ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᓗᒍ ᐊᕙᑎᐅᑉ ᓴᐳᒻᒥᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᓇᐅᒥ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	• ᑕᑯᓗᒍ ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᓇᐅᑉ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖓ	ᖃᐅᔨᒪᔭᐅᙱᖅᑲᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ: ᓴᕗᕋᓐ (Saffron) ᐆᒐᖅ	• ᑐᕐᑐᐃᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ ᓇᔪᖅᑕᐅᔪᓐᓃᖅᑐᑦ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ • ᖄᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᑐᓴᕿᓂᕐᒧᑦ ᖃᐅᔨᓴᕈᑎᑦ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ • ᐊᑐᕐᓂᖅ ᐃᓱᖅᑐᓂᒃ ᓴᓗᒪᐃᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᒪᓕᓇᑎᓪᓗᒋᑦ • ᑕᑯᓗᒍ ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᓗᒍ ᐊᕙᑎᐅᑉ ᓴᐳᒻᒥᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᓇᐅᒥ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	• ᑕᑯᓗᒍ ᑕᓇᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᓇᐅᑉ ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖓ		

ᓇᓯᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖅᑎᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᕝᕌᙱᓐᓂᖅᑎᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕋᔾᔭᐅᓂᖓ
ᑕᕆᐅᑉ ᓂᕐᔪᑎᖏᑦ	ᓇᑦᑏᑦ	• ᓇᔪᕐᕕᐅᔫᓂᖅᑐᑦ	• ᓴᓇᓯᒪᔪᓂᒃ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐱᔾᔨᑦᑕᐃᓕᓗᑎᒃ ᐃᒪᕐᒥᐅᑕᐃᑦ ᓂᕐᔪᑎᖏᑦ ᓇᔪᕐᕕᖏᓐᓂᒃ • ᓱᑯ ᐊᐅᒃᓯᒪᑎᓪᓗᒍ ᐊᓪᔭᖅᑐᐃᓂᖅ ᑭᓯᒥ (ᐅᑭᐅᒃᑯ ᐊᓪᔭᖅᑐᐃᙱᑦᑐᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᑐᓴᕐᓃᕐᑭᔪᑦ	• ᑕᕆᐅᑉ ᓂᕐᔪᑎᖏᓐᓂᒃ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᓪᓗᓂᐊᕈᑎᒃᓴᐃᑦ 200 (m) ᒥᑕᓂᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓇᔪᕐᕕᒃ • ᓄᖅᑲᕐᓂᖅ ᐊᐅᓚᓂᕐᒧᑦ ᑕᕆᐅᕐᒥᐅᑕᕐᑲᕐᓂᖅᐸᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᕝᕕᐅᑉ ᐃᓗᐊᓂ • ᐊᑐᕐᓂᖅ ᓱᒃᑲᓂᖅᐹᒃᑯᑦ ᐊᐅᓪᓛᕐᓂᖅ ᐱᕋᔭᒃᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᔪᕐᓇᙱᑦᑐᒃᑯᑦ • ᓴᕿᑎᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕋᔭᒃᑕᐃᓕᒪᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ • ᓴᖅᑭᑎᑦᑎᓗᑎᒃ ᐃᒪᐅᑉ ᐊᑖᓂ ᓂᐱᖃᖅᑐᓂᒃ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᐱᕋᔭᕋᔭᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓚᒋᔭᕐᑲᕐᓗᑎᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐱᔪᕐᑲᕐᓂᖅᐸᑦ ᓄᖅᑲᐳᑎᓂᒃ ᖄᖏᐅᑎᑉᐸᑦ • ᓴᖅᑭᑎᑦᑎᓗᑎᒃ ᐊᑲᐅᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐱᕋᔭᒃᑕᐃᓕᒪᓂᕐᒧᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ	• ᓇᑭᕐᓂᕐᒧᑦ ᑭᓪᓕᖅᑲᕐᓂᖅ ᕋᐳᑦ ᖃᖏᖅᓯᐊ ᐱᓕᕆᕝᕕᖏᓐᓂ ᓇᑦᑎᕐᑳᓪᓚᖏᓐᓂᖅᐸᑦ • ᐊᑦᑕᑯᐃᑦ ᐊᐅᓚᑕᐅᔪᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓂᕐᓗᖏᓐᓂᖅ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂᒃ • BMP-ᑯᑦ ᑲᒪᒋᓗᒋᑦ ᐅᖅᓱᓂᒃ, ᓱᕋᕐᓇᖅᑐᓂᒃ ᐱᕐᑯᑎᓂᒃ, ᐊᒻᒪᓗ ᑯᕓᔪᓂᒃ ᐱᓕᕆᐊᕐᑲᕐᓗᑎᒃ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	• ᑕᕆᐅᑉ ᕐᑯᐸᓄᐊᖏᑦ	• ᓇᔪᕐᕕᐅᔪᓐᓃᖅᑐᑦ	• ᓴᓇᓯᒪᔪᑦ ᐋᖅᑭᒃᓯᒪᓂᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᖅ ᑕᕆᐅᒥ ᓇᔪᕐᕕᐅᕐᑲᑦᑕᖅᑐᒃᑯᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᔪᖅᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᖅᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓯᕐᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐋᕐᔩᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᖃᕐᓯᐅᓂᖓ
		• ᑐᓴᕐᓃᕿᔪᑦ	• ᐅᒥᐊᖅᔪᐊᑦ ᐱᑦᑕᐃᓕᒪᓂᐊᖅᑐᑦ ᐊᖏᔪᒃᑯᑦ ᑕᓇᐅᕐᒥᐅᑕᓂᒃ ᖁᐸᓄᐊᓂᒃ ᑲᑎᙳᔪᓂᒃ ᐊᒃᐸᐅᑉ ᕿᑭᖅᑕᖓᓂ 25 ᑭᓛᒦᑕᓂᒃ ᐅᖓᓯᓐᓂᖃᕐᑐᓂ, ᐅᒥᐊᖅᔪᐊᒃᑯᑦ ᐊᔪᖅᓇᙱᓐᓂᖓᓄᑦ, ᐅᒥᐊᖅᔪᐊᑦ ᐱᑦᑕᐃᓕᓂᐊᖅᑐᖅ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᖁᐸᓄᐊᓂᒃ ᑲᑎᙳᔪᓂᒃ ᐅᖓᓯᓐᓂᖃᕐᑐᑎᒃ 500 ᑭᓛᒦᑕᓂᒃ, ᐅᒥᐊᖅᔪᐊᑦ ᐊᔪᖅᓇᙱᓐᓂᖓᓄᑦ, ᐅᒥᐊᖅᔪᐊᑦ ᖃᐅᔨᓴᕐᓂᐊᖅᑐᑦ ᐊᖏᔪᒃᑯᑦ ᑲᑎᙳᔪᓂᒃ ᑕᓇᐅᕐᒥᐅᑕᓂᒃ ᖁᐸᓄᐊᓂᒃ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᓗᑎᒃ, ᐅᒥᐊᖅᔪᐊᑉ ᐊᔪᖅᓇᙱᓐᓂᖓᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		• ᑐᖅᑯᑐᐃᓐᓇᖅᑐᑦ	• ᐅᒥᐊᖅᔪᐊᑦ ᐱᑦᑕᐃᓕᒪᓂᐊᖅᑐᑦ ᐊᖏᔪᒃᑯᑦ ᑕᓇᐅᕐᒥᐅᑕᓂᒃ ᖁᐸᓄᐊᓂᒃ ᑲᑎᙳᔪᓂᒃ ᐊᒃᐸᐅᑉ ᕿᑭᖅᑕᖓᓂ 25 ᑭᓛᒦᑕᓂᒃ ᐅᖓᓯᓐᓂᖃᕐᑐᓂ, ᐅᒥᐊᖅᔪᐊᒃᑯᑦ ᐊᔪᖅᓇᙱᓐᓂᖓᓄᑦ • ᐅᒥᐊᖅᔪᐊᑦ ᐱᑦᑕᐃᓕᓂᐊᖅᑐᖅ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᖁᐸᓄᐊᓂᒃ ᑲᑎᙳᔪᓂᒃ ᐅᖓᓯᓐᓂᖃᕐᑐᑎᒃ 500 ᑭᓛᒦᑕᓂᒃ, ᒥᕝᕕᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᐅᓪᓚᖅᑳᖅᑎᓐᓇᒋᑦ ᐊᒻᒪᓗ ᒥᖅᑳᖅᑎᓐᓇᒋᑦ • ᓱᒃᑲᔪᒃᑯᑦ ᑭᒡᓕᖃᕐᓂᐊᖅᑐᑦ ᐋᖅᑭᑕᐅᓯᒪᔪᓂᒃ ᐱᓕᕆᐊᓭᐅᑉ ᐊᖅᑯᑎᖏᓐᓂ • ᓂᕐᔪᐋᑦ ᓯᕗᓪᓕᐅᑎᑕᐅᓂᐊᖅᑐᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᐱᐅᓂᖅᐹᒃᑯᑦ ᐊᐅᓚᑕᐅᓗᑎᒃ ᐱᓕᕝᕕᐅᔪᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᐅᓚᓂᕐᒧᑦ ᐅᖅᓱᓂᒃ, ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᕐᑯᑎᖏᓐᓂᒃ ᑯᕕᑦᑕᐃᓕᒪᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᐱᓯᒪᑦᑎᒋᐊᕐᓗᑎᒃ ᐊᒻᒪᓗ ᓴᓗᒪᖅᓴᕐᓗᑎᒃ ᑯᕕᔪᖃᕐᓂᖅᐸᑦ ᐱᑐᐃᓐᓇᕆᐊᖃᖅᑐᓂᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓴᖅᑭᑕᐅᓯᒪᔪᑦ 5. ᓇᐃᑦᑐᒃᑯᑦ ᐅᓂᒃᑳᓕᐊᑦ ᐃᓄᐃᑦ ᐊᕙᑎᖓ ᐃᓚᖃᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕐᕋᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
ᐃᑦᑕᕐᓂᑕᓕᕆᓂᖅ	ᐃᑦᑕᕐᓂᑕᐃᑦ ᓇᔪᕐᕕᖓᑦ	• ᐱᕐᑲᕈᓐᓃᕐᓂᖅ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᓐᓂᒃ	• ᑎᑎᕋᖅᓯᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᓇᓗᓇᐃᕈᑏᑦ ᖃᖓᓂᑦᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓱᓇᐅᔪᓂᒃ • ᐃᓱᒪᒋᔭᐅᓗᑎᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᓴᓇᑎᓪᓗᒋᑦ • ᐃᓱᒪᒋᔭᐅᓗᑎᒃ ᓴᐳᒻᒥᔾᔪᑎᓂᒃ ᖃᓄᐃᓕᐅᖅᑑᕐᓂᖅ • ᖃᐅᔨᓴᖃᑦᑕᕐᓗᑎᒃ ᐃᓚᖏᓪᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ • ᐱᓕᒻᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᔪᑎᒃᑯᓐᓂᒃ • ᑲᔪᓯᒋᐊᖅᐸᓪᓕᐊᓂᒋᐊᕐᒐᒍᑦ ᐊᐅᓚᔪᓂᒃ ᒪᓕᒐᔅᓴᓂᒃ	• ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
		• ᐱᕐᑲᕈᓐᓃᕐᓂᖅ ᑎᑎᕋᖅᓯᒪᙱᑦᑐᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᓐᓂᒃ	• ᖃᐅᔨᓴᑦᑎᐊᒻᒪᕆᖕᓂᖅ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᐊᑲᐅᙱᓕᐅᖅᑐᓂᒃ • ᖃᐅᔨᓴᕐᓂᖅ ᑐᙵᕕᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᓚᖅᑯᓯᓕᕆᓂᕐᒧᑦ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ • ᖃᐅᔨᓴᕐᓂᖅ ᐊᑯᓂᐅᙱᑦᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᖅᓯᒪᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖁᑦᑎᑦᑐᒃᑯᑦ ᐃᑦᑕᕐᓂᑕᕝᕕᐅᓯᒪᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓪᓗᐊᕐᓂᖓᓄᑦ ᓇᔪᕐᕕᐅᔪᑦ • ᐱᓕᒻᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᔪᑎᒃᑯᓐᓂᒃ • ᑲᔪᓯᒋᐊᖅᐸᓪᓕᐊᓂᒋᐊᕐᒐᒍᑦ ᐊᐅᓚᔪᓂᒃ ᒪᓕᒐᔅᓴᓂᒃ	• ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᙱᑦᑐᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ • ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎ?ᖅᓯᒪᙱᑦᑐᑦ ᐃᑦᑕᐃᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
		• ᐱᕙᓪᓕᐊᔪᑦ ᐃᓕᖅᑯᓯᒃᑯᑦ ᑐᑭᓯᐊᔾᔪᑏᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᓇᔪᕐᕕᐅᔪᓄᑦ	• ᖃᐅᔨᓴᕐᓂᖅ ᑐᙵᕕᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᓚᖅᑯᓯᓕᕆᓂᕐᒧᑦ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ • ᐱᓕᒻᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᔪᑎᒃᑯᓐᓂᒃ • ᑲᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓚᖅᑯᓯᐅᔪᒃᑯᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ ᐱᔭᐅᔭᕆᐊᖃᖅᑐᓂᒃ • ᐱᓯᒪᑦᑎᓂᖅ ᑲᑎᖅᓱᖅᑕᐅᔪᓂᒃ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᑕᑯᒐᓐᓈᒐᖃᕐᕕᒻᒥ	• ᐃᓚᓐᓂᐊᒃᑲᓐᓂᕐ ᓂᑦ ᐃᓚᖅᑯᓯᕆᔭᐅᔪᓂᒃ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ ᐃᓗᓕᖏᓐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
	ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᖏᑦ	• ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᓄᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖏᑦ	• ᑮᓇᐅᔭᓕᕆᓂᕐᒧᑦ ᐃᑲᔫᑎᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᓐᓄᑦ ᓇᑐᓇᐃᖅᓯᒪᔫᒃᑯᑦ ᓄᑖᓄᑦ ᐱᓕᕆᐊᔅᓴᐅᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑎᑐᑦ ᐊᖏᕈᑎᐊᓂ ᐊᒻᒪᓗ IIBA ᐱᖃᑎᒋᓗᒍ ᕿᑎᕐᒥᐅᑉ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᖅᑲᖅᓯᐅᓂᖓ
	ᓇᒥᓂᕐᑲᕐᓂᕐᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᐃᑦ	• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᓄᓇᓖᑦ ᐊᒻᒪᓗ ᓇᒥᓂᕐᑲᖅᑐᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖏᑦ	• IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒍᑦ ᐃᓄᐃᑦ ᐃᓗᓕᖏᓐᓂᒃ ᐊᑐᐊᒐᖏᓐᓂᒃ, ᐃᓚᒋᓗᒍ ᐱᔭᕆᐊᕐᑲᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᕿᑎᕐᒥᐅᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒥᓂᕐᑲᕐᓂᖅ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᓂᕐᒧᑦ, ᒪᓕᒋᐊᕐᑲᖅᑐᒃᑯᑦ ᐱᕐᑯᔭᐅᔪᓂᒃ, ᓇᒥᓂᕐᑲᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑲᔫᑎᓂᒃ TMAC-ᑯᑦ ᑐᓴᖅᑎᑦᑎᓂᖅ ᐃᑲᔫᑎᔅᓴᓂᒃ ᕿᑎᕐᒥᐅᓂᒃ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒥᓂᕐᑲᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓇᓗᓇᐃᕐᓗᒋᑦ ᓇᒥᓂᕐᑲᖅᑐᓂᒃ ᐱᔪᒪᓇᔭᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᐃ ᑐᓂᓯᓗᑎᒃ ᐃᑲᔪᖅᑕᐅᓂᕐᒧᑦ, ᐅᕐᑲᐅᔾᔪᐃᓂᕐᒧᑦ, ᑐᑭᓯᐊᔾᔪᑎᓂᒃ ᐊᒻᒪᓗ ᓇᓗᓇᐃᕐᓗᑎᒃ ᐊᖏᕐᑲᑎᕐᑲᖅᓯᒪᓂᒃᑯᑦ ᐱᓕᕆᔾᔪᑎᒃᑯᓐᓂᒃ ᕿᑎᕐᒥᐅᑦ ᓄᓇᖓᓐᓄᑦ ᓇᓪᓕᕚᕈᑎᔅᓴᓂᒃ ᐊᒻᒪᓗ ᓇᓪᓕᕚᕐᓂᕐᒧᑦ ᐊᑐᐊᕆᓂᒃ • ᐱᕐᑲᖅᐊᕐᑲᖅᑐᖅ ᐊᒻᒪᓗ ᕐᑲᐅᔨᔅᕐᓂᖅ ᓄᓇᒋᔭᐅᔪᒥ ᐃᓗᐊᓂ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ ᓇᓪᓕᕚᕐᓂᕐᒧᑦ • ᑐᓂᓯᓂᖅ ᐅᑭᐅᒃᑯᑦ ᓇᒥᓂᕐᑲᖅᑐᓂᒃ ᐃᓱᐊᓈᕐᕕᔅᓴᓂᒃ ᓇᓗᓇᐃᖅᑎᑦᑎᓂᖅ ᕐᑲᓄᐃᓕᐅᖅᐸᓪᓕᐊᔪᓂᒃ • ᕐᑲᐅᔾᔾᑲᐃᑎᑦᑎᓂᖅ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓱᐊᓈᕐᕕᔅᓴᐅᔪᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ	ᕐᑲᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᐃᖅᑲᓇᐃᔭᖅ	• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᖅᑲᓇᐃᔮᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᖏᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕐᓂᔭᐅᔪᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖏᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᖏᓂᖓᓄᑦ ᓇᓪᓕᕚᕐᓂᖅ ᓄᓇᓕᖕᓄᑦ ᐱᓕᕆᐊᔅᓴᓄᑦ	• IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒍᑦ ᐅᑭᐅᒧᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔭᔅᓴᓂᒃ ᑐᕌᖓᔪᓂᒃ • ᓱᕗᓪᓕᐅᔪᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᐃᑦ ᕿᑎᕐᒥᐅᑕᓄᑦ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔭᔅᓴᒧᑦ, ᒪᓕᓪᓗᒍ ᐃᓅᙱᑦᑐᓂᒃ • ᐱᕙᓪᓕᐊᓂᖅ ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᐱᕚᓪᓕᕐᓂᖅ ᓄᓕᐊᕐᓂᕆᕝᕕᐅᓂᕐᒧᑦ ᐊᑐᐊᕆᓂᒃ • ᕐᑲᐅᔾᔭᐃᓂᖅ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐃᓱᐊᓈᕐᕕᔅᓴᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ • ᐱᕙᓪᓕᐊᓂᖅ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓄᖕᓄᑦ ᐱᔾᔪᑎᔅᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ • ᐱᕙᓪᓕᐊᓂᖅ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐱᓕᕆᓂᕐᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᔪᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᒪᑐᓂᐊᖅᑎᓪᓗᒍ	• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᔅᓴᐃᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᖅᑕᐅ ᕙᒃᑐᓂᒃ • ᓇᓪᓕᕚᕐᓂᖅ ᓄᓇᒋᔭᒧᑦ ᐱᓕᕆᓂᕐᒧᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᐃᕝᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕆᑦ (VEC)	ᐊᔪᕐᓇᙱᖦᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᓪᓚᕆᐅᓂᖓᓄᑦᖃᖅᓯᐅᓂᖓ
	ᐃᓕᓐᓂᐊᕐᓂᖅ ᐊᒻᒪᓗ ᐃᓕᓴᖅᓴᐅᑏᑦ	• ᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᐱᔪᒪᔪᓄᑦ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓕᓴᐃᑎᑦᑎᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᓂᒃ • ᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᐃᓱᒪᕆᓴᐅᔪᒃᑯᑦ ᐃᓕᓐᓂᐊᕐᓂᖅ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔭᕐᓂᖅ	• IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐅᑭᐅᒧᑦ ᐊᒻᒪᓗ ᐊᑯᓂᐅᔪᒃᑯᑦ ᐃᓄᐃᑦ ᐃᓕᑎᑕᐅᓂᕐᒧᑦ ᑐᕌᕈᑏᑦ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅ ᐃᓕᑎᑕᐅᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ ᑮᓇᐅᔭᓂᒃ ᐃᑲᔫᑎᓂᒃ • ᐃᑲᔪᖅᑎᒌᓪᓗᑎᒃ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖅᑲᑎᒌᙶᑦ, ᒐᕙᒪᒃᑯᑦ ᐊᒻᒪᓗ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ ᑲᑐᔾᔨᖅᑲᑎᒌᙶᑦ • ᐱᕙᓪᓕᐊᓂᖅ ᐃᓄᙵᓄᑦ ᐱᔾᔪᑎᔅᓴᖅᑎᒧᑦ ᐸᕐᓇᐅᑎᓂᒃ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ ᐃᓕᑎᑕᐅᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ • ᐃᖅᑲᓇᐃᔮᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐸᕐᓇᐅᑏᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᙱᓐᓄᑦ • ᓄᓇᒥᔭᐅᔪᒧᑦ ᑐᑭᓯᐊᔾᔪᑏᑦ ᐊᒻᒪᓗ ᐃᖅᑲᓇᐃᔮᒧᑦ ᖃᐅᔨᒃᑲᐃᓂᖅ ᑲᑎᒪᓂᖅ ᕿᑎᕐᒥᐅᑕᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᑦ	-
	ᐊᐅᓪᓛᕐᓂᖅ, ᐃᓪᓗᓕᕆᓂᖅ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᑦ ᐱᔨᑦᑎᕋᐅᑎᑦ	• ᓅᓯᒪᓐᓂᑯᒃ ᕿᑎᕐᒥᐅᓄᑦ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖓ ᐱᔪᒪᔪᓄᒃ ᐃᒡᓗᓕᕆᓂᕐᒧᑦ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐱᔪᒪᔪᓄᑦ ᓄᓇᓕᖕᓂ ᐱᔨᑦᑎᕋᐅᑎᓂᒃ	• ᐊᒥᓱᒃᑰᖓᔪᒃᑯᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓪᓛᖅᑎᑦᑎᓂᖅ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ, ᕿᑎᕐᒥᐅᑕᐅᔪᓂᒃ ᐃᖅᑲᓇᐃᔭᓕᖅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᔅᓴᒧᑦ ᓇᐃᕝᕕᐅᔪᒧᑦ • ᑲᔪᓯᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᒥᔭᐅᔪᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᓄᓇᓕᐅᑉ ᐃᓚᒥᔭᐅᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᓂ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᓄᓇᒥ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐃᓅᑎᐊᕐᓂᖅ	• ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᒃᑐᓄᑦ ᑐᙵᔾᕙᖕᕙ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᑦ ᐱᖅᑲᑎᒌᓐᓂᖅ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᓂᕿᓄᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑭᖏᑦ ᐃᓅᓂᕐᒧᑦ	• IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒎᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᒧᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ ᐃᑲᔫᑎᓂᒃ ᐱᓕᕆᐊᔅᓴᐃᑦ; ᓂᕆᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᓂᕿᖏᓐᓂᒃ ᓇᐃᕝᕕᒻᒥ; ᑲᔪᓯᑎᐊᕐᓂᕐᒧᑦ ᓱᐴᕐᓗᖕᓂᕐᓄᑦ ᐊᒻᒪᓗ ᐃᒥᐊᓗᖕᒧᑦ ᐊᑐᐊᒐᓂᒃ ᐃᓚᒋᔭᖅᑐᑦ "ᐱᖅᑲᐊᖅᓚᒪᙱᑦᑐᑦ"; ᑐᓂᓯᓂᖅ ᓇᐃᕝᕕᐅᔪᒥ ᐅᖅᑲᖅᑎᒌᒍᓐᓇᕐᓂᕐᒧᑦ ᐱᔪᓐᓇᕐᓂᖅ ᐅᖅᑲᖅᑎᒌᔪᓐᓇᖅᑯᓪᓗᒋᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐱᖅᑎᒋᔭᕆᐊᓄᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ; ᐊᒻᒪᓗ ᑐᓂᓯᒪᓂᖅ ᐃᓄᐃᑦ ᓂᕿᖏᓐᓂᒃ ᓂᕆᕝᕕᒥ ᐊᒻᒪᓗ ᐃᓚᖅᑯᓯᒃᑯᑦ ᐱᙱᐊᖅᓂᖅ ᐱᓕᕆᐊᔅᓴᒃᑯᑦ ᐃᓱᒪᕆᔭᐅᓯᒪᔪᑦ ᐱᓪᓚᒃᓴᖅᑐᓕᕆᐊᒃᑯᓂᑦ ᖃᐅᔨᓴᖅᑎᖏᓐᓂᑦ	• ᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᐃᓚᒌᒃᑐᓄᑦ ᑐᙵᔾᕙᖕᒋᑦ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᑦ ᑲᑎᙵᓚᙵᔪᓂᒃ	ᐱᓪᓚᕆᐅᙱᑦᑐᖅ

ᓇᓲᕝᕕᐅᓲᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᖕᒋᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖕᒋᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᖠᐅᓂᖓ
			• TMAC-ᑯᑦ ᓇᓗᓇᐃᕐᓂᐊᖅᑐᑦ ᐃᖅᑲᓇᐃᔮᖅᑐᒧᑦ ᐃᑲᔪᖅᑕᐅᔭᕆᐊᕐᑲᕐᓂᖅᐸᑦ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ; ᐱᕙᓪᓕᐊᓂᖅ ᑲᔪᓯᔪᒃᑯᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᖅ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᓇᓗᓇᐃᕐᓗᒋᑦ ᐱᔪᒪᔭᖏᓐᓂᒃ, ᐊᑲᐅᙱᓕᐅᕈᑎᓂᒃ ᐊᒻᒪᓗ ᐃᓱᒫᓘᑎᒋᔭᖏᓐᓂᒃ; ᐃᑲᔪᕐᓂᖅ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓅᑦᑎᐊᕐᓂᕐᒧᑦ ᐃᒋᐊᖅᑎᑦᑎᓂᕐᒧᑦ		
ᓄᓇᒧᑦ ᐊᑐᕐᓂᖅ	ᐱᓕᕆᕙᐅᔪᓄᑦ ᓄᓇᐃᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᑦ	• ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᓄᓇᒧᐊᕈᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᖏᑦ • ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᖕᓂᕐᒧᑦ ᐱᐊᓂᖕᓂᖅ/ᐊᖑᓇᓱᖕᓂᖅ • ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᕐᑲᐅᔨᒪᔭᐅᔪᑦ ᓄᓇᒧᑦ	• ᐸᕐᓇᐅᑏᑦ ᒥᑭᔪᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᕐᒧᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔪᑎᓄᑦ ᓇᓲᕝᕕᐅᔪᓄᑦ • ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᖅ • ᓱᒃᑲᔪᒃᑯᑦ ᑭᒡᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᐱᑎᑦᑎᓂᐊᖅᑐᖅ ᒥᑭᔪᒃᑯᑦ ᑐᓗᕐᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ. • TMAC-ᑯᑦ ᐱᕐᑲᖅᑐᑦ ᐊᓯᕙᕐᑯᔾᔫᖕᒋᓐᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓗᒃᑖᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ ᓇᓲᕝᕕᒻᒥ. • ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᓇᓲᕝᕕᐅᔪᓂᒃ ᑐᓴᕐᓃᑦᑐᓂᒃ-ᐊᐅᓚᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐸᑲᓪᓚᒃᑐᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ • ᓴᓇᓂᖅ ᐊᖅᑯᑎᓂᒃ ᑲᔪᓯᔪᙱᑦᑐᒃᑯᑦ ᐅᕕᖓᔪᒃᑯᑦ ᓄᓇᒥ ᐃᑳᖅᑕᐅᔪᓐᓇᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓄᑦ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᒥ (IIBA) ᐱᕐᑲᑎᒋᓗᒍ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᕐᑲᑎᒎᖏᑦ, ᐃᓚᒋᔭᕐᑲᖅᑐᑦ; ᐊᓯᖓᒍᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᑦᓯᒪᓂᑎᒍᑦ, ᐱᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᐊᔅᓴᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᓂᒃ • ᐱᔪᓐᓇᖅᑎᑕᐅᓂᖅ ᓄᓇᒧᑦ ᐊᑐᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖕᒋᑦᑐᒃᑯᑦ ᐃᑳᕐᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᔪᓄᑦ ᐊᕙᑎᖓᓂ • ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐊᕙᑎᒧᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ • ᓴᖅᑭᑎᑦᑎᓂᖅ ᓄᓇᒋᔭᐅᔪᑦ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐃᓚᒋᔭᕐᑲᖅᑐᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᓄᓇᕐᑲᖅᑐᓄᑦ	ᕐᑲᐅᔨᒪᔭᐅᖕᒋᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᖅᑐᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᓇᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒋᖕᖏᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᓇᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔅᓯᐅᓂᖓ
	ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᓇᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᓂᖅ	• ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᓄᓇᓗᐊᕉᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔫᓐᓇᕐᓂᖏᑦ • ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᖕᓂᕐᒧᑦ ᐱᐊᓂᖕᓂᖅ/ᐊᖑᓇᓱᖕᓂᖅ • ᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᓄᓇᒧᑦ	• ᐸᕐᓇᐅᑎ ᐃᓂᓕᐅᕐᓂᕐᒧᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓂᕐᔪᑎᓄᑦ ᐊᕙᑎᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐃᓂᓕᐅᕐᓂᖅ ᓴᓇᕝᕕᐅᔪᓂᒃ TMAC-ᑯᑦ ᐱᑕᕐᑲᖅᑐᑦ ᐊᓯᕙᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓗᒃᑖᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. • ᑭᒡᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᕐᕕᐅᔪᓄᑦ ᑐᓴᕐᓃᑦᑐᓂᒃ-ᐊᐅᓚᔪᒃᑯᑦ ᐱᓇᓪᓕᐊᔪᓂᒃ ᐊᔪᕐᓇᖅᑐᓐᓂᖓᓄᑦ • ᓴᓇᓂᖅ ᐊᖅᑯᑎᓂᒃ ᑲᔪᓯᔪᖕᒋᑦᑐᒃᑯᑦ ᐅᕝᕙᖓᔪᒃᑯᑦ ᓄᓇᒥ ᐃᑳᖅᑕᐅᔪᓐᓇᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓄᑦ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐱᓇᓪᓕᐊᔪᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᒥ (IIBA) ᐱᕐᑲᑎᒋᓗᒍ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᕐᑲᑎᒌᖕᒋᑦ, ᐃᓚᒋᔭᕐᑲᖅᑐᑦ; ᐊᓯᖓᒍᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᕐᓯᒪᓂᑎᒎᑦ, ᐱᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᐊᔅᓴᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᓂᒃ • ᐱᔪᓐᓇᖅᑎᑕᐅᓂᖅ ᓄᓇᒧᑦ ᐊᑐᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑦᑐᒃᑯᑦ ᐃᑳᕐᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᔪᓄᑦ ᐊᕙᑎᖓᓂ • ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐊᕙᑎᒧᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ • ᓴᖅᑭᑎᑦᑎᓂᖅ ᓄᓇᒋᔭᐅᔪᑦ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐃᓚᒋᔭᕐᑲᖅᑐᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᓄᓇᕐᑲᖅᑐᓄᑦ	• ᐊᓯᙱᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᖕᓂᕐᒧᑦ ᐱᓇᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓄᓕᐅᑦ ᐊᕙᒃᓯ

ᐱᓕᕆᓂᖅ ᐃᓚᖓ 2 ᐱᓕᕆᐊᖅᓴᖓᓂᒃ ᐃᓚᒋᔭᐅᔪᑦ ᐃᓚᕐᑲᕐᓂᐊᖅᑐᑦ ᓄᓇᔾᕐᓂᒃ. TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐱᔪᒪᙱᑦᑎᑐᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᔪᕐᕕᒋᔭᐅᔪᓂᒃ, ᓴᐳᒻᒥᓗᒋᑦ ᐊᑕᕐᓇᖅᑐᓂᒃ ᐆᒪᔪᓂᒃ ᓇᒥᑐᐃᓐᓇᖅ, ᐊᒻᒪᓗ ᒥᑭᑉᐹᓪᓕᕐᓗᒍ ᐊᒥᓲᓂᖏᑦ ᓱᐅᕋᓂᒃ ᐃᓚᖓ 2-ᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓕᔭᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᔾᖅᓯᐊᓄᑦ. ᒪᑐᓂᐊᓕᖅᑎᓪᓗᒍ TMAC-ᑯᑦ ᐅᑎᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᓇᔪᕝᕕᐅᔪᓂᒃ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᓄᓇᔾᕐᐃᑦ ᐃᒻᒥᒃᑯᑦ ᐱᔾᒃᑲᓂᕐᑯᓪᓗᒋᑦ.

ᑖᕝᓐ (Dolphin) ᐊᒻᒪᓗ ᔪᓂᐊᓐ (Union) ᑐᒃᑐᖏᑦ ᐊᐅᓪᓛᔩᖑᕗᑦ ᐃᑳᖅᑐᑎᒃ ᓯᑯᒃᑯᑦ ᕙᒃᑐᕆᔭᐅᑉ (Victoria) ᕿᑭᖅᑕᖓᓄᑦ ᐊᒻᒪᓗ ᓄᓇᒧᑦ ᐅᐱᙳᒃᖂᒃᑯᑦ ᐊᒻᒪᓗ ᐅᑭᐊᒃᖂᒃᑯᑦ. ᐅᒥᐊᒃᑯᑦ ᐊᒼᔭᖅᑐᐃᓂᖅ ᐊᐅᓚᓂᐊᖅᑐᖅ ᐊᐅᒃᓯᒪᑎᓪᓗᒍ ᓯᑯᐃᑦ ᓴᐳᒻᒥᒋᐊᕐᓗᒋᑦ ᑐᒃᑐᐃᑦ.

ᐱᓕᕆᐊᓵᖅ ᖃᖓᕆᕝᕙᓵᖃᙱᑦᑐᑦ ᑐᒃᑐᓄᑦ ᓄᕋᖅᑖᕐᑲᑦᑕᖅᑐᓂᒃ ᐅᕙᓘᓐᓃᑦ ᓄᕋᖅᑖᕐᑲᑦᑕᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᓇᔪᕐᑲᕐᕝᕙᐅᓪᓗᓂ ᒥᑭᓂᖅᓴᒃᑯᑦ ᕐᑯᓕᓂᒃ ᐳᓴᓂᒃ ᑖᕝᓐ (Doplhin) ᐊᒻᒪᓗ (Union) ᑐᒃᑐᖏᓐᓂᒃ ᐅᑭᐅᒃᑯᑦ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᓵᒃᑯᑦ ᕐᑯᓕᓂᒃ ᐳᓴᓂᒃ ᐊHᐃᐊᑉ ᑐᒃᑐᖏᓐᓂᒃ ᐊᐅᔭᒃᑯᑦ, TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᖅᓴᖓᓂᒃ ᐸᑲᓪᓚᓪᓚᙱᑦᑐᑦ ᒥᑭᓂᖅᐹᖑᔪᓂᒃ ᓇᔪᕝᕕᐅᔪᓂᒃ, ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᐅᔪᓂᒃ ᐃᓚᒋᔭᐅᓚᙱᑦᑐᑦ ᐊᐅᓪᓛᖅᑐᓂᒃ ᐅᕙᓘᓐᓃᑦ ᐃᑳᖅᐸᓪᓕᐊᔪᓂᒃ. TMAC-ᑯᑦ ᓄᖅᑲᕐᓂᐊᖅᑐᑦ ᓯᖅᑯᐃᓂᕐᒥᑦ ᑐᒃᑐᐃᑦ ᖃᓂᑎᓪᓗᒋᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᒧᑦ, ᐅᖃᐅᔾᔪᐃᓗᑎᒃ ᑎᒻᒥᓲᓕᕆᔾᒃᑯᓐᓄᑦ ᑐᒃᑐᖃᖅᑐᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ, ᐋᖅᑮᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕐᑯᔾᔪᑎᒃ ᓇᕿᓐᓂᖓᓄᑦ ᓇᐅᑦᑎᖅᑐᕐᓂᖅ, ᑐᓂᓗᒋᑦ ᐆᒪᔪᓗᒃᑖᑦ ᓯᕗᓪᓕᐅᑎᓗᒋᑦ ᐊᖅᑯᑎᒥ, ᓯᐅᕋᖅᑲᖅᑕᐃᓕᒪᓂᖅ, ᐊᒻᒪᓗ ᐃᑭᓗᒋᑦ ᐃᒐᒥᑦ ᐊᑦᑖᔪᓂᒃ ᓂᕐᔪᑏᑦ ᐱᔾᔪᑎᒋᓗᒋᑦ. ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᖅ ᐱᕐᑯᔭᕐᑲᕐᓂᐊᖅᑐᑦ ᐊᓯᕙᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᖑᓇᓱᒃᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᔾᔪᓄᑦ ᓇᔪᕐᕕᐅᔪᒥ.

ᑕᒪᒃᑭᑦ ᑕᑯᓗᒍ, ᐃᓚᖓ 2-ᒥ ᓂᕆᐅᒋᔭᐅᔪᑦ ᐱᑦᑕᐃᓕᓂᕐᒧᑦ ᐊᑕᐅᓯᓪᓗᐊᒥᒃ ᐳᓴᒃᑯᑦ ᐊᒃᓱᒥᒃ. ᖃᐅᔾᔮᖅᑕᓯᒪᔪᑦ ᐊᒃᓱᐃᑦ ᖃᐃᓲᓂᖏᓐᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕙᖕᓄᑦ, ᐊᒻᒪᓗ ᑕᑯᔭᐅᓯᒪᔪᑦ ᐃᑲᑎᒥ ᐊᒻᒪᓗ ᑎᐊᕙᖕᒥ ᐅᔭᕋᖕᓂᐊᕐᕙᖕᓂ ᓄᓇᑦᑎᐊᒥ. ᑕᐃᒫᒃ ᐊᒃᓱᐃᑦ ᖃᐅᔾᒪᔭᐅᙱᑦᑐᑦ ᐱᔭᐅᓂᐊᕐᓗᑎᒃ ᐃᓚᖓ 2-ᒥ ᐱᓕᕆᑎᓪᓗᒋᑦ: TMAC-ᑯᑦ ᐱᑦᑕᐃᓕᒪᓂᐊᖅᑐᑦ ᐊᒃᓱᓂᒃ ᖃᐃᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᐊᕆᔭᐅᔪᒧᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᓂᒃ ᑲᒪᒋᓗᒋᑦ ᐊᑦᑕᑯᐃᑦ, ᓴᓗᒪᑦᑎᐊᕐᓂᖅ ᑕᒻᒣᕝᕕᐅᔪᓂᒃ, ᐊᒃᓱᓄᑦ ᓯᕋᖅᑕᐅᔪᓐᓇᙱᑦᑐᓂᒃ ᓴᓇᕝᕙᓕᐅᕐᓗᑎᒃ, ᐊᒻᒪᓗ ᒪᓕᒐᖃᕐᓗᑎᒃ ᓂᕆᒃᑲᐃᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ.

ᐊᔾᔨᖓᒍᑦ TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᔪᑦ ᐊᑐᕐᓗᑎᒃ ᓴᐳᒻᒥᔾᔪᑎᓵᓂᒃ ᑐᒃᑐᓂᒃ ᐊᒻᒪᓗ ᐊᒃᓱᓂᒃ - ᓯᖅᑯᐃᓂᕐᒧᑦ ᐊᑐᒪᑦᑕᐃᓕᓂᖅ, ᐊᓯᕙᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᖑᓇᓱᒃᑕᐃᓕᒪᓂᕐᒧᑦ ᒪᓕᒐᓂᒃ, ᐊᖅᑯᑎᒃᑯᑦ ᓱᒃᑲᔪᓂᒃ ᓇᓗᓇᐃᖅᓯᒪᓂᖅ, ᐊᒻᒪᓗ ᓂᕐᔪᑎᓂᒃ ᓯᕗᓪᓕᐅᑎᑦᑎᓂᖅ ᐊᖅᑯᑎᒥ - ᓴᐳᒻᒥᕐᑲᑕᐅᓂᐊᖅᑐᑦ ᐅᒥᖕᒪᓂᒃ, ᖃᕝᕙᓂᒃ ᐊᒻᒪᓗ ᐊᒪᕈᓂᒃ.

ᖃᓄᐃᑦᑑᓂᖓ ᐃᓚᖓ 2 ᐱᓕᕆᐊᖅᓴᖓ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐱᔪᓐᓇᙱᓕᓪᓗᒍ ᐱᐊᓛᖅᑖᖅᐸᓪᓕᐊᔪᓂᒃ. ᐊᑕᐅᓯᑐᐊᖅ ᐱᕿᐅᖅ, ᑭᒡᒐᕙᐊᕐᔪᐊᑦ ᓇᔪᕝᕙᖓᑦ ᐊᒥᓯᓂᒃ ᐱᕿᐅᕐᑲᖅᑐᑦ, ᓇᓂᔭᐅᓯᒪᔪᑦ ᐅᔭᕋᖕᓂᐊᕝᕙᐅᑉ ᖃᓂᒋᔭᖓᓃᑦᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᐅᔪᑦ ᑖᒃᑯᐊᒃ ᕐᑯᐸᓄᐊᑦ ᐊᑐᓲᓂᖏᓐᓂᒃ ᐱᕿᐅᓂᒃ ᓇᔪᕝᕕᒋᔭᖏᓐᓂᒃ ᓄᓇᒋᔭᖏᓐᓂ. ᐃᓚᖏᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐅᔭᕋᖕᓂᐊᕝᕙᐅᔪᑦ ᐅᓂᒃᑳᓕᐅᖅᓯᒪᔪᑦ ᐃᓐᓇᕈᕐᒥ ᕐᑯᐸᓄᐊᑦ ᐊᒻᒪᓗ ᓴᐅᔭᐅᓯᒪᔪᓂᒃ ᐅᕐᓂᒃᑕᐅᕙᓂᖏᑦ ᐱᕿᐅᒧᑦ. ᑭᓯᐊᓂ, ᐱᓕᕆᐊᓴᐅᔪᑦ ᓇᔪᕝᕙᖏᑦ ᐊᒥᓲᙱᑦᑐᓃᑦᑐᑦ ᐃᓐᓇᕈᕐᑲᖅᑐᒥ, ᐅᑉᐱᕆᔭᐅᙱᑦᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᐅᑉ ᓇᔪᕝᕙᐊᓂ. ᕐᑯᐸᓄᐊᓂᑦ ᖃᐅᔨᔪᕐᑲᖅᓯᒪᙱᑦᑐᑦ ᐱᕿᐅᓕᐅᕐᓂᕐᒧᑦ ᑐᐊᕆᔅᒥ ᐱᓕᕆᐊᒃᓴᕆᔭᐅᔪᓂᒃ ᐅᔭᕋᖕᓂᐊᕝᕙᒻᒥ ᐊᒥᓲᓂᖏᑦ ᐱᕿᐅᓕᐅᖅᑕᐅᓯᒪᔪᓂᑦ ᓇᔪᕝᕖᑦ, ᖃᐅᔾᔮᕝᕙᒋᔭᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᔪᑦᑯᑦ ᓂᕿᒋᔭᐅᕙᒃᑐᑦ ᑭᒡᓕᖃᕐᓂᐊᖅᑐᑦ ᕐᑯᐸᓄᐊᓄᑦ ᓂᕿᒃᓴᐅᓂᕐᒧᑦ.

ᐊᒥᓱᒃᑯᑦ ᕐᑯᐸᓄᐊᓂᕐᑲᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐊᒻᒪᓗ ᓄᓇᒃᑯᑦ ᐱᐊᓛᖅᑖᕐᑲᑦᑕᖅᑐᓂᒃ (ᐃᙱᓱᑦ). ᐱᕿᐅᖑᔪᑦ ᐱᑦᑕᐃᓕᔭᐅᓂᐊᖅᑐᖅ ᓴᓇᑎᓪᓗᒋᑦ ᓄᑖᓂᕐ ᓴᓇᔭᐅᓂᐊᖅᑐᓂᒃ ᑭᓯᐊᓂ ᐱᕿᐅᓕᐅᖅᑐᓂᒃ ᓯᓚᑖᓂ ᐱᕿᐅᓕᐅᕐᑲᑦᑕᓕᖅᑎᓪᓗᒋᑦ, ᐅᕙᓘᓐᓃᑦ ᖃᐅᔾᔮᕐᑲᑦᑕᖅᑎᓪᓗᒋᒃ ᐊᒻᒪᓗ ᐋᖅᑮᓗᑎᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐱᕿᐅᑉ ᖃᓂᖏᓐᓇ ᓴᓇᕙᓪᓕᐊᓕᖅᑎᓪᓗᒋᑦ ᐊᐅᔭᒃᑯᑦ. ᐊᖅᑯᑎᒃᑯᑦ ᒪᓕᒐᖅᓴᓂᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᑭᒡᓕᖅᑲᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᕐᑯᓪᓗᒋᑦ ᓄᓇᓯᐅᑏᑦ ᐱᓂᕐᓗᓐᓂᕐᒧᑦ ᕐᑯᐸᓄᐊᓄᑦ.

ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᓯᐅᕋᖅ ᐊᐅᓚᑕᐅᓂᐊᖅᑐᑦ ᓂᕐᔪᑏᑦ ᓴᐳᒻᒥᕐᑯᓪᓗᒋᑦ. ᐅᖅᓱᐃᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑐᑦ ᐃᓚᓯᓴᐃᑦ ᐊᐅᓚᑕᐅᑦᑎᐊᕐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᑯᕕᔪᖅᑲᕐᓂᖅᐸᑦ ᓴᓗᒪᖅᑕᐅᓪᓚᒃᓱᓐᓇᕐᓗᓂ ᑯᕕᑎᓪᓗᒍ

TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓯᓯᒧᑦ, ᐃᓚᒋᓗᒍ ᓱᕋᒃᑕᐃᓕᒪᑎᑦᑎᓂᖅ ᐱᕐᑯᑎᕙᒥᓂᕐᓂᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᔾᔨᒌᙳᕆᑦᑐᓂᒃ, ᐱᑦᑕᐃᓕᒪᓗᑎᒃ ᐊᖏᕚᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓄᓇᒧᑦ ᓂᕐᔪᑎᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᒋᔭᖏᓐᓂ.

ᐃᒪᑦᑎᑭᑭᐅᑉ ᐊᑭᖏᓐ

TMAC-ᑯᑦ ᐸᕐᓇᕐᓯᒪᔪᑦ ᐊᒥᓱᒃᑯᑦ ᐊᔾᔨᒌᙳᕆᑦᑐᓂᒃ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐃᓚᖓ 2-ᒥ ᐱᓕᕆᐊᕆᔭᐅᔪᓂᒃ ᐊᔪᕐᓇᙱᓐᓂᕋᓗᐊᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᒪᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ, ᐃᒪᑦᑕᐅᕙᒃ ᐊᒻᒪᓗ ᑕᕆᐅᑉ ᐃᖃᓗᖏᑦ ᓇᔪᕕᖏᑦ, ᐊᒻᒪᓗ ᐃᖃᓗᓐᓄᑦ ᓇᔪᕐᕕᒋᔭᖏᓄᑦ.

ᐱᓕᕆᐊᓯᓯᖅ ᐊᑐᕐᓂᐊᖅᑐᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐃᒪᕐᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ TMAC-ᑯᑦ ᖃᐅᔨᓴᕐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᓴᓗᒪᕆᐊᕐᓗᒋᑦ ᐃᒪᓗᒃᑖᓂᒃ ᐊᑐᖅᑕᐅᔪᓂᒃ ᐅᑎᖅᑎᑕᐅᖅᑳᖅᑎᓐᓇᒋᑦ ᓇᔪᕐᕕᒋᓚᐅᖅᑕᖓᓄᑦ. ᐊᓇᖅᑕᕐᕕᒻᒧᑦ ᓴᓗᒪᖅᓯᕐᓂᖅ ᓴᓇᕗᕖᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᐊᖅᑐᑦ ᐃᒪᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᓂᒃ ᓈᒪᓈᕆᐊᕐᓗᒋᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᔫᒃᑯᑦ ᖃᖏᖅᑕᐃᓕᒪᓗᒋᑦ ᑮᓕᖅᑎᑕᐅᓗᑎᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔾᔪᑯᑦ ᑲᑎᒪᔨᕐᔪᐊᖏᓐᓂᑦ, ᐃᒪᕐᒥᐅᑕᓕᕆᔾᑦ ᑲᓇᑕᒥ, ᐊᒻᒪᓗ ᐊᕙᑎᓕᕆᔾᑦ ᐊᒻᒪᓗ ᓯᓚᓕᕆᔾᑦ ᑲᓇᑕᒥ. ᐃᒪᖅ ᑲᑎᖅᑲᑎᖅᑳᖅᓂᖅᐸᑦ ᐅᖅᓱᓕᕆᕝᕙᒻᒧᑦ ᐊᒻᒪᓗ ᓴᓇᕝᕙᓐᓄᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ, ᐊᒻᒪᓗ ᐊᓇᖅᑕᕐᕖᑦ ᓄᓇᓯᐅᑎᖓᒍᑦ ᐊᐅᓚᓂᖓ ᓴᓇᕗᕖᑦ ᒪᓕᖕᓂᐊᖅᑐᑦ ᒪᓕᒐᓯᓴᓂᒃ ᐅᑎᖅᑎᑕᐅᖅᑳᖅᑎᓐᓇᒋᑦ.

ᐃᓚᖓ ᐱᓕᕆᐊᓯᓯᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᓗᓂ ᐆᑕᕐᓇᖅᑐᓂᒃ ᑯᕙᑉᐸᓪᓕᐊᔪᓂᒃ ᐊᑐᙱᑦᑐᓂᒃ ᐅᔭᕆᓐᓂᐊᕐᕕᓐᓂᙳᐊᖅᑐᓂᒃ, ᐃᓚᒃᓴᓂᒃ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᓂᙳᐊᖅᑐᓂᒃ,, ᐅᕝᕙᓘᓐᓃᑦ ᐅᔭᕋᒃᑕᕐᕕᓐᓂᑦ ᒥᑭᓂᑎᑕᐅᓗᑎᒃ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᐸᕐᓇᐅᑎᑦ ᓇᓗᓇᐃᑦᑎᐊᕐᓂᐊᖅᑐᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐃᒪᐃᑦ ᑭᒡᓕᖅᑲᖅᑎᑕᐅᓗᑎᒃ ᒪᓕᓪᓗᒍ ᐃᒪᐅᑉ ᓚᐃᓴᖓᓂᒃ ᑯᕕᔭᐅᙱᓪᓗᓂ ᐊᕙᑎᒧᑦ.

ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖓ ᓴᐳᒻᒥᔭᐅᓂᐊᖅᑐᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐃᑳᖃᑦᑕᖅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᖅ ᑐᖃᑦᑕᖅᑎᓪᓗᒍ ᓄᓇᒧᑦ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ ᒪᓕᓪᓗᒍ ᒪᓕᒐᓴᐅᔪᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐃᒪᓕᕆᔾᑯᓂᑦ ᑲᓇᑕᒥ. TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐱᓕᕆᐊᓴᐅᑉ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖃᓗᓐᓂᒃ ᓇᔪᕕᐅᔪᓂᒃ ᐊᖏᓂᖅᐹᒃᑯᑦ ᐱᔪᓐᓇᕐᓂᒃᑯᑦ. ᐃᖃᓗᐃ ᓇᔪᕕᖓᑦ ᐱᔭᐅᔭᕆᐊᖃᙱᓐᓂᖓ ᐱᔾᔪᑎᒋᓗᒍ, ᓇᔪᕕᐅᔪᑦ ᐊᔾᔨᒋᔭᖃᙱᑦᑐᑦ ᐸᕐᓇᐅᑎᓄᑦ ᐊᖏᖅᑕᐅᓯᒪᓗᓂ ᐃᒪᓕᕆᔾᑯᓐᓄᑦ ᑲᓇᑕᒥ. ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᒻᒪᓗ ᑭᒃᑯᑐᐃᓐᓇᐃᑦ ᓄᓇᖃᖅᑐᑦ ᐃᓚᒋᔭᐅᓂᐊᖅᑐᑦ ᐱᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐃᓱᐊᓈᕐᕕᓯᖃᕐᓗᑎᒃ ᐅᖃᐅᓯᕆᔪᒪᔭᖏᓐᓂᒃ.

TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓯᓯᖅ, ᐃᓚᒋᔭᖃᕐᓗᓂ ᓱᕋᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ, ᐱᑦᑕᐃᓕᒪᓗᓂ ᐊᖏᕚᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᒪᑦᑎᐊᕙᐅᑉ ᐊᕙᑎᖓᓄᑦ.

ᑕᕆᐅᑉ ᐊᑭᖏᓐ

ᐅᖅᓱᒥᒃ ᐊᓪᔭᖅᓯᖃᑦᑕᕐᓂᖅ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᒪᓕᖕᓂᐊᖅᑐᑦ ᑲᓇᑕᒥ ᐃᖏᕋᕐᔪᑎᓕᕆᓪᓗᒪᕆᒃᑯᖏᓐᓂᑦ ᒪᓕᒐᖏᓐᓂᒃ. ᐲᖅᑕᐅᕙᒃᑐᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᕐᕕᖓᑦ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᑲᑎᖅᑲᓕᐊᖅᖅᑐᑦ ᓴᕙᕋᔭᐃᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓄᑦ ᒪᓕᒐᖏᓐᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᕙᑎᓕᕆᔾᑦ ᐊᒻᒪᓗ ᓯᓚᓕᕆᔾᑦ ᑲᓇᑕᒥ, ᐊᔾᔨᒃᓴᐃᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᑲᓇᑕᒥ. ᐃᓚᒋᐊᕐᓗᒍ, TMAC-ᑯᑦ ᐱᕐᑯᔭᐅᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᕐᑯᔭᐅᓗᑎᒃ ᐊᕙᑎᒥᒃ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐲᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᖓᓄᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐆᒪᔪᓂᒃ.

ᓴᓇᓂᕐᒧᑦ ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᑐᖃᑦᑕᖅᑐᓂᒃ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ, TMAC-ᑯᑦ ᑭᒡᓕᖅᑲᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᑕᕆᐅᑉ ᐃᖃᓗᖏᓐᓂᒃ ᒪᓕᓪᓗᒍ ᐃᒪᕐᒥᐅᑕᓕᕆᔾᑯᑦ ᑲᓇᑕᒥᑦ ᒪᓕᒐᖏᓐᓂᒃ ᐱᑦᑕᐃᓕᒪᕐᑯᓪᓗᒋᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕕᖏᓐᓂᒃ. ᐃᓚᒋᐊᕐᓗᒍ ᐊᓯᖏᓐᓄᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑐᓴᕐᓃᓐᓂᖅ, ᐳᓚᖅᑲᕐᓂᖅ ᐊᒻᒪᓗ ᓴᔪᖓᕐᒥᒃ (ᐆᑦᑑᑎᒋᓗᒍ,

ᓄᓇᓯᐅᑎᒃᑯᑦ, ᓯᖅᑯᖅᑎᑦᑎᓂᒃᑯᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᐊᖅᓵᖅᑐᐃᓂᒃᑯᑦ). ᐱᓕᕆᔪᓂ ᐃᒪᕐᒥ ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ ᒥᑭᓂᖅᐸᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᔾᔮᒃᑰᕐᔪᑎᒃ ᐃᖅᑲᓗᖕᓄᑦ, ᐊᒻᒪᓗ ᓇᔪᕐᕕᐅᔪᖅ ᐊᑐᖅᑕᐅᓐᓂᖅᐸᑦ ᐊᖅᓵᖅᑐᐃᑎᓪᓗᒋᑦ ᐱᖅᑯᑎᓂᒃ ᑐᓚᒃᕕᐊᓂ ᒥᑭᓐᓂᖅᐹᒃᑰᕋᓯᐊᕐᓂᐊᖅᑐᑦ ᓯᖃᒃᑕᐃᓕᒪᓂᕐᒧᑦ. ᐆᒪᔪᓂᒃ ᓄᖑᕙᓪᓚᐊᓂᖓᓄᑦ ᐱᔾᔪᑎᖅᑲᖅᑐᓂᒃ, ᐃᒪᓕᕆᓲᒃᑯᑦ ᐱᔭᕆᐊᒃᑲᓐᓂᕋᔭᖅᑐᑦ ᑐᖕᖓᓂᖅᑲᑦᑎᐊᕐᓂᕐᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕚᓪᓕᕐᓂᕐᒧᑦ ᐅᕙᑦᑎᑭᖕᖑᖅᑎᓪᓗᖑ

ᖃᐅᔨᓴᖅᓂᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᓇᑦᑏᑦ ᓇᔪᕐᕕᖅᑲᙱᓐᓂᖏᓐᓂᒃ (ᐅᕝᕙᓘᓐᓃᑦ ᓄᖅᑲᖓᓂᕐᒧᑦ ᓯᓚᒥ ᐅᕝᕙᓘᓐᓃᑦ ᓯᑯᒥ) ᐊᐅᔭᒃᑯᑦ ᕿᐳᑦ ᑲᖏᖅᓯᐊᓂ. ᐅᑭᐅᒃᑯᑦ, ᑕᑕᓐᓂᖓ ᐊᒡᓗᐊᑦ ᓯᑯᒥ ᕿᐳᑦ ᑲᖏᖅᓯᐊᓂ ᐊᒻᒪᓗ ᐃᓚᖓ ᐅᖅᓯᕆᐊᒥ ᒥᑭᓐᓂᖅᓴᐅᔪᖅ ᑐᒃᑐᓯᐅᕝᕕᓪᓕᒥᑦ, ᓰᖑᓇᓯᕆᔭᐅᔪᖅ ᓇᑦᑏᑦ ᐱᔪᒪᑦᑕᐃᓕᓂᖓᓄᑦ ᓄᓇᒦᖅᑐᓂᒃ ᓂᖁᑎᓂᒃ ᐆᑦᑑᑎᒋᓗᒍ ᐊᒃᓴᐃᑦ ᐊᒻᒪᓗ ᖃᖅᕕᑦ. TMAC-ᑯᑦ ᐅᒥᐊᖅᔪᐊᓕᕆᖅᑕᑦᑕᖅᓂᐊᖅᑐᑦ ᐊᐅᓯᒪᑎᓪᓗᒍ ᓯᑯ, ᓇᑦᑎᖅᑳᙱᑎᓪᓗᒍ ᐊᒻᒪᓗ ᑐᒃᑐᓂᒃ ᐃᖄᕕᐅᙱᑎᓪᓗᒋᑦ.

ᖃᓂᓐᓂᖅᐹᑦ ᑕᓇᐅᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖓᑦ ᖃᓂᓐᓂᖅᐹᖑᒧᑦ ᒥᑭᑦᑐᓂᑦ ᕿᑭᖅᑕᓃᑦᑐᓂᒃ ᑐᒃᑐᓯᐅᕝᕕᒡᒥ ᐊᒻᒪᓗ ᐃᔫ ᑲᖏᖅᓯᐊᓂ ᑲᖏᐊᓂ ᐅᖅᓯᕆᐊᑉ. ᓇᓂᓯᔪᖅᑲᙱᑦᑐᖅ ᐊᖏᔪᓂᒃ ᑕᓇᐅᕐᒥᐅᑕᓂᒃ ᖁᐸᓄᐊᖅᑲᙱᑦᑐᖅ ᑲᑎᙵᔪᓂᒃ ᐅᖅᓯᕆᐊᒥ, ᐅᕝᕙᓘᓐᓃᑦ ᐅᒥᐊᖅᔪᐊᑦ ᐊᖅᑯᑖᒍᑦ ᐅᖅᓯᕆᐊᒧᐊᖅᑎᓪᓗᒋᑦ. ᑕᓇᐅᕐᒥᐅᑕᐃᑦ ᐱᑭᐅᖕᒋᑦ ᒥᑭᑦᑐᓂᒃ ᕿᑭᖅᑕᓃᑦᑐᑦ ᐅᖅᓯᕆᐊᒥ, ᑭᓯᐊᓂ ᑕᓇᐅᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ ᐊᖏᓂᖓ ᓄᓇᐅᑉ ᓯᓚᖓᓂ ᐊᒥᓱᒐᓗᐊᖅᑎᑦᑐᑦ. ᒥᑭᓂᖓᓄᑦ ᖁᐸᓄᐊᑦ ᕿᐳᑦ ᑲᖏᖅᓯᐊᓂ ᓴᓇᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓄᑖᑦ ᓴᓇᔭᐅᔪᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᐅᑉ ᓴᓇᕝᕕᓂᒃ, ᐊᒻᒪᓗ ᐊᒥᓱᒐᓗᐊᖅᑎᓐᓂᖏᑦ ᖁᐸᓄᐊᓄᑦ ᐱᑭᐅᑦ ᓄᓇᐅᑉ ᓯᓚᖓᓂ, ᐱᓕᕆᐊᔅᓴᐅᑉ ᐱᕙᓪᓕᐊᓂᖏᓄᑦ ᖁᐸᓄᐊᑦ ᐊᒥᓱᒐᓗᐊᖅᑎᑦᑐᑦ.

TMAC-ᑯᑦ ᐋᖅᑭᒃᓯᒪᓂᖓ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ, ᐃᓚᒋᖅᑲᑕᐅᓗᒍ ᓱᖁᑕᐅᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᖏᕈᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖏᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ, ᐱᔭᐅᑦᑕᐃᓕᒪᓂᐊᖅᑐᑦ ᐊᖏᕈᒥᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑕᓇᐅᑉ ᐊᕙᑎᖓᓂ.

ᐃᓅᓯᓂ ᐊᕙᑎᖓ

50-ᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᐅᔪᑦ ᓄᓇᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖓᓂ. TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᓂᐊᖅᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓗᑎᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᓂᑦ ᐱᓕᕆᐊᓴᓂᒃ ᐊᒻᒪᓗ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔨᒥᒃ ᐃᓕᓴᐃᓗᓂ ᓇᓂᓯᓂᕐᒥᒃ ᐃᑦᑕᕐᓂᑕᖅᑲᖅᑲᕐᒥᓂᕐᓂᑦ ᓇᔪᕐᕕᐅᕙᓕᐅᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᒪᓕᒃᑕᐅᔭᕆᐊᖃᖅᑐᓂᒃ ᒪᓕᒐᕐᓂᕐᒥᑦ ᓇᓂᓯᓐᓂᕈᕐᒥᒃ ᓂᕆᐅᒋᓪᓚᑦᑕᑯᑦ. ᓇᓂᓯᓐᓂᖅᐸᑕ ᓇᔪᕐᕕᐅᔭᐅᖅᑲᑦᑕᖅᑐᒥᕐᒥᒃ, TMAC-ᑯᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐸᓯᓪᒥᔭᐅᕙᓯᒥᒃ ᖃᐅᔨᓴᕈᑎᒥᒃ ᓇᔪᕐᕕᐊᓂ. ᐃᑦᑕᕐᓂᑕᖅᕕᒃ ᓇᔪᖅᑕᐅᔪᖅ ᐱᔪᓐᓇᕐᓂᖅ ᐊᔪᕐᓇᕐᓂᖅᐸᑦ ᐱᓯᒃᕕᐅᓗᓂ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᒧᑦ, ᓇᔪᕐᕕᐅᔪᖅ ᓱᖁᑕᐅᑦᑕᐃᓕᒪᓂᐊᖅᑐᖅ ᐱᖁᑎᒥᐅᔪᓂᒃ; ᑕᐃᒫᒃ ᐱᔪᓇᐅᑎᓯᓂᒃ ᑐᑭᓯᐅᑎᓂᒃ ᐱᕙᓪᓕᐊᑲᖅᓂᐊᖅᑐᑦ ᓄᓇᕗᑦ ᒐᕙᒪᖓᓂ, ᑐᑭᓯᐊᕐᔪᑎᓗᒃᑖᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᖅᑲᖅᑐᖅ ᐊᒻᒪᓗ ᐱᖁᑎᒥᓃᑦ ᑎᑎᕋᖅᑕᐅᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᓯᒪᑦᑎᐅᑉᑐᑦ ᓯᕗᓂᓯᐅᑦ ᐊᑐᖅᑕᐅᕙᓇᖅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥᐅᓄᑦ. ᑭᓯᐊᓂ ᓇᔪᕐᕕᐅᔪᖅ ᐲᖅᑕᐅᓯᒪᓂᖓ, ᐃᓯᒪᒋᐅᑉᑐᑦ ᑐᑭᓯᐊᕐᔪᑏᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᓯᒪᑦᑎᐅᑉᑐᓯᒪᔪᑦ ᐱᓪᓗᐊᑕᐅᔪᖅ ᐃᓕᖅᑯᓯᐅᔪᒧᑦ. ᐊᖏᕈᑦ ᐱᕙᓪᓕᐊᔪᖅᑲᖕᖏᑦᑐᖅ ᐃᑦᑕᕐᓂᑕᕐᓂᐅᑉ ᐊᑐᐃᓐᓇᐅᕙᓯᓂᒃ ᐃᓚᖓ 2-ᒥ. ᐱᒃᑲᓇᐊᖅᑐᒍ, Hᐆᐸᐃᑦᑐᖅᑭᐊᖅ ᐱᓕᕆᐊᔅᓴᖓ ᐃᑲᔪᖅᑕᐅᓯᒪᓂᖓᓄᑦ ᖃᐅᔨᒪᔨᓂᑦ ᑐᑭᓯᑎᑦᑎᕚᓪᓕᖅᑕᐅᔪᓂᒃ ᐱᓇᓱᒥᓂᖅᓂᑦ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᐃᓅᓯᕆᔭᐅᓚᐅᖅᑐᓂᒃ ᖃᖓᓴᖅ

ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ ᐃᑲᔪᑎᔅᓴᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑮᓇᐅᔭᖅᑲᖅᓂᕆᔭᐅᕙᒃᑐᑦ ᐱᕈᖅᐸᓪᓕᐊᓗᓂ ᐊᒻᒪᓗ ᐊᕐᕌᒍᑕᒫᑦ ᐃᑲᔪᖅᑕᐅᓂᑯᓐᓄᑦ ᐊᖅᑭᒍᑉ ᐃᓗᐊᓂ ᑲᓇᑕᒥᓂᖅ ᓴᖅᑭᑕᐅᕙᒃᑐᑦ ᑲᑎᓕᒫᖅᑐᑦ ᐊᒻᒪᓗ ᒐᕙᒪᓕᕆᔾᔪᐊᒃᑯᓐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᓂ ᒐᕙᒪᖏᑦ ᑖᒃᑯᓯᐅᖅᓯᒪᔪᑦ. ᑕᒪᒃᑯᐊ ᐱᕙᓪᓕᐊᔪᑦ ᓂᕆᐅᒋᔭᐅᔪᑦ ᐃᑉᐱᒋᔭᐅᓗᑎᒃ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᓂᒃ, ᓄᓇᒋᔭᐅᔪᓂᒃ, ᓄᓇᕗᑦ ᐊᒻᒪᓗ ᑲᓇᑕᒥ ᑕᒪᒃᑭᓐᓂᕐᒧᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓪᓗᒋᑦ. ᐱᓕᕆᐊᔅᓴᖅ ᐊᔪᕐᓇᖅᑭᑲᓗᐊᕐᓂᖓᓗᒃ ᐃᑲᔪᖅᑐᐃᓂᖅ ᑮᓇᐅᔭᖅᑲᖅᓂᕆᔭᐅᕙᒃᑐᑦ ᖃᐅᔨᒥᐅᓄᑦ ᐱᐅᔪᑦ ᐊᒻᒪᓗ ᑐᑭᓯᐊᖅᑐᑦ, ᐱᕙᓪᓕᐊᖁᓪᓗᒍ ᐃᑲᔪᖅᑐᐃᓂᒃᑯᑦ ᐊᖏᕈᑦ ᐱᕙᓪᓕᐊᓂᕐᒥᒃ ᐊᔨᕈᖅᑕᐅᑦᑐᑦ. ᓄᓇᒋᔭᐅᔪᒥ

ᓇᒻᒥᓂᖃᖅᑐᑦ ᐊᖏᓂᖓ ᐊᖏᓪᓕᕇᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐱᓕᕆᔾᔪᓂᒃᑯᑦ ᕿᑎᕐᒥᐅᓄᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐃᓄᐃᑦ ᐊᒻᒪᓗ ᖃᓪᓗᓈᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᕿᑎᕐᒥᐅᑕᐅᔪᓂᒃ. ᐃᓕᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐊᖏᓪᓕᕇᓪᓕᐊᓂᐊᖅᑐᖅ ᐃᖅᑲᓇᐃᡲᔅᓴᒧᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕐᓂᖅ ᐊᔾᔨᕐᙱᓐᓂᖏᑦ ᕿᑎᕐᒥᐅᑕᓄᖅ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒧᑦ, ᐊᒻᒪᓗ ᓇᒥᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ.

ᐃᓕᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐊᔪᕐᓇᙱᒃᑕᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕆᑎᖃᖅᓯᓐᓇᕆᐊᓕᒃ ᐱᔪᒪᔪᓂᒃ ᐃᖅᑲᓇᐄᔅᓴᒧᑦ ᐊᖏᓂᖅᓴᒃᑯᑦ, ᖃᐅᔨᒪᓂᒃᑯᑦ ᐱᔾᔪᑎᖏᓐᓂᒃ; ᑭᓯᐊᓂ, ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᓂᕆᐅᙱᑦᑐᑦ ᐊᖏᔫᒃᑯᑦ. ᐃᓕᓐᓂᐊᖅᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᒥᒃᑯᑦ ᑐᓂᔭᐅᔫᓇᖅᑐᑦ, ᐃᓯᒪᒋᔭᐅᔪᑦ ᓄᓇᓕᖕᓄᑦ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᖅ ᐊᒻᒪᓗ ᐃᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᔅᓴᓂᒃ ᐊᖏᓪᓕᕚᓪᓕᑐᐃᓐᓇᕆᐊᓕᒃ. ᐃᑲᔪᖅᑎᑏᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ ᓴᓇᓂᕐᒧᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᑏᖏᑦ, ᐊᓯᖏᑦ ᑲᑐᔾᔨᖃᑎᑏᑦ ᑐᓂᓯᓗᑎᒃ ᐃᓕᓐᓂᐊᕈᑎᔅᓴᓂᒃ ᐊᒻᒪᓗ ᐃᓕᓴᕐᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᔅᓴᓂᒃ ᐊᔪᕐᓇᑲᓴᕋᔭᖅᑐᖅ TMAC-ᑯᓐᓄᑦ ᐱᔪᒪᒐᓗᐊᕐᓗᑎᒃ.

ᐃᓕᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐃᓯᒪᒋᔭᐅᔪᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓗᓂ ᐃᓕᕌᖃᑎᒌᒃᑐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐃᓕᕌᒃᑐᓄᑦ ᑐᙵᓂᖃᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᑮᓇᐅᔭᓕᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᐃᓕᕌᒃᑐᓄᑦ ᖃᓄᐃᑦᑑᓚᔾᔪᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐱᖃᑎᕌᒃᑐᒃᑯᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐱᓕᕆᐊᔅᓴᐅᔪᒧᑦ. TMAC-ᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐱᕚᓪᓕᖁᓪᓗᒍ ᐱᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᒥᑭᓪᓕᕖᓪᓕᖁᓂᖅᒧᑦ ᐱᐅᙱᑦᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᔾᔪᑎᒋᓗᒍ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ. ᐆᑦᑑᑎᒋᓗᒍ, ᖃᐅᔨᒃᑲᐃᑎᑦᑎᔪᓐᓇᖅᓂᖅᒧᑦ ᐃᑲᔫᑎᓂᒃ ᑲᔪᓯᔪᓐᓇᖅᓗᒍ ᐅᖃᖅᑲᑎᕐᖓᓂᖅᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓄᑦ ᐊᒻᒪᓗ ᐃᓕᕌᒃᑐᓄᑦ ᑕᐃᒪᐅᓂᐊᖅᑐᑦ ᓇᔪᖅᕕᐅᔪᒥ. ᐃᓕᒋᐊᖅᓗᒍ, TMAC-ᑯᑦ ᖃᐅᔨᒃᑲᖅᑎᑦᑎᔨ ᐱᔭᕆᐊᖃᖅᑐᖅ ᑲᔪᓯᔪᓂᒃ ᖃᐅᔨᒃᑲᐃᓂᕐᒥᒃ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᓗᑎᒃ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐃᖅᑲᓇᐃᔭᔅᓴᖓᓄᑦ ᐱᔭᓇᐊᖃᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑐᓂᓯᓗᑎᒃ ᐃᑲᔫᑎᔅᓴᓂᒃ ᐊᑲᐅᙱᓕᐅᕆᑕᖃᕐᓂᖃᑉ.

ᐃᓯᒪᒋᔭᐅᔪᖅ ᐃᓕᖓ 2 ᐱᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᖏᔪᒃᑯᑦ ᐱᐅᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᐱᐅᔫᑎᖏᑦ ᐊᒻᒪᓗ ᐊᑲᐅᙱᓕᐅᕆᑕᖃᕐᓂᖅᑉ ᐋᖅᑭᑕᐅᔪᓐᓇᖅᑐᖅ TMAC-ᑯᓐᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᒃᓴᓇᔭᐅᔪᑦ ᓄᓇᓖᑦ ᒐᕙᒪᖏᓐᓂᒃ.ᐃᓕᖓ 2 ᐊᖏᓪᓕᕇᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᐅᓚᑎᓪᓗᒍ ᐱᓕᕆᐊᔅᓴᖅ ᐱᒋᐊᒃᑲᓐᓂᕐᓗᒍ ᐱᔮᑎᕋᐅᑎᓂᒃ ᐃᓱᐊᓈᖅᕕᔅᓴᒃ ᐊᒥᓱᓄᑦ ᓴᓇᓂᕐᒧᑦ ᓄᓇᒋᔭᐅᔪᓂᑦ ᐅᖓᑖᓄᑦ ᐊᕐᕕᓂᓕᖕᓂᑦ ᐅᑭᐅᓄᑦ ᐱᓕᕆᐊᓴᐅᑉ ᒫᓇᐅᔪᒃᑯᑦ ᐱᔪᓐᓇᐅᑎᖃᕐᓂᖓᓄᑦ. ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᓂᖓ ᐊᒻᒪᓗ ᐃᑲᔫᑎᖏᑦ ᐊᖏᕈᑎ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᑏᖏᑦ ᐃᑲᔪᕐᓂᐊᖅᑐᑦ ᓇᓗᓇᐃᖅᓯᓗᑎᒃ ᐱᓕᕆᐊᔅᓴᖅ ᐃᑲᔪᕐᓂᐊᕐᓂᖓᓄᑦ ᐃᓅᔪᓄᑦ.

ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᖅᑐᖏᓐᓂᒃ ᖃᐅᔨᓴᖅᑐᖃᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᒻᒪᓗ ᐃᓚᒋᑎᑕᐅᓪᓗᑎᒃ ᐊᒥᓱᒃᑯᑦ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᓇᓗᓇᐃᓂᖏᑦ, ᖃᐅᔨᓴᖏᓐᓂᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᔅᓴᐅᑉ ᐊᕙᑎᖓᓂᒃ ᐊᒻᒪᓗ ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖓᓄᑦ. ᖃᐅᔨᓴᖅᑕᐅᔪᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᑎᒋᐊᓖᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᑕᐃᒪᐅᔪᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᓱᕋᐅᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑐᓴᕐᓃᓐᓂᖓᓄᑦ ᓄᓇᕆᔭᐅᔪᒥ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᖃᐅᔨᓴᕐᓂᖅ ᓇᔪᕝᕕᐅᔪᓂᒃ ᐱᓕᕆᐊᔅᓴᒧᑦ ᓴᖅᑭᑦᑎᕆᐊᕐᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᖅᑐᓂᒃ ᖃᐅᔨᓴᖏᓐᓂᒧᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᓯᕗᓂᔅᓴᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᕐᓗᒋᑦ ᐊᑲᐅᙱᓂᐅᕆᑎᓂᒃ ᖃᓄᐃᑦᑐᓂᒃ ᐱᔾᔪᑎᒋᓗᒋᑦ ᐅᑎᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ.

ᐃᓕᒋᓗᒍ ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖓ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᖓᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ, ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᓯᓚᐅᑉ ᖃᓄᐃᓐᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᓴᐅᔭᐅᔪᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ (ᐃᒪᑦᑎᐊᕙᒃ ᐊᒻᒪᓗ ᑕᕆᐅᖅ); ᐃᖃᓗᐃᑦ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᕐᓂᑦ ᓇᔪᕕᐅᔪᓂᒃ (ᐃᒪᑦᑎᐊᕙᒃ ᐊᒻᒪᓗ ᑕᕆᐅᖅ); ᓄᓇ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᐃᑦ; ᓄᓇᕋᖅ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᑦ; ᐃᓄᖕᓄᑦ ᓂᕿᕆᔭᐅᕙᒃᑐᑦ; ᐊᒻᒪᓗ ᑐᓴᕐᓃᓐᓂᖓ. ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑕᐃᒪᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᓱᕋᐅᓇᖅᑐᓂᒃ ᐊᔾᔨᕐᙱᑦᑐᒃᑯᑦ ᖃᓄᐃᑦᑐᓂᒃ ᐊᒻᒪᓗ ᐊᒥᓱᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐊᖅᑯᑎᖃᖅᑐᓂᒃ ᐱᖃᖅᓯᓐᓇᓇᐊᖃᖅᑐᓂᒃ. ᐱᔾᔪᑕᐅᔪᒃᑖᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ, ᐱᓕᕆᐊᔅᓴᖅ ᑐᓂᓯᒐᔭᙱᑦᑐᖅ ᐊᑲᙱᓕᐅᕆᑎᔅᓴᓂᒃ ᐊᑕᖏᕐᓗᒍ ᐃᓄᖕᓄᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖏᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ.

ᐋᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦ ᑎᐊᙳᑐᑦ

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᓴᐳᒻᒥᑎᑦᑎᓂᕐᒧᑦ ᐋᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓂᒃ, ᓄᓇᓕᖕᓄᑦ, ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐊᒻᒪᓗ ᐆᒪᔪᓂᒃ ᓄᓇᒥ, ᐊᒻᒪᓗ ᒪᓕᑦᑎᐊᖅᑐᑦ ᒪᓕᒐᓕᐅᖅᓯᔪᓂᒃ ᐋᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᕐᑲᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᒻᒥᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᒪᓕᒋᐊᓕᖕᓂᒃ ᐊᒻᒪᓗ ᐊᑐᐊᒐᓂᒃ.

ᐋᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᑦ ᖃᖓᑐᐃᓐᓇᖅ ᐱᓕᕆᑎᓪᓗᒋᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᐅᔪᒥ. ᓱᕋᓪᓚᐅᔪᖅ ᐊᕙᑎᒧᑦ ᐃᓱᒫᓘᑎᒋᔭᐅᔪᖅ ᐋᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᓐᓂᕐᒧᑦ ᐱᑐᐃᓐᓇᕆᐊᕐᑲᖅᑐᒃᑯᑦ ᑯᕖᓂᖅ ᐅᖅᓱᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐃᒋᑦᑎᓂᖅ ᐃᓚᓭᓴᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐅᖅᓯᐊᓗᙵᓂᒃ ᓄᓇᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᒪᕐᒧᑦ. ᐃᑭᑦᑐᑦ ᐊᑦᑕᕐᓇᕐᑕᐅᔪᖅ ᐋᓂᖅᑐᕐᑲᕈᓐᓇᖅᑐᒃᑯᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ, ᓱᕋᐃᓂᖅ ᐃᑯᒪᓄᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ, ᐅᕝᕙᓘᓐᓃᑦ ᓯᖅᑯᕝᕚᐅᔪᒃᑯᑦ.

ᐊᐅᓚᓂᖅ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᖃᓄᐃᑦᑐᕐᑲᒌᓪᓚᖕᓂᖅᐸᑦ ᐸᕐᓇᐅᑎᑎ ᐱᒪᓇᐅᔪᖅ TMAC-ᑯᓐᓄᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ. ᓱᓇᒃᑯᑖᒧᑦ ᖃᐅᔾᔪᕐᓂᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᔭᕆᐊᕐᑲᖅᑐᑦ ᑲᑎᕐᑲᑎᕐᑲᕐᓂᐊᕐᓗᓂ ᐱᕐᑯᔭᓂᒃ, ᐊᒻᒪᓗ TMAC-ᑯᑦ ᐋᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ, ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐱᑦᔪᑎᖕᒋᓐᓂᒃ. ᑕᐃᒪᐅᓚᐅᕐᓗᐊᖅᑎᓪᓗᒍ ᐱᒋᐊᕐᑲᑐᐃᓐᓇᕐᓂᖅᑲᓄᑦ ᐋᓂᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᓂᒃ, TMAC-ᑯᑦ ᑐᕌᖅᓯᒪᔭᖕᒋᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐱᑐᐃᓐᓇᕆᐊᕐᑲᖅᑐᒃ ᖃᓄᑐᐃᓐᓇᖅ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓂᒃ ᑕᐃᒪᐃᓂᖅᑲᓄᑦ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᓂᒃ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ. TMAC-ᑯᑦ ᐊᐅᓚᓂᖃ ᐋᖅᑭᒃᓯᒪᔪᑦ ᐱᓯᒪᑦᑎᑦᑎᔪᑦ ᐱᕙᓪᓕᐊᒍᑕᐅᔪᓂᒃ ᐊᓯᙳᖅᑐᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᖅᓯᒪᓂᖅ ᐊᒻᒪᓗ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒋᐊᕐᓗᒍ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑭᒻᓕᕐᑲᖅᑐᑎᒃ ᑕᐃᒪᐃᓐᓂᖅᑲᓄᑦ. ᑕᒪᒃᑯᐊ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐃᖅᑲᓇᔭᖅᑎᕐᑲᕐᓗᓂ ᐃᓕᓴᐃᓂᕐᒧᑦ, ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ, ᖃᐅᔨᖅᑎᒥᒃ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᑲᔪᓯᑎᐊᕈᓐᓇᕐᓗᓂ ᐱᕐᑯᑎᓂᒃ, ᐊᒻᒪᓗ ᐃᓕᑦᑎᕙᓪᓕᐊᓂᖅ ᖃᓄᐃᓕᐅᖅᑐᓂᒃ ᐱᕚᓪᓕᕐᑯᓪᓗᒍ ᐊᐅᓚᓂᖓ.

ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐋᖅᑮᓯᓂᖅ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᖅ ᐋᖅᑭᒃᑕᐅᓚᐅᖅᑐᑦ 18-ᓄᑦ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᕐᓂᖓᓄᒃ ᐋᓂᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᓂᒃ ᒪᓕᓪᓗᒍ ᑕᓪᓕᒪᓂᒃ ᐊᔾᔨᒋᙱᑦᑐᓂᒃ; ᐊᔾᔨᒋᙱᓐᓂᖕᒋᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᓪᓗᑎᒃ ᑕᒪᒃᑭᓐᓄᑦ ᖃᓄᐃᓕᐅᕋᔭᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᐱᔪᕐᑲᕐᓂᖅᐸᑦ. 18-ᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᕐᓂᑦ, ᐊᕐᕕᓂᓕᑦ ᒪᕐᕈᒃ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ, “ᒥᑭᓐᓂᖅᐹᒃᑯᑦ” ᐊᑦᑕᕐᓇᖅᑐᑦ, ᐊᕐᕕᓂᓖᑦ “ᒥᑭᔪᒃᑯᑦ” ᐊᒻᒪᓗ ᑕᓪᓕᒪᑦ “ᐊᑦᑕᕐᓇᓗᐊᙱᑦᑐᑦ”. ᓇᓗᓇᐃᒃᑯᑕᕐᑲᙱᑦᑐᖅ ᐃᓱᒪᒋᔭᐅᓂᒃᑯᑦ “ᕐᑯᑦᑎᑦᑐᒃᑯᑦ” ᐅᕝᕙᓘᓐᓃᑦ “ᐊᕐᒋᔪᒃᑯᑦ” ᐊᑦᑕᕐᓇᖅᑐᓂᒃ. ᑕᐃᒪᐃᓚᐅᕐᓗᐊᖅᑎᓪᓗᒍ ᐊᔾᔨᒋᙱᑦᑐᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᓕᒋᔭᐅᔪᑦ ᐋᓂᖅᑐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᒧᑦ, TMAC-ᑯᑦ *ᑐᐊᕕᕐᓇᖅᑐᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᖕᒋᑦ* ᑕᐃᒪᐅᔪᑦ ᐋᓂᖅᑐᕐᑲᖅᐸᑦ ᐊᒻᒪᓗ ᐊᐅᓚᔪᕐᑲᑦᑎᐊᙱᑉᐸᑦ.

ᐱᕙᓪᓕᐊᔪᑦ ᐊᕙᑎᒥ ᐱᓕᕆᐊᕐᓴᐅᔪᒥ

ᐊᕐᒋᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐆᑦᑑᑎᒋᓗᒍ ᐱᖅᓯᖅ, ᓂᐸᓗᒃᔪᐊᕐᓂᖅ ᐅᕝᕙᓘᓐᓃᑦ ᖃᓂᕐᔪᐊᕐᓂᖅ, ᐃᒃᐱᕐᓇᕐᓂᒃᑯᑦ, ᓴᔪᒃᑐᕐᑲᓪᓚᖅᐸᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᐅᕗᖓᕙᓪᓕᐊᓂᖓᓄᑦ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓵᒥ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᓄᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐋᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ. ᐱᒋᐊᒃᑲᓂᖅᑐᖅ, ᓯᓚᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᖅ ᐱᓕᕆᐊᓵᐅᔪᒧᑦ.

ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᐱᓕᕆᐊᓵᖅ ᐃᓱᓕᑦᔪᐅᓯᒪᔪᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᕙᑎᒧᑦ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᔪᓇᕐᓂᖓ ᐱᓕᕆᐊᓵᐅᐸ ᓴᓇᓂᕐᒧᑦ, ᖃᓄᐃᓐᓂᖓᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐱᔾᔪᑎᒋᓗᐊᖅᑕᖓ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ-ᓴᓇᕐᕈᑏᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᑎᑎᕋᖅᓯᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᐋᖅᑮᐸᑕ ᐃᑲᔪᑎᒋᔭᐅᓗᑎᒃ ᐋᖅᑮᓂᕐᒧᑦ ᓇᓗᓇᐃᕐᓂᕐᒧᑦ ᐃᓱᒫᓘᑎᒋᔭᐅᔪᓂᒃ ᓄᓇᐅᑉ ᕿᕐᑭᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᓄᓇᒧᑦ-ᓱᕋᕐᓇᖅᑐᓂᒃ ᐱᕚᓪᓕᕈᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐱᓕᕆᐊᓵᖅ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᖕᒋᑦ ᐊᐅᓚᔪᓐᓇᓂᖓᓄᑦ. ᑕᐃᒪᐅᔪᒃᑯᑦ, ᓇᔪᕕᐊᑕ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᒧᑦ ᐱᐅᓂᖅᐹᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᓄᓇᐅᑉ ᖃᖓᓂᑦᑐᓂᒃ, ᓇᒥᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᓂᒃ) ᐱᑦᑕᐃᓕᒪᓗᒋᑦ ᐊᔾᔨᓐᖏᒃᑲᓗᐊᕐᓂᖓᓄᑦ

ᐆᒃᑑᑎᖓ ᐊᕙᑎᑦᑎᓂᒃ ᐊᒃᑐᐃᒐᔾᖅᑐᓂᑦ ᐅᖃᖅᓯᒪᔪᑦ

ᐊᑲᐅᙱᓕᐅᕈᑎᓂᒃ ᐊᖏᓂᖅᐸᒃᑯᑦ ᐱᔪᓐᓇᕐᓂᕐᒧᑦ. ᐊᑲᐅᙱᓕᐅᕈᑎᑕᖃᖅᐸᑦ, ᐊᑐᖅᑕᐅᔪᑦ ᐊᐅᓚᔪᓐᓇᕐᓂᕐᒧᑦ ᓴᓇᔾᐅᓂᐊᖅᑐᑦ ᐃᓕᒪᓱᖕᓂᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓂᐊᖅᑐᒃᑯᑦ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖕᖓᓄᑦ ᓴᐳᒻᒥᓂᖅ ᐊᒻᒪᓗ ᐆᓇᖅᓯᖃᑦᑕᖅᑐᓂᒃ. ᖃᐃᕙᓪᓕᐊᔪᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔫᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᖏᑦ, ᐃᓚᒋᐊᕈᑏᑦ ᖃᓄᐃᑦᑑᓂᐊᕐᓂᖏᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖏᑦ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᓇᐊᖃᖅᑐᑦ ᐊᑲᐅᓈᖅᓯᖅᐹᓪᓚᖅᑯᓪᓗᒋᑦ ᑐᑭᓯᐊᕐᔪᑎᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ-ᓴᓇᕐᕈᑏᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᕙᑎᒧᑦ.

ᑕᒃᑯᐊ ᓴᐅᓐ ᓇᐃᒍᑎᒃ ᐃᓚᒋᐊᕈᑏᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐ ᓂᕐ ᒧᑦ ᑭᒡ ᓚᖀᑦ ᐱᕙᓪᓕᐊᓂᖅ

ᐃᓱᒪᒋᔭᐅᔪᒃᑯᑦ ᑐᓂᔭᐅᓯᒪᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᑕᒃᑯᓴᐃᓐᓇᐅᒐᑎᒃ ᐃᓚᒋᐊᕈᑏᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᓯᒪᑦ ᖃᓄᐃᓐᓂᖏᓐᓄᑦ ᑲᑎᖅᓱᖅᓯᒪᔪᓂᒃ ᐊᓯᖏᓐᓄᑦ ᐱᓕᕆᐊᓯᐅᔪᓂᒃ, ᐊᒻᒪᓗ ᑕᐃᒃᑯᓄᖓ ᐱᕙᓪᓕᐊᔪᓄᑦ ᐅᖓᑖᕈᓐᓇᖅᑐᒃᑯᑦ ᐱᔪᓐᓇᖅᕕᖃᕐᓂᕐᒧᑦ ᑭᒡᓕᐊᓄᑦ ᐊᓯᖏᓐᓄᑦ ᑲᓇᑕᐅᑉ ᐃᓗᐊᓂ (ᖃᐅᔨᒪᔾᐅᔪᑦ ᐊᐅᓪᓛᕐᓂᕐᒧᑦ-ᑭᒡᓛᑦ transboundary effects). ᐊᖏᔪᒃᑰᖅᑐᖃᙱᑦᑐᖅ ᐱᔪᓐᓇᖅᕕᖃᕐᓂᕐᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᐅᓪᓛᕐᓂᕐᒧᑦ-ᑭᒡᓕᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᐅᔾᔪᖃᖅᓯᒪᙱᑦᑐᑦ, ᐱᔾᔪᑎᒋᔭᖓ ᐃᓚᖓ 2 ᓂᕈᐅᙱᒻᒪᑕ ᐊᖏᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᓂᑦᑐᒃᑯᑦ ᐅᕝᕙᓘᓐᓃᑦ ᑲᑎᙵᔪᒃᑯᑦ ᐱᓕᕆᐊᕐᓱᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᖓᓯᓂᙳᖅᑐᓂᒃ.

ᐊᕙᑎ, ᐋᓐ ᓂᐊᖅᑕᐃᓕᒪᓂᖅ, ᐊᒻ ᒪᓗ ᐊᑦ ᑕᕐ ᓇᖅᑕᐃᓕᒪᓂᕐ ᒧᑦ ᐊᐅᓚᓂᖓ

TMAC-ᑯᑦ ᐃᓕᑕᖅᓯᓯᒪᔪᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ ᐊᕙᑎᒧᑦ ᐊᐅᓚᓂᖅ ᑎᒥᐅᔪᒃᑯᑦ ᓯᕗᓪᓕᐅᑎᑦᑎᓂᖅ. ᐱᓕᕆᕝᕕᒃ *ᐱᔪᒪᔾᖏᑦ ᐊᑲᐅᓂᒃᑯᑦ ᓇᒻᒥᓂᖃᖅᑐᑦ ᒪᓕᒍᑎᓂᒃ ᓱᓕᔪᒻᒥᒃ* ᐃᓚᒋᐅᒍ ᑲᔪᓯᓂᖅ ᐊᒻᒪᓗ ᐃᒻᒥᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᑲᔪᓯᓂᖅ ᖃᐅᔨᓴᕐᓂᖅ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ, ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐊᓯᖏᓐᓄᑦ ᓴᓇᕝᕕᐅᔪᓂᒃ ᐱᓇᓱᐊᕋᓱᖕᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᒃ ᐱᓯᒪᑦᑎᓗᑎᒃ TMAC-ᑯᑦ ᐃᖅᑲᓇᐃᔭᕐᕕᖓᓄᑦ ᐱᔪᒪᓗᑎᒃ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᓂᖓᓄᑦ ᐊᑐᕆᐊᖃᑦᑕᕐᓂᖏᓐᓄᑦ. TMAC-ᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ, ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᒥᓴᓄᑦ ᑲᒪᔨᓂᒃ ᖃᐅᔨᓴᖃᑦᑕᖅᑐᓂᒃ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᕐᓂᖏᓐᓂᒃ, ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪᓗ ᐋᖅᑭᕆᐊᖅᓯᓂᖅ ᒪᓕᒐᓴᓂᒃ ᐱᓕᕆᕝᕕᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐱᖁᔭᓂᒃ ᐊᒻᒪᓗ ᒪᓕᒋᐊᓕᖕᓂᒃ ᐊᒻᒪᓗ ᑭᐅᖃᑦᑕᕐᓂᖅ ᑕᐃᒪᐅᓪᓗᐊᖅᑐᒃᑯᑦ ᐊᕙᑎᓕᕆᓃᒃᑯᓐᓄᑦ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ ᐱᖁᔭᐅᓂᒃᑯᑦ. ᐃᓚᒋᐊᕐᓗᒍ, ᒪᓕᓪᓗᒍ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᐃᑲᔫᑏᑦ ᐊᖏᕈᑎᐊᓂ, ᐃᓄᖕᒥᒃ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐅᖃᖅᑎᒥᒃ ᑲᑎᒪᔩᑦ ᖃᐅᔨᓴᕈᑦᔪᑦ ᐊᕙᑎᐅᑉ ᐊᐅᓚᓂᖓᓂᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖅ ᐸᕐᓇᐅᑎᐅᔪᓂᒃ, ᐅᖃᐅᓯᐅᕙᒃᑐᓂᒃ ᐱᓕᕆᐊᓯᒧᑦ-ᐃᓚᒋᔭᐅᔪᓂᒃ ᐊᕙᑎᒧᑦ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐅᖃᐅᔾᔪᐃᓂᖅ TMAC-ᑯᓐᓄᑦ.

ᐊᑕᐅᓯᓪᓗᐊᖅᑕᒃᑯᑦ ᐊᐅᓚᓂᖅ ᐸᕐᓇᐅᑏᑦ ᑎᑎᕋᖅᑕᐅᕋᓂᒃᓯᔪᑦ ᑭᖑᓪᓕᐅᑉ ᓴᓇᕝᕕᐅᔪᒥ ᐱᕙᓪᓕᐊᓯᒪᔪᖅ Hᐆᑉ ᑲᖏᖅᓱᐊᓂ ᐱᐅᑦ ᐱᓕᕆᐊᓴᖅ. ᖃᐅᔨᓴᖅᑎᓪᓗᒋᑦ ᐃᓚᖓ 2-ᒥ ᓄᓇᓕᓗᒃᑖᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᒐᕙᒪᒃᑯᑦ ᑎᒥᖁᑕᐅᔪᑦ ᖃᐅᔨᓴᕐᓂᐊᖅᑐᑦ ᐊᐅᓚᑕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓱᕋᒃᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᖁᑎᒥᓂᕐᓂᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ. ᐱᖁᔭᐅᔪᒃᑯᑦ, ᐊᐅᓚᐅᔪᑦ ᐸᕐᓇᐅᑏᑦ ᓄᑖᙳᖅᑎᑕᐅᓗᑎᒃ ᐱᒃᑲᓂᕆᐊᕐᓗᒍ ᓄᑖᖑᔪᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓚᖓ 2-ᒥ ᑎᑎᕋᖅᑕᐅᓯᒪᙱᑦᑐᓂᒃ ᐸᕐᓇᐅᑎᓂ. .

ᐱᐊᓂᒃ ᔪᑕᐅᔪᑦ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ ᐅᓂᒃ ᑳᓕᐊᑦ

TMAC-ᑯᑦ ᑎᑎᕋᖅᑕᐅᖕᒐᖅᓯᒪᔪᒃᑯᑦ ᐊᕙᑎᐅᑉ ᐱᕙᓪᓕᐊᔪᖕᒋᓐᓂᒃ ᐅᓂᒃᑳᓕᐊᑦ ᐱᐊᓂᒃᐸᓪᓕᐊᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᖕᖓᓄᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᑕᖅᑲᙱᑦᑐᑦ ᐊᖏᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᕙᑎᒧᑦ, ᐃᓅᖃᑎᒌᓐᓂᕐᒧᑦ-ᑮᓇᐅᔾᖃᖅᓂᐅᕙᒃᑐᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᒋᔭᐅᔪᓄᑦ.

TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐱᓕᕆᐊᓴᒧᑦ ᒥᑭᓂᖅᐸᒃᑯᑦ ᓱᕋᐃᓂᕐᒧᑦ ᐊᕙᑎᒧᑦ. ᐱᓕᕆᕝᕕᒃ ᐱᔪᒪᔪᑦ ᐱᕙᓪᓕᐊᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᒧᑦ ᐊᑲᐅᔪᒃᑯᑦ ᐃᓱᒪᔾᐅᔪᒃᑯᑦ ᐃᑉᐱᒋᑦᑎᐊᕐᓂᒃᑯᑦ ᓄᓇᖃᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ. ᑲᒪᑦᑎᐊᕐᓂᕐᒧᑦ ᓱᕋᒃᑕᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᖁᑎᒥᓂᕐᓂᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅ, ᐱᓕᕆᐊᓴᖅ ᑐᕋᖓᔪᖅ ᐊᖏᔪᒃᑯᑦ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᑐᓂᓯᓗᑎᒃ ᑮᓇᐅᔾᖃᖅᓂᐅᕙᒃᑐᒃᑯᑦ ᐃᑲᔫᑎᓂᒃ ᐃᓄᖕᓄᑦ ᓄᓇᖃᖅᑐᓂᒃ, ᓄᓇᓖᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥᐅᑕᓄᑦ.

Atanguyat Onipkangit

ILITTUQHITIT

Havaaghanut Naunaitkutat

Kapihiliktuumi Greenstone Belt taamna ("Nanminiuyuq") TMAC Resources Inc.-kut ("TMAC", "taapkua Havakviuyut") tigumiaqtiulluaqtut ihumagilluaqpaghugulu nalvaaqhiuqniq, hanavallianiq uyaraghiuqniqlu. TMAC-kut nanminiurutilgit nalvaaqhiuqtanut, atuqtaghanik atauqhiqmiklu Inuit Nalvaaqhiuqniqmut Angirutinik aktikkutaanut nunamik 20x80 km-nik nanminiqnik. Hapkua nalvaaqhiuqtanut tigumiaqtainit taapkuanguyut Kapihiliktuumi Greenstone Belt, talvani katiqhuqtunik kulunik uyaraktaliit taapkua Doris, Madrid Tununngaat, Madrid Hivuraat Boston-lu nayugait. Kapihiliktuuq nayugauyuqtauq amihunut nalvaaqhiuqvighanut talvuuna ilitturinnaqtuq taimaa manighiurutighat hapummihimayut ilitturinnaqniaqtut, piinnarialingniaqtut hanayauniaqhutiklu, aulapkaqtaughaaqluni qatannguqatigiingnut.

Havaaghaq 2 Hanayaghanit ("Havaaghat") ihumagilluaqpagait uyaraghiuqtaghaat Madrid Tununngaanit, Madrid Hivuraanit Boston-milu uyaraghiuqtaghanik atuqhugit aklivaalliqtiqhugillu Doris Havakvianit ikluqpautait atauttikkut hanaplugu Kapihiliktuumi Uyaraghiuqvighaq. Havaaghat hapkua havaaghaniktittiyut hanayaghakkut tunngaviqattiaqtumik Kapihiliktuumi kuluit aulaghaaqtughauluni uyaraghiuqvik Kanatam Ukiuqtaqtuanit manighiuqvighaq ikayuutighaillu Qitiqmiuni aviktuqhimayumiut. Hanayaghanut parnaiyautit ikighivaallirutigivagait angiyunik niuviqtut aklivaalliutauvaghuni nanminiqnik maniktuutighat taimaa nalvaaqhiuqpaallirumaaqtut aklivaalliqlutiklu.

Nayugaat

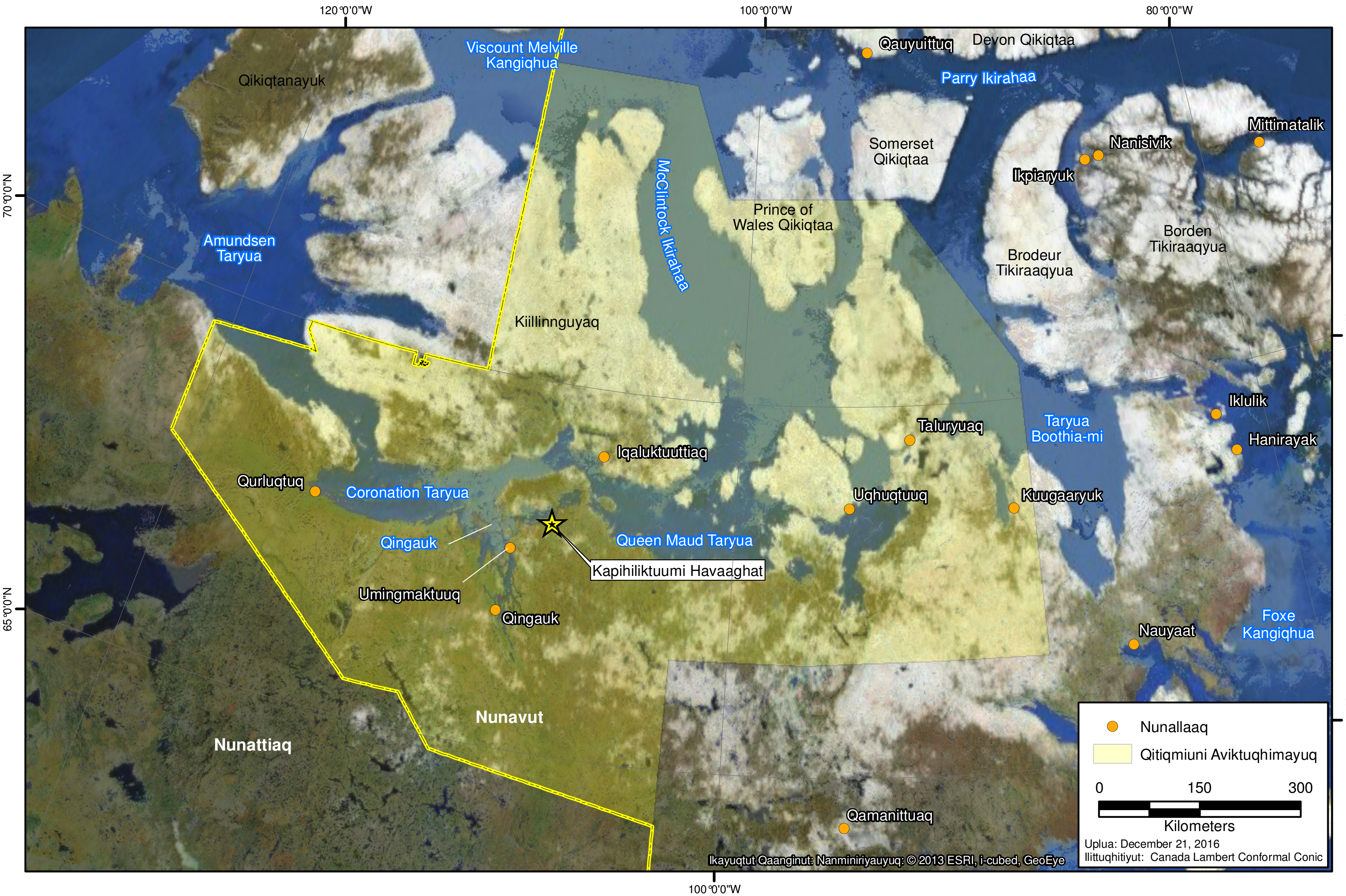
Havaaghaq kivalliqhianiittuq Qingauk, ungahiktigipluni 150 km-nik hivuraani kivalliqhianit Iqaluktuuttiaq uataani Qitiqmiuni, Nunavunmi, 700 km-niklu ungahiktigiyuq tununngaani kivalliqhiani Yalunaimit (Naunaitkutaq 1). Qanitqiyauyut nunallaat taapkua Umingmaktuuq, ungahiktigiyuq 60 km haniani uataanut, Qingauklu ungahiktigiyuq 130 km-ik hivuraani kivalliqhianit. Tamangnik Umingmaktuuq Qingauklu inituqliminiuyut; nayugarigaluangit inuit nuutpaktut Iqaluktuuttiamut ahinullu nunallaaqnut, kihimi nunat tahapkua atuqtauvaktut huli aippaagunnguraangat.

Tununnganiqpaani Kapihiliktuumi uyaraghiuqvighaq qaffinik qurluqtulik harvaqpaktut Roberts Kangiqhuanut, taamnalu Quingniq Kuugaa harvaqpaktuq Kapihiliktuum Kangiqhuanut. Qurluqtut hivuraanit uyaraghiuqvigham harvaqpaktut qulvahitqiyaanut Quingniqmut Kuugaanut. Tamaat nuna hanianiittuq Qingaum-Ayapapaqtuqviuplu Kangiqhuanut.

Avatinut Ihuilutinut Titiqqat (EIS)

TMAC-kut Havaaghaat 2 Havaaghanit ilittuqhitiuyuq aulahimmaaqtunik qauyihaiyunik tughirautinik tuniyauhimayuq 2011-mi taapkuninnga Hope Bay Uyaraghiuqtit Limatit. May 2012-mi, tughirautit tuniyauhimayut NIRB-kunnut ihivriuqtauyughat inungnut malighugu Ilanga 5 talvanngat Ilanga 12-mit Nunavut Angirutaanit. Maliktaghat Parnaiyainiqmik iniqtauyughanik EIS-nik tuniyauhimayut talvanngat Nunavut Avatiliqiyit Katimayiit (NIRB) December-mi, 2012-mi. NIRB-kut tajja ihivriuqtaat hapkua iniqtauyughat Avatinut Ihuilutit Titiqqat Havaaghanut 2 ilittuqhitihimayaitut TMAC-kut ihivriutqiutauyuq ihivriuqtauliqtunik May 2012-mi. EIS taamna ilauyuq Avatinut qauyihaiyunik havauhiinut tutqighaqtauhimayut havaaghanut malighugu Nunavut Angirutaat.

Naunaitkutaq 1
Havaaghat Nayugaat



TMAC-kut parnaiyaihimayut EIS-nik ikayuqtauplutik inuit qauhimayatuqainik, nunallaaqmiut uqauhiinit ihumagiyainitlu, ayuqnaqtunik qauyihaiyinit, ayuittunit, unniqtuiyinillu qaffinit havaaqnit. EIS-kut, avatiniklu qauyihainikkut, TMAC-kut ilittuqhitiyut Havaaghaq 2-mik Havaaghanit avatiinit naahuriyauyunitlu havaaghanit. Ihuilutauniarahugiyauyut naahuriyauyut ihuaqhautillu iniqtauhimayut. Halumailruqarniqmi, (taapkuatut halumailruit ihuaqhautit atuqtautaaqhimagumik), ingattaqnianiklu “ilitturinnaqniagullu” ihuilutit qauyihaqtauvaktut naunaitkutat pihimayait atuqhugit ayuittullu uqauhiigut. Hapkua ilauyut naunaitkutat qauyihautillu ilitturinnaqtut EIS-nit.

Havakvighaq

TMAC-kut Kanatamiutauyut uyaraghiuqtit nanminiq havakviqaqhutik talvani Havakvingnit, Iqaluktuuttiami, Yalunaimi, Toronto-milu. TMAC-kut niuviqhimayaat Kapihiliktuumi Nanminiat Newmont Uyaraghiuqtiinit March 2013-mi. Niuviqtaaqhugu, TMAC-kut hanatqiliqtut Doris Havakvianik (Havaaghaq 1 Kapihiliktuumi Havaaghanit) uyaraghiuliqhutik Kapihiliktuup Uyaraghiuqvighaanit. TMAC-kut tamatkiumayunut manighaqtaqpaktut iniqattiaqhutiklu nalvaaqhiuqtughanut, piinnarianiktittiyunut, hanauyunut, aulapkaiyunut, umiktiriniqmullu uplumi hivunighamilu kulunik katiqhuqvingnit Kapihiliktuum Uyaraghiuqvighaanit. Nanminiup aulapkaiyiqyuangit, hanayiit avatiliqiyillu havaqatigiit ilihimattiaqtut Ukiuqtaqtumi nalvaaqhiuqniqmik aularaaqniaqhimaplutik hanalutik ikayuqtigiighiuqlutiklu nunallaaqni nanminilgillu nanminiillu ukiuqtaqtumi ilihimayunik.

Qitiqmiuni Ikayuqtigiit

Kitukiat havaaghat haffuma aktikkutaatut aghuuqtauyuniklu hanayunik Kapihiliktuumi uyaraghiuqvighamik iniqtaulaittuq inuilaqmi. Amihunik ikayuqtiqaqtughat taapkualu TMAC-kut ikayuqtauvaktut hanayaghainut ikayuqtiqattiaqhutik malrungnik angiyunik Inuit katimaqatigiingnik: Nunavut Tunngavikkut Timingat (NTI) taapkualu Qitiqmiuni Inuit Katimayiit (KIA). NTI-kut ikayuqtiuyut parnaiyaivaghutik munaqtiuvaghutiklu Inuit munariyaghainik titiraqhimayut talvani Nunavut Angirutaanit. NTI-kut tigumiaqtiuyut qaanganit nunat pilaarutainik nalvaagaqniklu talvani Inuit Nanminiinit Nunaanit (IOL) Nunavunmi, qaanganullu nunat pilaarutainik tamaat Kapihiliktuumi Nanminianut nalvaaqtaghanullu pilaarutinik kitunutkiaq aviktuqhimayunik Nanminianit. KIA-kut titiraliqivaktut pilaarutinik qaanganik nunanik taapkuninngalu Inuit Ihuilutinit Ikayuutinut Angirutinik (IIBA) mighaagut taapkua TMAC-kut havaangit Nanminianit. KIA-kut TMAC-kullu ikayuqtigiikpangniaqtut tajja ikayuhianganik hivunighamilu havaqatigiingnikkut angirutikkullu tajja atuqtauyut taapkualu Havauhighanut Angirutikkut, Inuit Ihuilutinit Ikayuutainut Angirutikkut (IIBA) talvuunalu Nanminiqaqtut Atuqtitauyukkut. Tamangnik katimaqatigiit havaaghaqaqniat kivgaqtuqhugit Inuit taimaa, taapkualu TMAC-kut, talvuuna Havauhighanut Angirutikkut ahiniklu, hivunighami angirutikkut pitquyaukpat, inuuhiqattiarniqmut manighautikkullu ikayuutighaqhugit Nunavunmiut, Nunavut, Kanatalu munaqtiuplutik nunanik ihuaqtukkut.

HAVAAGHAQ

Uyaraghiuqviup Naunaitkutait

Havauhighait

TMAC-kut aulapkaivangniat uyaraghiuqvingnik Kapihiliktuumi Havakviinit uyaraghiuqhutik Doris-mi (angiqtauhimayuq hanayauplunilu Havaaghaq 1 Kapihiliktuumi Havaaghanit), kinguani niuviqtittilutik uyaraghiuqlutik Madrid Tununngaanit, Madrid Hivuraanit Boston-milu uyaraghiuqvighanit. Hapkua havauhighat atuqtauvangniat hanayunit, aulapkaiyunit, utiqtittigumik ilitquhianut umiktittigumiklu, umikviitalu kinguani havaaghanik.

Havaaghaq 1 (Doris-mi) Havaaghanit ikluqpaghaliuqviqaliqtut Roberts Kangiqhuani Doris Havakvianilu hiniktaqviqaqhutik (inighaqaqhutik 280-nut inungnik); aulayumik uyaraghiuqvingmik nunap ataani hiqupluqtaghalingnik hiqupluqtaaqhimaqaqhuni, ukiuraaluk atuqtauyumik milvingmik, hiqupluqtuiyunit kuvviit (TIA), 20-milian liters-nik uqhuqhat tutquumaviinik, hiqupluqtuivingmik, hanaviqaqhutiklu aulapkaiyaami uyaraghiuqtut havaangit.

Havaaghaq 2 Havaaghanit quulliriiktitauniaqtut havaaghanut Havaaghaq 1-mit talvani Doris havakvianit. Qanittuungmat Madrid-mi havakviat Doris Havakvianut, hiqupluqtiqvingmut, TIA-mullu talvuuna Havaaghaq 2 Havaaghanit atuqpangniarait ikluqpaghaliuqhimayut Doris-mi. Imaatut akighilaarutauniaqtuq aulapkaiyunik, mighivaalliqlugu havakvighaat, hivikinaaqlugu havakvighaat Madrid-mi uyaraghiuqvighami, ikayuqhugit havaktut Boston-mi Havakvianit. Angiqtauhimayut ikluqpaliuqvighat hannaviillu Roberts Kangiqhuani Doris Havakvianilu havaktighariaktut aulapkaiyaami Havakviup havaaghainik Havaaghaq 2-mi.

Havaaghaq 2-mi Havaaghanit quulliriiktittiniaqtut hanayainik uyaraghiuqtullu havaanginik. Parnaiyaqtauhimayut havakvighait uyaraghiuqtut Madrid-mi Boston-milu hammauvut:

- Uyaraghiuliqlutik Madrid Tununngaanit Ukiuq Hivulliqmi (1) (2019) aularaaqlutik Ukiumut 13 (2031), hiqupluqtuilutik Doris-mi Madrid-mi Tununngaani hiqupluqtuiviinit;
- Uyaraghiuliqlutik Boston-mi Ukiuq Hitamaanit (4) (2022) aularaaqlutik Ukiumut 14 (2032), hiqupluqtuilutik Doris-mi Havakvianit Ukiut 4-mi 5-milu, talvanilu Boston-mi hiqupluqtuivianit aulapkaqtitaugumi Ukiuq 6-mi.
- Uyaraghiuliqlutik Madrid Hivuraanit Ukiuq 11-mi (2029) aularaaqlutik Ukiumut 14 (2032), hiqupluqtuilutik Doris-mi talvanilu/unit Madrid Tununngaani havakviinit.

<u>Havakvighaq Hanayauyughamut Ihumagiyaghat</u>

TMAC-kut aulapkainahuaqpaktut ihuaqtukkut inuuhiqnut avatinullu. Talvuuna, Nanminiit hapkua tamatkiumanahuaqhutik ihuaqhainahuaqhutiklu hanayaghanik Kapihiliktuumi ihumaliurahuaqpaktut, ikkuaqtuqtauplutik ihuinaaqtailinahuaqtumik. Nunat, inuuhiit-manighiurutinit, ilitquhiit, aanniaqtailiniq aanniqtailiniqlu, ahiillu qauyihaqtauhimayut taapkua qauyihautigiliqtait ihumagiyauvaktut hanatjuhighat ihumaliuqhugit Kapihiliktuumi Havaaghanit Havaaghaq 2-milu. Naunaitkutaittumik, ihuilutillu naunaittumik, TMAC-kut amirinahuaqhutik havagahuaqpaktut taimaa aanniqtailiplutik ahiruqtiqtailiplutiklu.

Naunaitkutat Havaaghaq 2-mi hanayaghanut parnaiyaiplutik ihumagiyaghanik naunaiqhitiyut kinguani.

- TMAC-kut havakviqarumayut aanniaqtailiniq aanniqtailiniqlu ihumagiplugit ihuaqhaihimmaaqhutik havakviqattiariami aanniqtailiplutik huliyuqaqtailiplugu havakviit.
- Ilitquhiit Qauhimayatuqat (taapkualu *Inuit Qaujimajatuqangit)* [IQ] ihumagiyauvaghunilu, naunaitkutaniklu ingilravingnik, anngutighat ingilraviit, nayugait anngutighat ihumagiyaghat, nunamilu hulilukaayuktunik.
- Inuuhiqattiarniqmut-maniqhiurniqmit ikayuutit ihuaqhaqtaunahuat havaktighaqhiurutighat (ilihaitjutighallu iharianaqqat) nunallaaqmiunit Qitiqmiuni Aviktuqhimayumi. Havaaghat nanminiqnullu ikayuutit aulapkaqtitauvaktut talvuuna Inuit Ihuilutinut Ikayuutinullu Angirutinik (IIBA) taapkua TMAC-kut KIA-kullu. Ihuilutauniarahugiyauyut inuuhiqattiarniqmut-manighiurniqmit ihuaqhaqtauniaqtut havakvingnit ayuiqhaqpaalliqhutik havauhikkut taapkuatut Havaktit Ilaitalu Ikayuutaigut.

- TMAC-kut utuqqalingnik qauyihaivaktut naunaitkutallu katitiqhimayut inituqlirnit aulaqvianik Kapihiliktuumi Havaaghat (uyaraghiuqtullu havaktut) atuqtittivalliayut Aulapkainiqmut Havauhighalluanik ilitturinnaqhitiplugit havauhighat ilittuqhinnirumik nutaamik utuqqalingmik. Inituqliit nunauyaliuqtauvaktut upaktailivaghutiklu ihuaqqat.
- Nunamut ihuilutauniarahugiyauyut ikighilaaqtauvaktut ihuaqhautikkut havauhikkut hanayaghaliuqhutik havakvighamik. Hapkunani ihumagiyaghaittauq nunallu atuqtauyuittut, avataaniittut tutquumaviuyut, aktuqtailiyaghat amirnaqtut (taapkuatut ivaviit tingmitjat, iqalliqiviit kuukkat) ayuqnaitpat, aulapkainahuaqhutiklu nayugaqnik. Amirnaqtut nunauyaliuqhimayut ilittuqhitighat amiriyaghat uumayulgit nayugaillu; hapkua ilittuqhitiyauvaktut ilitquhiqnik qauhimayatuqanik ilitquhiuyuniklu ikpingnaqtunik.
- Hanayauyughanit ihumagiyauyughat ihuilutaulaaqtut hilamit aallannguqtaqtumi. Qauyihaqhimayinit naahuriyauyut iliqahiutihimayut hivunighami hila aallannguqtaqtumi immaplu qanuriningaanit, hanayauyughanullu uyaraghiuqvighanit ikluqpaliuqvighainik (taapkuatut apqutighanik, hiqupluqtuivingmik aulapkainiqmik) ihumaaluutauvaktut amiqnaramik aallannguqtaqtunut.
- Qiqumayutuqait ilitturiyauhimaliqtut nunamilu hanayaghanut maliktaghat qiqumayutuqanit hanayauhimaliqtut. Hapkua ilittuqhitiuyut aallannguutinut qiqumayutuqanit hila aallannguqtaqtumi.
- Qaffiuyut aallannguqtauyut hanatjuhiinut ihuaqhautauniarahugiyauyut ihuilutinut nunanik atuqpaktunut. Imaatut nunanik atuqpaktut ingilralaalaqivaktut apqutiqarnikkut havakviuplu haniagu taimaa ihuilutaulaittaami aullaaqtaqtunut nunami.

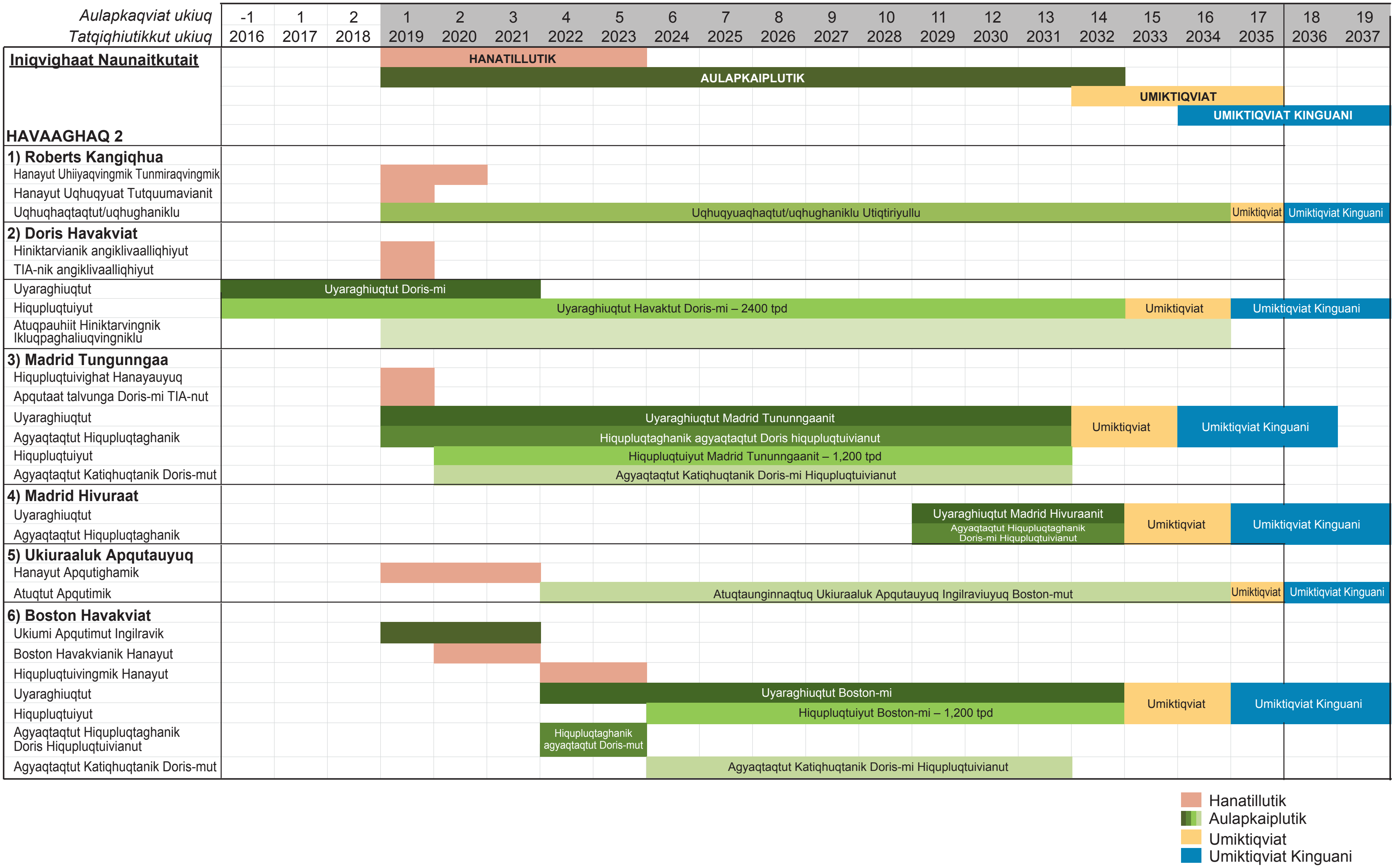
<u>Naahuriyauyut Hivunighami Havaaghat</u>

Ihumagiyaghat naahuriyauyut hivunighami havaaghat taimaa ilauvakkami Havakvingnik hanayunut. Havaaghaq inmikkut aviktuqhimayunik havaaghalgit hanavalliaplutik Kapihiliktuumi Uyaraghiuqvighamik ilittuqhitiulaaqhuni, piinnarianiktittilutik hanavallialutiklu havaaghanik uyaraghiuqtunit. Ikluqpaghaqarami tajja hanahimayunik aulapkaqtitauyuniklu Havaaghanut hapkuninnga ihuaqutauniaqtut hivunighami havaaghanit.

Havaaghat Naunaitkutait

Kapihiliktuumi Havaaghat atauttikkuuqtunik havakviqaqtut havaktuqaqhutiklu hitamauplutik havakviit aularaaqtillugu uyaraghiuqvik. Hanayaghalgit huli aulapkainiqmullu havaaghanik ilangi havakvingnit hanaliqtinnatik aulapkaitinnagillu ahinik uyaraghiuqvighanit. Aajjikkutavyaatut, umiktiqviinit kinguanilu-umikviinit havaaghait ilangi havakvingnit aullaqtitauniaqtut aulapkaihuiqtinnatik ahinik havakvingnik. Tamatkiumayukkut, havakvighaat Havaaghaq 2-mi Havaaghanit iliqahiutihimayut havaaghanik aulayughanik hitamanik ukiunik Hanavighaat (Ukiuq 1 Ukiuq 4-mut), atauttikkuuqhutik taapkualu havaaghalraat 14-nik ukiunik Aulapkaivighaat (Ukiuq 1 Ukiuq 14-mut). Umiktiriyut utiqtiriyullu nunanik pitquhianut havaaghat aullaqtitauniaqtut ukiuq 14-mi, aularaaqlutik hitamanik ukiunik naallugit. Umiktiriyut-kinguani havaaghait aviktuqtauvaktullu, aullaqtitauplutik Ukiuq 16-mi. Naunaitkutaq 2-1 ilittuqhitiuyuq Havaaghat iniqvighainik qaffiuyunut Havaaghaq 2-mi havaaghanit.

Naunaitkutaq 2
Havaaghanut Naunaitkutaq



Ahiit Havauhighat

NIRB-kut Maligaghainit TMAC-kunnut qauyihaiquihimayut “pilaariaghait/pilaitaaghainikluuniit” Havaaghaq 2-mi havaaghanik, ilittuqhitilutiklu aallanik havauhighanik aullaqtittiyaami havakvingnik.

Pilaariaghait/Pilaitaaghainikluuniit

Malruuyut inirutaulaaqtut taapkuninnga pilaariaghait/pilaittaaghainikluuniit ihumaliuqtaghat Havaaghaq 2-mut Havaaghanit:

1. Aullaqtiqlutik Havaaghaq 2-mik Havaaghanit, ilittuqhitiyauhimayutut Tughirautainit.
2. Taimaakaffuklugit Havaaghaq 2 Havaaghanit amiriyaghat ilitturiyautaarumik qauyihaqtaugumik ikighilaaqtaulaaqtut ihuaqhaqtaulaaqhutikluuniit taimaa aulattiaqniarungnaqhiyuq Havakvighaq.

TMAC-kut ukpiruhuktut taimaa Havaaghaq 2 havaaghanit aulattiaqniarahugiyaat havaaghaq aullaqtitauyughaq ikayuutighait tamangnik ilauyut taapkualu KIA-kut NTI-kullu. Hapkua inirutighat ilittuqhitilgit taimaa Havaaghaq 2 havaaghaniutingniaq hanayaghanit nutaanik uyaraghiuqvighanik Kanatam Ukiuqtaqtuanit. Kapihiliktuumi Nanminianit uyaraghiuqtaghalik, Kapihiliktuumilu piqutait nutaangutqiyauyut. Amiqnautit ikighivaalliqtauhimayut niuvigainit havakvingnut ahinullu, hanayainillu havakvingnit ikluqpaghautainik. Hanayaghanut parnaiyautiat hanayauhimayut niuviqpallaaqtailiplutik hanahimmaaqlutik tajja ikluqpautainit manighiurutighat aklivaalliutighat nalvaaqhiuqpalliatjutighallu.

Naahuriyauyut ikayuutighat Havaaghanit nunallaaqmiunut havaaghauyut manighiurutinillu ikayuutit nakurutauyut tamangnut inuuhiqnut piyumayainullu Inuit manighiuqtittiplugit havaaghanit Qitiqmiunit nunallaat.

Ahiagut Havauhighakkut Aulapkaiyut Havaaghanik

Nayugaita katiqhuqhimayut uyaraghiuqtaghat ikighivaalliutauyut ahinik havauhighanik hanayughanik Havaaghaq 2-mi havaaghanik. Hanatjuhiit tamangnik havakvighat ikluqpaliuqhimayunik ihariattiyut ikiniqhanik taapkuninnga uyaraghiuqviup itiqtarvianik, uhiiyarvingnik, qulliliqiyit hunaqutainik, uqhuqhanik, taapkuninngalu, ikluqpaghat havakviit. Hanatjuhighait ihumagiyauvaktut tamangnut hanayaghanut naunaitkutait ikluqpaghait naunaitkutat ikittuuplutik tamangnit Havakvingnit uyaraghiuqvingnit, talvuuna, amihut uuktuqtaghat ihumagiyauvaktut hanayauliqhuni hanayaghat taimaa ikluqpaghanut inighaqattiarniaqtut tamangnit havakvingnit.

Ahiagut aullaqtittiyaami Havaaghaq 2 havaaghanit angitqiyallu havaqatigivagait hanayauyut Kapihiliktuumi. Ahiit qauyihaqtaughaaqhimayut nayugaghainik agyaqtaqtait, itiqtarvighaat Boston Havakvianut talvuuna apqutikkut milvikkullu, qaangani uyaraghiuqniq taapkualu nunap iluanit uyaraghiuqtut, qaffiuyaaghait naniittaaghaillu hiqupluqtuiviit, uuktuqtaghat hiqupluqtauhimayunik munaqhiyunik, qanuqlu qulliqaqtittami. Ihuaqnighakkut, qaffiuyut ahiit uuktuqtaghat qauyihaqtauhimayut ayuqnaqniigut maniktuutaigullu, avatinut ihuilutaigut, utiqtittilaariaghait, nunallaaqnit ihuariyaukpat, inuuhiqattiarniqmut-manighiurniqmit ikayuutaigullu. TMAC-kut ukpiruhuktut taimaa havaaghat hapkua takupkaqtitauyut qauyihaqtauhimaplutik iniqtauyughanit EIS-nit ilitturinnattiaqtuq qauyihautit tamatkiumayunut ilitturinnattiaqtunullu tughirautainik tuniyauhimayuq Newmont-kunnit December 2011-mi.

Manighiurniqmut Aulapkainiqmullu Avatiit

Havaaghanit Ikayuutit

Naallugit aulavighaat-uyaraghiuqvik, Havaaghaq 2 Havaaghanit havaaghaniktittiniaqtuq haniani 10,470 inukkut-ukiunik havaaghanik Kanatami tamaat. Talvani 2,307 inukkut-ukiunik havaaghanik hanayinit havaktunit (6,685 inukkut-ukiunik naallugit [piniaqhimaplutik, pittailiplutik, havaaghaniktitauyuniklu] havaaghanik), imaalu 8,162 inukkut-ukiunik havaaghanik (27,245 inukkut-ukiunik naallugit havaaghanik) talvani uyaraghiuqviit havakviinit. Havaktittiniat havaktiqaqlutik upluq tamaat 411-nik (FTE) havaktinik Ukiuq 1-mi, amigaiqpallialugit 808-nik Ukiuq 3-mi, ikighivallialutik ukiut malruk atuqtughanit, talvuuna havakvighainut Aulapkaiyut, havaktiqaqlutik akunngani 824-nik 865-nikluunit FTE-nik havaktinik.

Nunavunmi, 346-nik inukkut-ukiunik havaaghat naahuriyauyut Hanatillugit imaalu 960-nik inukkut-ukiunik havaaghanik Aulapkaiyunik. Tamangnik havaaghanit ikayuutighat Nunavunmi ilitturiyauniaqqut Qitiqmiuni Aviktuqhimayumi Aulapkaigumik, amigaitqiyallu (90%) Nunavunmi havaaghanit ikayuutit Hanatillugit Qitiqmiuninngaaqniarahugiyauyut. Naunaitkutaq 1 ilittuqhitiuyuq naahuriyauyunut manighiuqniqmit ikpingnautit Havaaghaq 2-mi Havaaghanit.

Naunaitkutaq 1. Naahuriyauyut Manighiurniqmut Ikpingnautit

Manighiurutinit Ikayuutit	Hanayut (Ukiuq 1 Ukiuq 4-mut)			Aulapkaiyut (Ukiuq 5 Ukiuq 14-mut)		
	Kanata	Nunavut	Qitiqmiut	Kanata	Nunavut	Qitiqmiut
Naallugit Havaaghat (inukkut-ukiunit)[1]	6,685	473	358	27,245	1,740	1,419
• Havaaghakkut (inukkut-ukiunik)	2,307	346	312	8,162	960 (tamangnik Qitiqmiuniittut)	
GDP ($ milian)	$727.4	$58.1	$40.0	$3,073.7	$229.8	$190.4
Akiligaghanit Manighat ($ milian)	$143.9	$10.1	$6.7	$528.4	$30.8	$24.1
• Kavamatuqait	$81.2	$6.5	$4.5	$286.4	$18.6	$9.3
• Aviktuqhimayunit/Aviktuqhimayumi	$62.7	$3.6	$2.2	$242.1	$12.2	$14.8
Havaktinit Manighat ($ milian)[2]	$526.6	$50.3	$36.2	$2,236.7	$192.1	$170.5
• Havaaghakkut Manighat	$287.1	$42.8	$34.3	$1,248.2	$147.1 (tamangnik Qitiqmiuniittut)	

Naunaittughat: (1) “Naallugit Havaaghat” nalauttaaqpagait havaaghat, pinahuaqtailiplutik, havaaghaniktittiplutiklu. (2) Havaktinit manighanit iliqahiutiyauvaktut inuit maniliugainit ikayuutait havaaghanit, pinahuaqtailiplutik, havaaghaniktittiplutiklu.

Pivighaat: ERM, 2016. Kapihiliktuumi Havaaghat: Manighiurniqmut Ikpingnautinut Maliktaghanut Naunaitkutat.

Nunallaaqnit Havaktighaqhiuqtut Niuviqtullu

TMAC-kut naahuriyut taimaa haniani 15% hanayit havaktighat 30%-lu aulapkaiyunit havaktut Nunavunminngaaqniaqtut. Havaaghanut ihumagiyaulluaqniaqtut havaktighat Qitiqmiunit nunallaaqnit taapkua Iqaluktuuttiaq, Qurluqtuq, Uqhuqtuuq, Taluryuaq, Kuugaaryuklu. Ataagut taamna IIBA (March 2015-mi), irinigiyaulluaqtuq havaktighaqhiuqtut Inungnik nunalgit Qitiqmiuni Aviktuqhimayumi.

TMAC-kut kaantulaaktittiyumayullu Qitiqmiuni Havainnarianiktunut Nanminilingnut. Titiraqhimayutut IIBA-nit, Qitiqmiuni Havainnarianighimayut Nanminiit kaantulaangit ilittuqhitiuyut kaantulaaktitauyunik hunaqutinut ikayuutinullu angmaumayunik akiraqtuutiyunut Qitiqmiuni Havainnarianiktunut Nanminilingnut, taapkuattauq Angmaumayut Kaantulaaghat kaantulaaktitauvaktut hunaqutinut ikayuutinullu havaarinngitamingnik Qitiqmiuni Havainnarianiktut Nanminiit. TMAC-kut, havaqatigiplugit KIA-kut ahiillu katimaqatigiit, havaqatiginahuaqtait hananahuaqhutik akiraqtuutinik parnaiyainiqmut ilihaqtitaghanik Inungnut nanminilingnut. Qakugunnguqqat TMAC-kut ukpirihuktut taimaa Havaaghaq 2 havaaghait nakurutauniaqtut havaktighaqhiurniqmut Qitiqmiuni Nunavunmilu taimaalu havaaghaniktittivaallirniat hivunighami Nunavunmiunut.

Havaktiit Hiniktarviit Ingilratjutiillu

Naahuriyauyuq taimaa naallugit havaktiit Kapihiliktuumi Havakvianit (hanayut aulapkaiyullu havaktiit) amigaiqpaalliqniat 600-ngulutik inuit. Doris-mi hiniktarviat aklivaalliqtaunahuaq inighaqaqluni 400-nik inungnik taamnalu nutaaq 200-nik inungnik hiniktarvighaq hanayauniaqtuq Boston-mi. Havaktit havaktut Madrid havakviinit hinikviqarniat Doris-mi.

Havaaghat aulapkaqtitauniaqtuq tingmipkailutik havakvingnut/havakvingnillu. Saataqhimayunik tingmiaqaqpangniat Edmonton-mut/Yalunaimut havakviknullu hitamaiqtuqlutik 1 week tamaat, agyaqtaqniaqhutik havaktinik Nunavunmiutaunngittunik. Nunavunmiutat tingmipkaqtitauniat nunallaaqnit Iqaluktuuttiakkut havakviinut. Tamangnik havaktiit havakpangniat 3 weeks havaklutik/3 weeks havaguiqhimalutik.

Havakvingnit Ikluqpaghaliuqviit Havaktullu

Tajja Ikluqpaghaliuqviit

Tajja (taapkualu/unit angiqhimayut) havakvingnik ikluqpaghaliuqviit atuqtauniaqtut ahinit aulapkaiyainut/nalvaaqhiuqtunit havaaghanit atuqtaulaaqhutiklu Havaaghanit hanayunik taapkualu: Doris-mi Havakvianit hiniktaqvingnik inighalingmik 280-nik inungnik; Doris-mi milviat; Roberts Kangiqhuanit uhiiyaqvik tunmiraq apqutiklu Doris-mut; Madrid Tununngaanilu Madrid Hivuraanilu havakviit apqutillu itiqtarviit; hiniktarviillu milviklu Boston-mi.

Nutaat Aklivaalliqhimayullu Ikluqpaghaliuqviit

Qanilrua Madrid hania talvunga Doris Havakvianut, hiqupluqtuivingmut, TIA-mullu ihuaqutauyut hanayunut Havaaghaq 2-mik Havaaghanit atuinnariaqaramik ikluqpaliuqviit Doris-mi, talvuuna akighivaalliutivaktuq mighivaalliqhugulu hanavighat. Naunaitkutaq 2-mi ilittuqhitivaktuq parnaiyaqtauhimayunik nutaat hanayaghat imaalu/unit aklivaalliqtiqlugit ikluqpaliugait Havaaghami 2.

Uyaraktarviit/hiuraqtarviit Uyaraghiuqvighallu

Hanayauyughat aulahimmaaqhutiklu ahiqquiyaiyut Havakviit hannaviinit ikluqpaghaliuqviillu hanayauyariaqaqniat uyaraghiuqvighanit tuapaliaghamik. Havakviit hanatjuhighaanit ilittuqhitaaqhimayut uyaraghiuqvighanik taapkualu uyaraghiuqvighaat amirnailruuqtut. Itiyaaqtumik 5 M-nik uyaraghiuqtat uyaraktaaqhimayut ihariagiyauniaqtut Havaaghaq 2-mut Havaaghanit hanayunik.

Agyaqtaqtut Ingilratjutillu

Roberts Kangiqhua uqhuqhaqtaqpangniat tamangnik uqhuqhat, ingilrutighat hunaqutighallu ihariagiyait Havaaghaq 2-mut Havaaghanit hanayunik aulapkaiyuniklu kihinnguqhugit ahiittut kitullukiaq iririnaqtut tingmiakkuuqtughat. Tamangnik havaaghat aulatillugit, TMAC-kut naahuriyut taimaa uqhuqhaqpangniarahugiyut pingahuiqtuqlutik agyaqtaulutik, pingahuniklu hitamanikluuniit uhiliqvighat (umiakkut agyaqtautit hunaqutinik, ingilrutinik, hunaqutighainik, hunaqutitatqiktullu) ukiuq tamaat hikuiraangat.

Naunaitkutaq 2. Nutaat Aklivaalliqhimayullu Ikluqpaghaliuqviit

Nayugaat	Hanayauyut taapkualu/unit Aklivaalliqhiyut Havaangit
Roberts Kangiqhua	• Hanayaghat uhiiyaqvik tunmiraqvighaq hunaqutinut Roberts Kangiqhuani. • Hanayaghat 10 ML-nik imaqtalingnik tutquumavighainik (taapkuatut malruk 5 ML qattaqyuit). • Ilaaqtuqlugu apqutit/itiqtarviit uhiiyarvingmut.
Doris-mi Havakvit	• Aklivaalliqhiyut hiniktarvingnik. • Aklivaalliqhiyut Doris-mi Hiqupluqhimayut Kuvvianik (TIA), kingighivaalliqlugulu hivuraaniittuq haputiliuqhimayuq hanalugulu uataaniittuq haputighaq.
Madrid Tununngaa	• Iniqtiqtaghat Madrid Tununngaani uyaraghiuqviit nunap ataani havaangit. • Aviktuqhimayukkut ilaaqtuqpangniaqtaat qaangani ikluqpaliuqvighat Madrid Tununngaani uyaraghiuqtut hannavighaat hiqupluqtuivighamiklu, qulliliqivingmik, uhiiyaqvingmik, taapkuninngalu, hiqupluqhimayut kuvviit. • Hanayaghat 1,200 tpd-nik hiqupluqtuivighamik qulliliqivighamik talvani Madrid Tununngaanit. • Hanayaghat ukiuraaluk apqutighamik hiqupluqtaghaniklu tuqhuaqmik Madrid Tununngaanit talvunga hivuraanut Doris TIA-nganut. • Hanayaghat ahiqquiyaqvighaq hannavik ahiillu ikluqpautit ihariagiyait uyaraghiuqtut. • Hanayaghat ahiit ikluqpaliuqvighat iharianaqtut uyaraghiuqtunut hiqupluqtuiyunullu Madrid-mi, taapkualu uqhuqhat tutquumaviit, hiqupluqtaghat tunngaviit, hiqupluqtaaghimayut tunngaviit, imautighaniklu tahiraqmik. • Hanayaghat ahiit ikluqpaliuqvighat ihariagiyauyut nalvaaqhiuqhimaaqtunut tamangni Madrid-mi Boston-milu. • Hanayaghaliuqlutik uyaraghiuqvighanik hanayauyughat atuqtauyughallu kiluanit uyaraghiuqviup.
Madrid Hivuraa	• Iniqtiqlugit Madrid Hivuraanit nunap ataani havaangit. • Aviktuqhimayukkut ilaaqtuqpaalliqniaqtaat qaangani ikluqpaliuqtaghat Madrid Hivuraanit hanavighait uyaraghiuqtut. • Hanalutik ikluqpaliuqvighanik ihariagiyainik ihuaqutighait uyaraghiuqtut havaktut Madrid Hivuraanit taapkuninngalu uqhuqhat tutquumaviit, hiqupluqtaghat kuvviit, hiqupluqtaaqhimayut kuvviit, imautighaniklu tahiraqmik. • Hanayaghaliuqlutik uyaraghiuqvighanik hanayauyughat atuqtauyughallu kiluanit uyaraghiuqviup.
Ukiuraaluk-apqutauyuq	• Hanayaghat Madrid-Boston-mi AWR atatarutauyumik Madrid-mik Boston-miklu havakviinik, iliqahiutilugit qurluaqtut apqutip haniani. • Hanayaghaliuqlutik uyaraghiuqvighanik hanayaghainut AWR-mik.
Boston	• Hanayaghat ukiuraaluk-milvighamik Boston-mi. • Hanayaghat ikluqpaghaliuqvighamik ihariagiyainik uyaraghiuqvighainut hiqupluqtiriyullu havaanginit Boston-mi taapkualu hanayut nutaanik hiniktarvighanik (200-nik hinikviqaqluni) ihuaqutighallu havakviit (kuvviqnik amirnaiyaiyut, ikulavik, imiqtautainik), hiqupluqtaghat tunngaviat, hiqupluqtaaqhimayut tunngaviat, katiqhuivik, paniumayuniklu hiqupluqtaaqhimayut kuvviqnik munaqtauviat (TMA), uhiiyaqvik, ahiqquiyaiviit hannaviit, imautighallu tahiqqat. • Hanayaghat Boston Havakvianit hiqupluqtuivighaq. • Hanayaghat qulliliqivighaq uqhuqhanullu tutquumaviit. • Hanayaghat kuvviqnik imaqnik halummaqhivingmik anittivighainiklu Aimaukkataaluk Tahianut. • Ahiit ikluqpaghaliuqtaghat ihariagiyauyut ihuaqutighat aulapkainiqmik uyaraghiuqtunik Boston-mi.

Havaaghaq 2-mi atuqpangniaqtut qaffinik atatariiktunik hannavingnit apqutilluanik. Kayummaaqtailivangniallu aanniqtailiplutik. Havaktit agyaqtauvangniat saataqhimayukkut tingmiakkut Edmonton-mit, Yalunaimit, Qitiqmiuniluuniit nunallaaqnit. Tingmiakkut agyaqpangniaqtut hunavalungnik havaktit agyaqtautaigut, agyaqtautikkullu. Nutaaq takitigiyuq 2,000 m-nik milvik hanayauniaqtuq Boston havakvianit. Milvik hanayauhimayuq milviuyaami tingmitjanik taapkuatut Dash-8 taamnalu Boeing 737-200 milviulaaqhunilu angitqiyanik tingmiaqnik Hercules C-130-tut. Tajjalu ukiuraaluk milviuvaktumik milvilgit (hikumilu milvingmik) talvani Doris Havakvianit.

Madrid-Boston-lu Ukiuraaluk Apqutauyuq

Taamna Madrid-Boston Ukiuraaluk Apqutighaq (AWR) nutaanguniaqtuq hanayauyughaq Havaaghaq 2 Havaaghainit. Apqut hanayauhimayuq atauhiinnaqmik aghaluutituqvighalik nutqaqviqaqhuni taimaa ahiit qaangiutiyumaaqtut. Agyaqtautit aghaluutit atuqtauvangniat hanayughanik apqutimik ingilravangniaqhugu apqutit agyaqtaqhutik hiqupluqtaghanik katiqhuqtaniklu Aulapkaqtitaugumik.

Uyaraghiuqtut Havauhiit

Taapkua Doris-mi, Madrid-mi, talvanilu Boston-mi uyaraghiuqvighat qiqumayutuqamiinniaqtut ilangilu qiqumaraayuittumit. Taimaalu, Madrid-mi uyaraghiuqtaghat ataaniittut tahiqnit, talvuuna qiqumayutaqamiinngittut, kihimi Boston uyaraghiuqvighaat qiqumayutuqaniittuq. Uyaraghiuqvighat upaktauvangniat tunmirakkut qulaanit atqaqtaqtunik, agyaqtautiginahuaqhugillu hiqupluqtaghanik hiqupluqhimayuniklu nunap ataanit. Nunap ataani uyaraghiuqtut qaffiuyunik havauhiqaqniaqtut nunap qanuriningaigut uyaraghiuqtaghaillu qanuriningaigut.

Hiqupluqtaaqhimayunik Kuvviqniklu Munaqhiyut

Uyaraghiuqtut havauhiinik atuqhutik ikighaalurauvaktuq hiqupluqhimayut qaanganunngaqtunik, taimaa imautiniktailivagaat qaangani, ikighilaarutaupluni qagaqtaqtunik uqhuqtuqtuniklu agyaqtauyughanik nunap iluani uyaraghiuqvianit. Hiqupluqtaaqhimayut hauyauniaqtut kiluanut umiktitautinnagu. Tamangnik uyaraghiuqviit hiqupluqtaaqhimayunik kuvvilgit qanitpiaqtuqt uyaraghiuqviit itiqtarviinut. Hiqupluqtaaqhimayut uyaqqat Havakvingnit ilitturiyauhimayut amirnaittutiklu acid-mik qurluaqtuqalaittut.

Hiqupluqtaghanik Munaqhiyut Qipliqhaiyullu

Havaktillugit Havaaghaq 2-mi, hiqupluqtaghat tutquumayauniaqtut Madrid Tununngaanit, Madrid Hivuraanit, Boston-milu havakvingnit. Taamna Doris-mi qipliqhaivik aulainnarialaqiyuq atuqtauvangniaqhuni Havaaghaq 2-mi; Doris-milu hiqupluqtaghat atuqtauvangniaqtullu. Hiqupluqtuivangniat Doris-mi, Madrid Tununngaani, Boston-milu havakviinit; uyaraghiuqtauyut Madrid Hivuraanit agyaqtauvangniat aghaluutikkut Doris-mut Madrid-mulluuniit Tununngaani hiqupluqtiqviinut. Madrid Tununngaani hiqupluqtuiviat (1,200 tpd) Boston-lu hiqupluqtuiviat (1,200 tpd) katiqhuiniaqtut agyaqtauyughanik Doris-mut kuluit ahivaqlugit. Avatquutauyut uyaraghiuqtait Madrid Tununngaanit agyaqtauvangniaqtuqlu Doris-mut hanayauvighainut. Naahuriyauyuq taimaa Ukiumit 4 Ukiumut 6-mut, uyaraghiuqtauyut Boston Havakvianit agyaqtauvangniat Doris-mut taamna Boston-mi hiqupluqtuivighaq aullaqtitaulirumi kihimi Ukiuq 6-mi.

Kuvvikurnik Munaqhiyut

Kuvvikuit talvanngat Madrid Tununngaanit hiqupluqtuivianit milukaqtaulutik anittiyauniaqtut Doris-mi TIA-nganut tuqhuakkut apqutip haniani. Aulapkaqtitauniaqtuq Doris TIA-ngat tajja angiqtauhimayutut. Kuvviit talvanngat Boston hiqupluqtuivianit paniumalutik kuviyauvangniat Boston-mi.

Imaqmik Munaqhiyut

Imaqmik munaqhiyut Doris TIA-nganit maliguattiaqtuq pitquyauhimayunik ataagut taamna Type A Imaqmut Laisiutinit 2AMDOH1323. Imaqmik munaqhiyut ihuaqhainiaqtut taapkuninnga Doris-mi TIA-ngat kuvviat kuvviulunit qaanganit nunap ataanilu uyaraghiuqviup halumailruinik imaqnik naamanngittut pitquyauhimayunit anittiniqmut, taapkualu: immat imaukkautivaktut Madrid-mit imautainik tahiraqnit; puktalaaqtut kuvviit hiqupluqtuiyunit katiqhuiyuniklu (tamangnik havakvingnit); nutqaqtitauhimayullu immat qaanganit Madrid havakviinit. Immaqmik anittilaariamingnik (pitquyauhimayutut talvani Type A Imaqmut Laisiutainik) anialattiyauniaqtut Roberts Kangiqhuanut anialittiviagut. Katiqhuqtauhimayut kuvviit nunap iluanunngaqtauniat hiqupluqtaaqhimayullu.

Immat atuqtautaaqhimayut imiqtaqtauvaktut Doris TIA-nganit atuqtaunahuaqpaktut ikighilaarahuaqhugu imiqtaqtait imariktuq Doris Tahianit. Imautait (imiinnarialik) Doris Havakvianut imiqtaqtauvangniat huli Windy Tahianit; hanautighait immat imiqtaqtauniaqtuq Doris Tahianit. Boston-mi, imiinnarialik imautit hanautighaillu imiqtaqtauvangniat Aimaukattaaluk Tahianit; kuvviit immat, uyaraghiuqvingnillu hiqupluutit imaq, atuqtautqingniaqtut, amiqnaiyaqtauhimayullu kuvviit immat anittitauniaqtut Aimaukattaaluk Tahianut anittivikkut tuqhuakkut. Halummaqtauhimayut imiinnarialik immat Boston-mi anittiyauniaqtut nunainnaqmut.

Kuvviqnik Munaqhiyut

Amiqnaittut kuvviit aviktuqtauniaqtut ikulattiyaulutik ikulattivingmit, iqqakuqtaulutik kuvviqmut, ikulattiyaulutiklu hilainnaqmi. Iqqakuit hannavingnit Madrid-mi aghaluutikkut agyaqtauniaqtut Doris-mut ilaliutilugit Doris iqqakuinik hanaqiyauyughat iqqakuqtauyughallu. Nutaaq ikulattivighaq kuvvighaqlu hanayauniaqtut Boston-mi.

Ingilrutighalingmik aulattiaqtumik Boston-mi hiniktaqvighaanit iliqahiutiniaqtut anait kuvvianik imaqniklu halumailrunik halummaqhivingmik. Anittivangniat halummaqtiqhimayunik imaqmik nunainnaqmut talvungaluuniit Aimaukattaaluk Tahianut ahiillu havakviit kuvviinit. Kuvviit katiqhuqhimayut uqhuqpaluit ikulattiyauniaqtut agyaqtaulutikluuniit nunap ataanut kiluanut. Hiniktarviqalaittut Madrid Tununngaani Hivuraanilu havakviinit; qirnariktuq qirnalukaqtuqlu kuvviit katitiqtaulutik (katitirutikkut) agyaqtaulutik iqqakuqtauyughat Doris Havakvianit kuvviqnik amirnaiyaqvingmit.

Qulliit, Tutquumaviit, Ahiillu Ikayuutit

Qulliqtuutighait ihariagiyut Havaaghaq 2-mut (uyaraghiuqvik, hiqupluqtuivik, havakvingnilu hannaviit) amigaiqnighakkut hanavangniat 85,000 MWh/ukiumit. Tajja Doris-mi qulliliqiviat hakugiktuq naamayuq aulapkaiyaami Doris havakvianit. Qulliliqivighamik aullaqtittiniat Madrid Tununngaanit (pingahut 1.2 MW qulliliqiviit) Boston-milu (8-nguyut 1.2-MW qulliliqiviit 725-KW tukliqaqhutik qulliliqutimik). Qulliit ihariagiyauyut Madrid Hivuraanit aulapkaqtitauniat ingniqutikkut (malruk 725-KW ingniqutinik atauhiqlu 350-KW tukliriplugu). Qulliit alruyait atatayut tamangnut havakvingnut taimaa ihuaqutauyuq qulliqaqtittugit imaalu anurimit aulapkaqtitauyumik ihivriuqhiyut tuklighaallu uqhuqyuakkut aulapkaqtitauyunut havakvingmi tamaat.

Uqhughat agyaqtauniaqtut Roberts Kangiqhuani tunmiraanut tutquumalutik qattaqyuit tunngavianit Roberts Kangiqhuani (35 ML), tutquumayaqaqlutiklu talvani Doris-mi uqhuqhait qattaqyuingnit (7.5 ML) nutaaniklu uqhuqhanik tutquumavighanik Madrid Tununngaanit (4.5 ML) Boston-milu (4.5 ML). Uqhughanik agyaqtautit aghaluutit uqhughanik agyaqtaqpangniat Roberts Kangiqhuanut ahinullu havakvingnut. Qagaqtautit tutquumaniaqtut puughainit; puughait tajja tutquumayut talvani Doris Havakvianit ahinilu mikitqiyallu tutquumavighait hanayauniaqtut Boston Havakvianit. Amiqnaqtut hunavaluit (avughaniklu) agyaqtaqpangniat, hanaqiyaulutik tutquumalutiklu malighugit pitquyauhimayut Agyaqtaqtut Amiqnaqtunik Maligainik; avughait tutquumaviit Doris Havakvianiittut. Amiqnaqtut kuvviit ahivaqtitauniat havakvingnit angiqtauyughat iqqakuqtautinnagit.

Kapihiliktuumi Havaaghat itiqtarviqattianngittuq inuilruugami. Tamangnik inuit itiqtaqtut aniaqattaqtullu havakvingnik paqitauvaktut angiqtauvaghutiklu ighuraqtinnagit tingmiaqmut, ilittuqhitiyauniaqhutik havakviup maligaliuqhimayainik havauhighainiklu. Imiqluktuqalaittuq huniqlungniklu havakvingnit. Havaktiit ayuiqhaqtitauniat ilittuqhiniqmik kiuhiniqmullu ikulayunik, anittiniqmullu havauhiqnik iririnaqtuqaqqat aulapkaqtitauniat. Iririnaqtunik annaktit ilihaqtitauniat ingilrutiqaqlutik hanaqiyaami iririnaqtunik.

Avatiliqiniqmut Munaqhiyut

TMAC-kut Avatiliqiniqmut Munautait (EMS) havauhitqiktuq ihuaqtunik aullaqtittiniqmut Avatiliqiniqmut Munautainik (EMP). Naunaitkutanit EMP-nit iliqahiutihimayut qaffinik inuuhiqattiarniqmut-manighiurniqmit munaqtaghat parnaiyautainik nutaannguqtiqtauyughat iharianaqqat. TMAC-kut iniqhiyumattiaqtut avatiliqiniqmut munaqhitjutinik ilitturinnaqhuni tamangnik havakvingnit nanminiqnit. Tamatkiumayumi, EMS taamnalu ilauyut EMP ilittuqhitiuvaktut TMAC-kunnut munaqtaghainik, qauyihaqtaghainik, naunaiqhitiyaamilu havauhiqnit ihuaqhautainut munattiariami amiqnarahuqquuqtut ihuaqhaqhugillu inuuhiqattiarniqmut-manighiurniqmit ikayuutit.

Kitutkiaq EMP atuqtauliqtut kitunut havaaghanut hanayunit Kapihiliktuumi Uyaraghiuqvighaanik, TMAC-kullu aallannguqtiqhiyunik naahurinnaittuq parnaiyautainut aularaaqtillugu Uyaraghiuqvik. Kihimi, parnaiyautait nutaannguqtiqtauniat kiutjutighat aallannguqtiqtanut maligaghaliuqtainut naunaiqhitiniqmullu pitquyauhimayunik, aallannguqtaqtumik havakviqaqhutik, munaqhiyullu naunaitkutanik (taapkuatut ihuaqnighakkut munaqhiyut) ihivriuqtaghaniklu Havaaghaq 2-mi NIRB-kut NWB-kullu havauhiigut.

Umiktiqvighaat Utiqtittiyullu Ilitquhianut

Tamatkiumanuaqhugu Kapihiliktuumi Havakviat atuqtauvangniat Hanatillugit Aulapkaqtitailirumiklu Havakvingnik. Kihimi, ayuqnaitpat, nunat ihariagiyauhuiqtut Havakvingnit havaaghainut kayumiittukkut utiqtitauvangniat.

Havaaghaq 2-mi Umiktiqvighaat Utiqtittiyullu Ilitquhianut parnaiyaqtauhimayuq ilittuqhitiupluni pingahunik umiktiriniqmut atuqtaulaanik:

- Hivikittumik-umiktittilaaqtut uyaraghiuqvingmik havaaghat nutqaqtitauhimagumik ikiniqhamik atauhiqmik (1) ukiumik. Havaaghat Munaqtauniaqtughat, taapkualu ingilrutait hannaviillu aulapkaqtitauvaktut havakviinnarialaqipluni, atuqhutiklu ihuaqtunik avatinut ihuilutinut ihuaqhautighainik.
- Hivituyumik-umiktittihimagumik uyaraghiuqvingmik havaaghat nutqaqtitauhimagumik (Munaqtauhimagumik) avatquttugu atauhiq (1) ukiuq (taapkuatut manighiuqpallaanngitkumik). Taimainniqqat, TMAC-kut havakviinik amiqnaittumik munaqtitauniarait; tamangnik hannaviit ingilrutillu ingilralaaliqihuiqtauvaktut ukiumullu parnaiyaqtauplutik, amiqnaqtullu kuvviit qagaqtautillu ahivaqtitauvaktut havakvingnit. Ihariagiyauyut havaktiit (avatiliqiyillu havaktiit) havakvingnik amiqhivangniat munaqhivangniallu. Hivituyumik Munaqhitjutinik Parnaiyautinik tunihiyughat, aullaqtittilutik uyaraghiuqvingnik aallannguqtuqaqqat.
- Uyaraghiuqvingnik umiktiriniaqqata umiktitauhimayughaq uyaraghiuqvik utiqtittilutik nunanik ilitquhianut titiraqhimayutut Havaaghaq 2-mi Uyaraghiuqvingnik Umiktiriyut Utiqtiriyullu Ilitquhianut Parnaiyautainit. Iliqahiutihimayut ahivaiyut ikluqpangnik hannaviliuqhimayullu. Doris-mi Boston-milu kuvviit parnaiyaqtauniaqtut umiktauyaami, utiqtiriyut munaqhiyullu havauhiit atuqlutik taimaa avatinut amiqnaittaami. Boston-mi milviat taamnalu Madrid-Boston-lu apqutaat aulalaittuq qiqumayutuqanik amirnaiyautighaat, kihimi taapkua takunnaqtut naunaitkutat (taapkuatut napaaqtulgit naunaitkutat) imaqmiklu munaqhiyut tunngavighait (taapkuatut qurluqviit, tuqhutjat, tunmiraillu) ahivaqtauniat.

Havakvingnik umiktittinahuat kingulliqpaami utiqtittinahuaqhugu Havakviup havakvigaluangit ilitquhianut ihuaqtukkut, ayuqnaitpallu, nauyumik uumayuqarniqmiklu atauttikkuuqtut inuuhiqattiarniqmut inuillu hulilukaaqviit. TMAC-kut umiktiriniqmut havauhiigut, inirumayainut naunaitkutighallu titiraqtauhimayut hapkua inirumayainut hivunighami atuqtittiyaami nunanik hivikinaarahuaqpagait ihuaqtukkullu ayuqnaitpat. Umiktaaqhimayunit munaqhivangniat havakvingnit ihuariyaukpat umiktitauyut utiqtittigumiklu ilitquhiinut atannguyanit tamangnitlu ilauyunit.

UNNIQTUIYUT KATIMAPKAIYULLU

Inungnik Unniqtuiyut Katimapkaiyullu

TMAC –kut ilittuqhitiyumainnaqtut inungnik katimaqatigiyumainnaqhugillu. Inungnik naunaiqhitiyut tuhaqviuyullu iniqtauhimayut Havaaghaq 2-mut qaffiuyukkut, nunallaaqmiuniklu katimapkaiplutik atauhiutiplutiklu katimaqatigivaghugit haamlatkut, KIA-kut NTI-kullu, ahiillu katimaqatigiit, anngutighakkullu katimaqatigihimayait iniqnirit nunallaaqmiut niqighaqhiuqtillu. Ilittuqhitighat inungnut titiraqhimayut ayuqnaittukkut, uqauhikkut ayuqnaittukkut hailiyauhimayut numiktiqtauhimaplutik Inuktitut Inuinnaqtullu. Havaaghaq 2-kut katimapkaiyughat uplumimut, Qitiqmiut inuit qauhimayatuqainik ilittuqhitivaktut apiqhuutiniklu ihumaaluutiniklu ilittuqhitiplutiklu Havaaghaq 2 mighaagut.

Kavamallu Katimaqatigivagait

TMAC-kut kavamallu katimaqatiginahuaqpagait ihumagilluaqhugit nutaat katimaqatigiit ilittuqhitiyumaplugit ilitturinnaqtunik naunaitkutanik Havaaghaq 2 mighaagut. Havakvighait iniqtauhimayullu tuhaqtitaunginnaqtut ihivriuqhiyinit taimaa ihuaqtukkut parnaiyaiyaami havaaghainik naamayumiklu parnaihimayaami ilauyunut avatiliqiyunut havaktunut. Tamangnik Havaaghanut-titiraqhimayut kavamatkut havakviinut aajjikkutaliuqpaktut tuniyauplutik NIRB-kunnut taimaa ilitturinnaqniat inungnut.

September 2016-mi, TMAC-kut ilauquihimayut kivgaqtinik KIA-kunnit kavamatuqanillu aviktuqhimayumilu ihivriuqhiyinik pulaaquplugit Kapihiliktuumi Havakviinik (taapkualu tajja ikluqpautainik Havaaghaq 2-milu havakvingnik).

Ilitquhiit Qauhimayatuqait

Ilitquhiit Qauhimayatuqait (TK) uqauhiuyuq ilittuqhitiuvaktuq tiguhiniqmik qauhimayatuqanik Inungnit qauhimattiaramik nunanik anngutighaniklu, Nunaqyuam pitquhiit, qanuqlu naatkutigiiktittaami ihumaaluutainniq inuuhiqattiarniqlu. TK-nik qauyihaiyut ilittuqhititqiktut qauhiyautiliuqtunut ilitturiniqmiklu ingilratjuhiinik anguniaqtut, niqighaqhiuqtut, iqalughiuqtut, nayugainut, aullaaqtaqtunullu nunainnaqmi. Ilitturinnaqtuniklu naunaiqhitilaaqtut nunallaaqni nautjuhiinik, inuuhiqattiarniqmut-manighiurniqmit pitquhiinik hannavingniklu, aniqniqattiarniq, ihuaqnighakkut, ahinullu ihumaaluutauyunut.

TMAC-kut ihumagihimayait TK Havaaghaq 2-mi Havaaghanik hannaiplutik, qauyihaqhimayunit qauyihautiniklu Anniriyauyunik Nunanit (VEC) taapkualu Anniriyauyut Inuuhiqattiarniqmut-Manighiurniqmit Avighimaniit (VSEC), titiraqhutiklu ihuaqhautighanik munaqtillu parnaiyautainik. Qauhimayatuqanik TK-nik katitirihimayut Havaaghanut talvanngat Naonaiyaotit Ilitquhiqnik Qauhimayatuqanik (NTKP) naunaitkutainut. NTKP tunngaviuyuq titiraqhimayunik nunanullu naunaitkutaqaqhuni Inuit Qauhimayatuqaitut uataaniqpiani Qitiqmiut. Havaaghaq inituqlimiinnahugiyaungmat Inungnit, ilitturinnaqtutut amihunit katimavilgit ingilraviqaqhutiklu ilittuqhitihimayutut RSA-nit. Amigainnamiqaaq nunamiutat, imaringmiutat, taryumiutallu anngutighat naniyauhimayuktut talvani aviktuqhimayumi niqighaqtauvaghutik Inungnit.

Naunaiqhimayughaq, TK (ahiillu timiit Inuit Qauhimayatuqainut ilihimayauyuq taimaa *Inuit Qaujimajatuqangit*, imaaluuniit IQ) naunaiqhitihimayut anngutighat qauyihautainik hivulliqnik tajjalu ingilratjuhiinik anngutighat ihuaqhautighait kuinginnautaulaaqtuniklu ingilraviinut anngutit. Hapkua ihumagilluaqhugit katimapkaihimayut ilihaqtittiplugit nunallaaqmiut unipkaaqhugillu ahiit Havaaghanit ikluqpaghaliuqviit taapkuatut aqputighat hanayaulaaqtut aulapkaqtitaulaaqhutik qanukiaq amirnaittukkut anngutighanut.

AVTIKHANUT ILITTURVIKHAAT

Nunaum Ilitturvikhaat

Hamna hilaum mikhaagut iluani Kapihiliktuum Havaangit nunaa kigliqaqtunit. Mikiyumik hilaluktumi nuvuyani, niklaumaningillu qiqumainnaqhunilu ukiuraalungmi, aktuumivakhunilu qaangiutivagaat 20 nit arvaliqpakhuni naittumik ikaarningit auyami. Auyami qauyainnaramik, taarniq, taaqhivyakhunilu, qaayurnaqpiaqhunilu ukiumi.

Inuit ilittuqhimayangit aallannguqpallialirami hilaum uunnarningit ingilravingit (unipkaaliqtauvakhuni uvani Naonaiyaotit Inuit Qauyimayangit Havaangit unipkaarutaanit), tautukhimavagaallu ikayuutauvagaat pitquhituqangit hilaun aallannguqtirningagut naunaiyaqhimayait kititiqhimavagaat qangaraalunnguqtumi. Kangiqhivlugillu atuliqtauyumi ukpiriyauhimayut puqtuhivallialirami niklaumaningit hilaluktumi nuvuyangit, taimaa aktuumilaaqtangit nunaup puvitquumanngit aputillu hilingningit.

Anurium qanurilinganingit iluani Kapihiliktuum Havaangit nunaani ahinilu humiliqaak iluani Nunavunmi naammagiyauvagaat, itquqhimavagaat ikittumik qaffiuningit anurium hulamaittuni inugiangnirmut amihuuningit. Hilataani Kapihiliktuum Havaangit nunaani, anurium puyut anianiit atuqtauvangmangaat uqhuryuaqtuqtunut uunaqutikhanut, akhaluutinit, sikiituuniglu, nunakkuurutingillu qayainillu. Kuingingurningit ikittuugaluit.

Una Ilangani 2 Havaangit nayugaat uvani Kaniitian Nunangani, angiyaaqtumi nunaqanirmi ittuni utuqaryualingnit ukualingmik uyarait haliqhimayauyut hirmik auktuyuittumik. Qakihimayut qaiqtumi uyaralingnit ittut. Hiuralingnit hiamihimayut hamanngat hirmik auktuyuittumi kuukkaillu kititiqtauvaktut takiyaaqtumik, piringayut quglungniit ilitturviuvaktut qimiaryuit. Ilangani 2 iluani huli nunaup puvitquumanga nunaani uataanit Nunavunmi, nunaup auqattarninga marlungit uyaraillu qiqumainnaqhutik ukiuraalungmi.

Nunaup Ilitquhiita Ilitturvikhaat

Hamna uyarait uyaralingnit, imait imnaillu takukhauyuittuni nunami, napaaqtuillu auyami atungauyait amigaitpaktut unalu hilingningit maniraat haffumani Ilangani 2 Havaangit nunaani. Napaaqtuit naittuugaluit mikiyut avaalaqiat, hungayaaqtut nauttiat, iviillu qirnariktut qakuqtait avaalaqiat takukhauvaktut maniraani. Iviit kiniupayuillu takukhauvaktut naittumi kiniupanirmi maniraanit. Avatquttumik 870 nit atungauyait angikliktiqpaktut ilunai Ilangani 2 Havaangit nunaani, uuminngalu nauviniit aqyuit, tingauyait, aqayaillu nauhivaktut.

Nunamiuttait niryutit iluanu nunangani ilaliutivagaat ahiarmiuttait tuktut (uumani Dolphin/Union, unalu Beverly amihuaryuit), umingmait, akhait, qalviit, qirnarivyaktut amaruit, uuminngallu niqiqhiuyuktut, imarmiuttait tingmiat, nunamilu ivayuktunut tingmidjait. Tuktut tuktuhiuyuktunullu Inuit ilitquhiutigivagaat, pitquhirivagaat, hulidjutauvaktut, unalu ilaruhiirutaunikkullu ihumagiyaulluaqpagaat Inuinnainut aahiillu Nunavunmiuqatigiit.

Hitamauyut uumayuit aadjikkiinginnit imnarmiuttait ivayuktut niqikhaqhiuyuktunut (kilgaviit, Kilgaviaryuit, Kilgavikpait, qupanuaqpaillu) pingahuit nunami ivayuktut niqikhaqiuyuktunut (ukpiit, naittumik hiutilgit ukpiit, unalu iharuligyuat tingmiaqpait) nayuliqpagaat nunami iluani. Imarmiuttait tingmiat uumayuit uvani Ilangani 2 Havaangit nayugaanit ilagiyangit tingmiat, qugyuit, amihuuyut tingmiat, nauyait, imitqutailat, hitamanit ulluut, tatilgaillu.

Tamatkiumayangillu fuatiinnit iqalut naniyauvaktut iluani tattiit, tahirait, kuukkainillu uvani Ilangani 2 Havaangit nayugaanit. Tautungnaqhutik hapkuat iqalunnuit, uuminngalu tahirmiuttait ihuuq, Iqalukpiit, Iqaluit, kanayuit, kapihilit, nataarnait, uugait, aahiillu Iqaluit. Tahapkuat hitauyut uumayuit naniyauvaktut kuukkam taunani kurluaqhimayuq Roberts Bay mut.

Imarmiuttait Iqaluit uumayuit ilagiyangit Uugait, Iqalunnuit, Nataarnait, Kanayuit, Iqalukpiit Uugaillu. Nattiit ilaani takukhauliqpaktut iluani Roberts Bay mi.

Inuup Ilitturvikhaat

Inuup ikayuutingillu qanurilinganingit Nunavunmi arlingnaqtut iluani Kanatami aallannguqpalliavlunilu qangaraalungmi kinguani 50 ukiunganit. Uvani kinguani 1950 mi uvanilu hivuani 1960 mittauq, amihut inuit nuutpalliavlutik aullaaqhimalraarivlutik nunaqatigiiliqhutiktauq nunalingnit. Tahapkuat amiit akikittuuliqhutik katakpalliavlutik taimaa huliyungnaiqpiaqhutik Inuinnainnut, hamnalu paablilaat piliriakhait hivunigiliqhugillu 1947 mi taimaa ilitturviuvlunilu inungnut parnautikhainit nuutpallialiqhutik ahinut nunanut. Hivunngani, katimaliraangat Inuit auyami ilaruhiiguuqatigiivlutik, nunaqatigiigutauvlutik katittiraangat inugiakhivakhuni Inuinnait aallatqiit ilaqatigiinngunngittunilu.

Ingilravaliqhutik maniliurahuarnikkut ayuqhautauliqpagaallu inuuhirmingnut iluani Inuit pitquhiitigut. Anguniaqtit, hivuliqtiuvaqaarivlutik, havaliinnaqpaktut, aallatqiiknit havaanit. Ihumagiyaulluarniq ilagivalliavluni humiliqaak kiinauyaq niuvilaaqtumik. Nunalingnit, ikayuutininiq aadjigiinngittunilu, iglumiuqatigiit ikayuruiqhimmaaqhutik taimaa. Aulattitiningit inutuqait aallannguqtiqpallialiqhunilu kavamait pivallialiqhutik. Ihuaqyuummiqtauvlutik aanniaqtailinikhainnut kavamatkuttauq akiliqtuivaliramik talvangaani nutaqqiuqpallaaliqhunilu.

Kiuvallialiqhutik inuuhirnikkut ikayuutikhangillu qanurilinganingit ‘utuqqauvallaangittutik’ unalu ‘nutaangunngittuuvlutiktauq’, kihimi akuvalliavlutik aulapkaivlugillu Inuinnait qimilruqtakhangillu ilitquhiriyangit hamna aallannguqtiqpallaarningit inuuhirmingnit, avatikhaliuqhutik iluani haffumani tukhiutaaqhimaningit Ilangani 2 Havaangit pivalliayakhaat ikayuutikhanlu qanuq aallannguqpalliavlutik inuuhirmingnit maniliurahuarnikkut aallannguqtiqtauhimayut. Qitirmiut nunaliit huli tautuktuuyaqtait akihautingit inuuhirminut havaatikhangillu, havayuittunit puqtuhivallaaramik, ilittuttiaqhimalruunnginnamik, inuuhirminillu aanniaqtailinahuaqpakhutiktauq taimaitpakkamik.

Nunavut tadja qauyihaqpallaaqtaugamik nunguyuittukkut, qiplariktumik, kuulunit havigainillu, havigayait, agyakhait, pinniqtumik uyaraillu. Iluani Qitirmiut nunangani TMAC’iup Doris uyaraqtarvingat tadja ingilratuanguuyauyuq uyaraqtarviutuanguyauvluni, kihimi pingahunit qauyiharluarvigiyauyuq havaariyakhautauyut unalu 14 nit havaariyauyut uyaraqtarviutauyut havaariyauyut.

Nunaqatigiiktunit havaariyauyunillu nunanit atuqtaunikhainnut nunangani. Havaariyauhimayut nunanit atuqtaunikhainnut ikittuuvluni, ilagiyauyut pulaariaqtuqtut angunahuaqtunit, anguniaqtunut amiqhaiyangit, iqalukhiuqtunut angunahuaqtunut, pulaaqtaqtunullu (uuminngatut, pihuuyaqtut, manirarmi qunniariaqtuqtut, hulilukkaaqtunit unalu umiaryuakkut pulaaqtaqtut). Atauhiq manirarmiuttauliqpaktut (pihuuyarnikkut, manirarmi qunniariaqtuqtut, piksaliuqtunullu). Anguniaqtut angunahuaqtunullu umingmakhiuliqpaktut, tuktuhiuliqpaktut, amaruqhiuliqpaktut qalvikhiuliqpakhutiktauq. Nunanit atuqtaunikhainut ilagivagaat anguniaqtunut, naniriaqtuqtunut, iqalukhiuqtunut, upinngiivakhutiktauq aullaaqtunullu. Anguniaqtut inmikkut atuliqpagaat niqikhaqhiuliqpagaallu avvautiliqhugillu tamainnut nunalingnit.

HAVAATIGUT ILAUHIMANINGIT UNALU ATULIQTAUYUNUT

Ihumagiyauyut Ilanganit

Ihumagiyaulluaqpagaat Avatiqatigiingniit Ilanganit (VECt) unalu Ihumagiyauyunit Inungnut-ikayuutikhangit Ilangani (VSECt) ittut, ihumagiyaulluaqtut, tahapkuat ilanganit haffumani ilitquhingit inungnullu avatimiuttait ihumagiyauvagaat qauyihaqtauvlutik, avatiqatigiingmiuttait, maniliuahuarnikkut, inuuhirnikkut, pitquhirnikkut pitquhituqarnikkut ihumagiyaulluaqpagaat. Ihumagiyauvaktut ilangani haffumani Ilangani 2 Havaangit hivunigiyauvakhutik ukunanngat piliriakhait kitunuliqaak katimadjutigiyakhaat, maliguarutingillu ilagiyait, qimilrurningit haffumani pitquhiriyangit qauyimaningit, kiudjutikhangillu ilagiyauyut iluani NIRB iup EIS maligautainit; atuqtakhait VECt unalu VSECt ihumagiyauvltuik tukiliutamingnit ihumagiyaulluaqtangit ilaliutikhangit uumani Ilangani 2 Havaangit.

Hamna ilitturvikhangit, TMAC naunaiyaqhimayangit tahapkuat VECt, VSECt aahiillu Naunaiyaiviniit haffumani Ilangani 2 Havaangit. Ihumagiyaulluaqtangit ilangani ilagiyauvlutik nunapta anirniqautit ikiariit, nunamiuttait, halumayut imait, imarmiuttait unalu inungnut avatikhangit, titiraqtaaqhimayut ataanit inikhangit.

Nunapta Anirniqautiit Ikiariit Avatimiunit	Nunamiuttait Avatimiunit	Halumayut Imait Avatimiunit	Taryurmiuttat Avatimiunit	Inungnut Avatimiunit

• Hilaluvyangningit Hialup Qanurilinganingit
• Kuinginningit Hayungningalu
	• Nauhimayut
	• Nunaup Ilitquhinginnit
	• Tuktu
	• Akhait
	• Umingmait
	• Mitqulgit
	• Niqikhaqhiuyuktut
	• Imarmiuttait tingmiat
	• Qulvahiktumik Ivayunit Tingmidjat
		• Qulaangani Imaup Amihuuningit
		• Imaup Amihuuningit
		• Hiurait Amihuuningit
		• Iqaluit Nayuqpaktangit
		• Iqaluit Nunaliingillu
		  ▪ Iqalukpit
		  ▪ Ihuuq
		  ▪ Iqaluit
		  ▪ Hiuyuktut/ Kapihiliit
			• Imaup Nakuunginningit
			• Hiurait Nakuunginngingit
			• Iqalut Nayuqpaktangit
			• Iqaluit Nunaliingillu
			  ▪ Iqalukpit
			  ▪ Uugait
			• Nattiit
			• Taryurmiuttait Tingmiat
				• Initurlingit Initurliminiit
				• Maniliurahuarnikkut Pivallianingit
				• Nanminilingnit Inikhautingit
				• Havaanit
				• Iliharningit Ilihautikhait
				• Ingilrayunit, Iglukhait Igluqpaqarvikhaliurutikhait Ikayuutikhait
				• Nunaliit Aanniaqtailinikkut Inuuhiutiniit
				• Havaktunut Apqutikhait Ikayuutikhangillu Aturvikhait
				• Pitquhiriyangit Hulidjuhiit Qauyimayangillu
				• Inuit Aanniaqtailinikkut Avatikhanullu Ingattaqhittailinahuarnikkut Ihivriurningit

Hamna titiraqhimaningit ilangani unalu Tukiliutaani 3-5 nainaaqtauhimayauyut naunaiqhiihimayait haffumani EIS uuminngalu kiuvikhangit uvunga aktuqtaunikhanut atuliuqtauningit haffumani VEC unalu VSEC, tukhiutauhimayut ingattaqhittailidjutikhait amiqhaiyangillu aturvikhangit, amiakkungillu atuliqtauyukhangit, tamainnut uuktuutigiyangit kangiqhiyauhimayangit aktuqtaunianut.

Naunaipkut 3. Naitumik Uqauhiq Hilamik Nunamilu Avatauyut Kiguagut Aktuqniginik

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Nipaaqniga Hayuknigalu	• Aktuqniga Inuknik • Aktuqniga Umayunik	• Piqutit ihuaqtunik hupuuktautiqajavut nipikuukhitijutiniklu; • Atuqlugit qiyuqutit, hiamayariipkutit, nipaaqpalaa-riipkutit aulagitut ihuaqutit munariyariaqaqata (nipaiqpaalirutikhat) naunaiyagaukpata. • Piqutit munariyautiaqlutik. • Taluuklugit nipaaqpalaaqtut iglumiutat. Una piju-tauyuq uyaqiqijutinik, alruyaqtuutinut igniqutit, uyaqiqijutit hunaniklu hanajutit (ila hiquuptirutit) hanaugat • Akyaqviuyut apqutit atugitaagani naunaiyautit, ayuqnaitpat, ugahikpalaagitaagani aulaaqviuyuq nipaaqpalaagitaagani	• Aktuqniga Inuknik • Aktuqniga Umayunik	Ihumagiyaugituq (takulugu Nunami Umayunik VEC-guyut)
Nautiat Ajikutaqagitulu nunat qanurinigini	Nautiat	• Ahiunigit Nautiat	• Mikiniqhaulutik inigiyait igluqpait • Ahiaguuqvigilugit ihumaaluknaqtut nunat nautialu takukhauqatagitut Havaaq ihuaqtaqtilugu • Aktuqpalaagilugit nautiat, nunap qiqumaniga nunalu hilataani Havaam inigiyainit	• Ahiunigit Nautiat	Ihumagiyaugituq
		• Aalaguqnigit Nautiat	• Puyuuqtitivalaagilutik – puyuuriipkutit apqutini • Kayumaaqpalaagilutik puyuuqpalaagitaagani apqutit • Akhalutituqviulutik igluqpaqaqvikmi apqutaini uyaraqtaqviuvlu inigiyaini hikumilu apqutini • Nunainaq nugutpaliagitaagani (ila hituaqniga) iniqhimalugu atuliqlugulu hituariipkutikhaq • Utiqtifaaqlugit aturuiqtut kahaktauhimayut nunat ayuqnaitpat • Amirilugit imariknikhait kuuktitaagani aturiaqaqtut pivagiagani • Ihuaqtut hauhijutit nunam qiqumaniga aulagitaagani	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Naunaitut nunat qanurinigit	• Ahiunigit naunaitut nunat qanurinigit	• Qaniklitailugit ikitut ahiurlaanuit nunat ikitulu nautiat Havaaq ihuakhaqtautilugu • Aktuqpalaagilugit nautiat, nunap qiqumaniga nunainailu ahiani Havaap inigiyaani	• Ahiunigit ikitut nunat qanurinigit	Ihumagiyaugituq
		• Aalaguqtiqnigit ikitut nunat qanurinigit	• Puyuukpalaaqtaililugu - immaqtirutinik apqutini atuqlutik • Kayumaaqpalaagilutik puyuuqpalaagitaagani • Akhalutituqviulutik igluqpaqaqvikmi apqutaini uyaraqtaqviuvlu inigiyaini hikumilu apqutini • Nunainaq nugutpaliagitaagani (ila hituaqniga) iniqhimalugu atuliqlugulu hituariipkutikhaq • Utiqtifaaqlugit aturuiqtut kahaktauhimayut nunat ayuqnaitpat • Amirilugit imariknikhait kuuktitaagani aturiaqaqtut pivagiagani • Ihuaqtut hauhijutit nunam qiqumaniga aulagitaagani	Nahuriyaugitut	-
Nunami Umayut Nunagiyailu	Dolphin-mi Union-milu (qigiqtami) tuktuut	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Kamagiinaqniga Havaariyauyuq • Talvanga Tuqujutit • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Immaqaqtilugu umiaqtuqviuluni aktuqhigitaagani hikumik Dolphin-mi Union-milu tuktuut ataaqtilugit Kiiliniqmit Ahiaqmut • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu - immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani tuktuut talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi manikhaqtaulaaqtut ikaariaqvikhait umauyut.	• Nunaiyainiq • Kamahuktitiniq	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			• Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani tuktuunik 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklutik kihiani mitaqtulirumik tikmikhalirumikluniit ayuqnainiqat.		
	Beverly-mi Ahiak-milu tuktuut	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani tuktuut talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi manikhaqtaulaaqtut ikaariaqvikhait umauyut. • Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani tuktuunik 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklutik kihiani mitaqtulirumik tikmikhalirumikluniit ayuqnainiqat.	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq
	Umikmait	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
		• Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani umikmait talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi manikhaqtaulaaqtut ikaariaqvikhait umauyut. • Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani umikmaknik 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklutik kihiani mitaqtulirumik tikmikhalirumikluniit ayuqnainiqat.		
	Akhait	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani Akhait talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi manikhaqtaulaaqtut ikaariaqvikhait umauyut. • Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani akhait 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklutik kihiani mitaqtulirumik	• Nunaiyaqnigit • Havakviuyumugaunigit	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			tikmikhalirumikluniit ayuqnainiqat. • Iqagut munarinigit, igluqpaqaqvikmi halumanigit havaktulu ilihaqnigit upaqataqviulaituq Havakviuyuq akhaqnit.		
	Mitquliit (Kalviit)	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi manikhaqtaulaaqtut ikaariaqvikhait umauyut. • Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani mitquliknik 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklu-tik kihiani mitaqtulirumik tikmikhalirumikluniit ayuqnainiqat. Iqagut munarinigit, igluqpaqaqvikmi halumanigit havaktulu ilihaqnigit upaqataqviulaituq Havakviuyuq Mitquliknit	• Nunaiyaqnigit • Havakviuyumugaunigit	Ihumagiyaugituq
	Tikmijat niqainaqtuqpaktut	• Nunaiyaqnigit • Kamahuktitiniq • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Mikiniqhaulutik inigiyait igluqpait • Ilagaqtiriyut hanayulu amiqnaqtuni nunani ivaviini tikmijat niqainaqtuqtut ihumaluknaqtilugu (ivatilu-git)ilaqaqluni uvlunik naunaiyailutik amiqnaqtilugu; • Qaniklitaililugit qauyimayauyut uvluit ivaviiluniit nunat, ayuqnaitpat	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Hinirayuktut hurajat	• Nunaiyaqnigit • Kamahuktitiniq • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Mikiniqhaulutik inigiyait igluqpait • Nunanik ilagaqtiqtaunigit ahiani ivaviuyut hinira-yuktunik hurajanit ilituqhailutikluniit ilagaqtirigiaq-tinagit hinirayuktut hurajat nunainik hanalimagit-pata ahiani pitquhiuyut angunahuaqtuqagitaagani igluqpaqaqvikmi, iqagitaagani, niqhiugitaaganilu umayut; • Kayumiktilaaqaqlutik,umayut apqutimik atuqluaqpagiagani, immaqtiqpaklugit apqutit puyuuqpalaagitaagani; • Qaniklitaililugit nunat amihunit niriniaqviuvaktut ihaviuyulu hurajanit • Qanikligaililugit qauyimayauyut uvluqaqviit ivaviuyuluniit nunat	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq
	Manirainaqmi hurajat	• Nunaiyaqnigit • Kamahuktitiniq • Tikiqataqnigit Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Mikiniqhaulutik inigiyait igluqpait • Nunanik ilagaqtiqtaunigit ahiani ivatilugit manirai-naqmi hurajat ilituqhailutikluniit ilagaqtirigiaqtina-git manirainaqmi hurajat hanalimagitpata ahiani ivatilugit. • Iqaguuqviit piqutit Havaamilu igluqpait umayunit pilaiyagauvaklutik • Pitquhiuyut anagunahuaqtuqagitaagani igluqpaqaq-vimi, iqaigitaagani, niqhiugitaaganilu umayut; • Kayumiktilaaqaqlutik,umayut apqutimik atuqluaq-pagiagani, immaqtiqpaklugit apqutit puyuuqpalaa-gitaagani; • Qanikligaililugit qauyimayauyut uvluqaqviit ivaviuyuluniit nunat	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq

Naunaipkut 4. Naitumik Uqauhiq Immiqtaakhanik Takyuvlu Kiguagut Aktuqnigit

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
Nunap Qagani immaqaqniga	Nunap Qagani immaqaqniga qanuraaluk	• Ahiaguuqtitaunigit Kuuktut Kapihiliktuumi Immaqaqnigini • Ahiaguuqtitaunigit Kuuktut Windy-mi Immaqaqnigini • Ahiaguuqtitaunigit Kuuktut Aimaukataalukmi Immaqaqnigani	• Atuqlugit taja piqutauyut, mikiniqhauyaagani inigiyauyuq aktuqtauyuqlu immaq • Halumaqhiqlugu atufaaqlugulu aktuqtauyuq immaq • Maliklugit piyunaunmi qanurinikhait immiqtariagani • Aktuqtauyunik immaqnik katitiriviuyuq ihuaqhaqhimayumik immaquktuhikpat • Ilaliutilugit hilaap aalaguqpalianigani qanuriniginit kuuktut • Atuqlugit hituariipkutit nunanik munarijutinik • Maliklugit aturiaqaqtut kuukviuyut tuuqhuat munariniginik immakniklu havauhiqni • Amirilugit tahirat TIA-lu • Atuqlugit nunap iluani imauyut atuqpalaagitaagani immiktaanik	• Ahiaguuqtinigit Doris-mi kuuknigit • Ahiaguuqtinigit Windy-mi kuuknigit • Ahiaguuqtinigit Aimaukatakmi kuuknigit	Ihumagiyaugituq
Immiqtaakhat Immariknigit	Nunap qagani immarikniga	• Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmi Uyaraktaqvikmilu Aktugauyut Immavaluit • Immaq Atuqniganik • Uyaraktaqviit Kaivitutiklu Atpaqpaliavlutik Uyaraqtaqviit • Qaraqtautit • Uqhukhat, Uqhuilu, PAH-lu • Halumaqtitauyut Aanakuut Kuuktinigit • Hiuraqaqniga Hilap	• Atuqlugit taja piqutauyut Doris-mi Havaami mikiniqhauyaagani inigiyauyuq Havaami 2 piqutini • Napaqtirilutik qaiqtuni atuqlutiklu ihuaqtunik uyaqanik apqutini, tungavikhani, napaktigakhanilu • Atutqiqtaqlugit inigiyauyumi uyaraktaqvikmilu immaq • Atuqlugit Kanatami Ukiuqtaqtumilu atuqnigit puyuuqniginik, immaliqijutinik havaat, qaraqtitautit, immakpaliayulu qanuritariaqaqnigit • Maliklugit BMP-mi uqautauyut inigiyauyuq munarini-gagut upalugaiyautini, Havaamilu 2 Immavaluit Aktuqniginik Munarijutinut Upalugauyaut (AEMP) • Halumaqtiqlugit annakuut uyaraktaqvikmilu immaq ihuaqtumik kuuktilugulu maniqamut imaqaqniginulu-niit aturiaqaqat maliruanit piyunautinilu • Atuqlugit hiuqanik hituariipkutiniklu mikhiyaagani nunami kuuktut kuuktilugilu munariviuyunut piqutinut • Tuutquqlugit uqhukhat uqhuvaluilu puuqatiaqlutik ihuaqtumik kiklimaktirijutiqaqlutik kuviyuqaqat • Qaguguraagat ihivriuqpaklugit munarijutit napagau-	• Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmi Uyaraktaqvikmilu Aktugauyut Immavaluit • Qaraqtautit	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			yut maliklugilu inigiyauyumi ihivriuqnigagut upalu-gaiyautit atuquyauyunik Immaknik Aturiagani Laisiuyumi.		
Immiqtaaqvikhat Natqani Hiuraqatiaqniga	Hiuraqatiaqniga	• Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmi Uyaraktaqvikmilu Aktugauyut Immavaluit • Uyaraktaqviit Kaivitutiklu Atpaqpaliavlutik Uyaraqtaqviit • Qaraqtautit • Uqhukhat, Uqhuilu, PAH-lu • Halumaqtitauyut Aanakuut Kuuktinigit • Hiuraqaqniga Hilap	• Ajikutaa Immiqtaqvikhat Halumaniginik	• Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmi Uyaraktaqvikmilu Aktugauyut Immavaluit	Ihumagiyaugituq
Immiqtaqvikhani Iqaluit	Iqaluit nunagiyait	• Nunaiyaqnigit aalaguqniginikluniit	• DFO-kut Munarijuhiit Aanigitaagani Iqaluit, Nunagiyailu • Huliviyariaqaginigit Hunauliraagat • Munarijutinut upalugaiyautit Avatauyumiklu Munarijutinut Upalugaiyaut • Piqutit iniqariagani qanikligitaagani iqaluqaqnigit nunat ayuqnaitkagat • Piqutit ihuaqhaqlugit mikiniqhauyaagani inigiyauyuq qanikligitaaganilu atuqniqatiaqtut imavaluit iqaluqaqnigit • Ihuaqhaqlugit iqaariarutit Iqaluit kitpaginariagani immaqnik ikaaqviuvaktut ukiuraaluk apqutini • Immiqtaqatagitaagani atufaaqataqlugit immavaluit, nunam iluanit immaqaqpalaagitaagani, utiqtilugilu maligutauyut attakut immiqtaqviuyunut • Himauhiqlugu aturiaqaqat agiqtauhimakmalu DFO-kunit	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
		• Aalaguqnigit immiktaak-hat immariknigit natqanilu halumanigit	• Takulugu Immiqtaakhat Immariknigit Natqanilu Qanurinigit Immiqtaqvikhani.	Nahuriyaugitut	-
	Iqaluqaqnigit: Hulukpaugat	• Tuqujutauyuq Talvanga Amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Aturiaqaginirit Hulijutinik Hunautilugu • Itiriipkuhiqlugit tuqhuat hiluviit kuuktilvilu Iqaluit iluagugitaagani • Nipaaqniginik hayukniginiklu maligauyut qaraqtitaikpata hulijutinik	Nahuriyaugitut	-
		• Aalaguqnigit immiktaak-hat immariknigit natqanilu halumanigit	• Takulugu Immiqtaakhat Immariknigit Hiuraqatiaqnigilu	Nahuriyaugitut	-
	Iqaluqaqnigit: Ihhuut	• Tuqujutauyuq Talvanga Amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Aturiaqaginirit Hulijutinik Hunautilugu • Itiriipkuhiqlugit tuqhuat hiluviit kuuktilvilu Iqaluit iluagugitaagani • Nipaaqniginik hayukniginiklu maligauyut qaraqtitaikpata hulijutinik	Nahuriyaugitut	-
		• Aalaguqnigit immiktaak-hat immariknigit natqanilu halumanigit	• Takulugu Immiqtaakhat Immariknigit Hiuraqatiaqnigilu	Nahuriyaugitut	-
	Iqaluqaqnigit: Iqalukpiit (tahiqmiutat)	• Tuqujutauyuq Talvanga Amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Aturiaqaginirit Hulijutinik Hunautilugu • Itiriipkuhiqlugit tuqhuat hiluviit kuuktilvilu Iqaluit iluagugitaagani • Nipaaqniginik hayukniginiklu maligauyut qaraqtitaikpata hulijutinik	Nahuriyaugitut	-
		• Aalaguqnigit immiktaak-hat immariknigit natqanilu halumanigit	• Takulugu Immiqtaakhat Immariknigit Hiuraqatiaqnigilu	Nahuriyaugitut	

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Iqaluqaqnigit: Kapihiliit (tahiqmiutat)	• Tuqujutauyuq Talvanga Amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Aturiaqaginirit Hulijutinik Hunautilugu • Itiriipkuhiqlugit tuqhuat hiluviit kuuktilvilu Iqaluit iluagugitaagani • Nipaaqniginik hayukniginiklu maligauyut qaraqtitaikpata hulijutinik	Nahuriyaugitut	-
		• Aalaguqnigit immiktaak-hat immariknigit natqanilu halumanigit	• Takulugu Immiqtaakhat Immariknigit Hiuraqatiaqnigilu	Nahuriyaugitut	-
Taqyuup Imarikniga	Taqyuup imarikniga	• Umiaqtuqvik • Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmit Aktugauyut Immavaluit • Uqhukhat, Uqhuilu, PAH-lu • Kuuktitiniq • Hiuraqaqniga Hilap	• Atuqlugit taja piqutauyut Doris-mi Havaami mikiniqhauyaagani inigiyauyuq Havaami 2 piqutini • Napaqtirilutik qaiqtuni atuqlutiklu ihuaqtunik uyaqanik apqutini, tungavikhani, napaktigakhanilu • Kuuktilugit TIA-mit Roberts Bay-mut auyautilugu ihuaqniqat kihiani • Kuuktilugit qaliuyut TIA-mit nunamilu imavaluit Roberts Bay-mut • Atuqlugit Kanatami Ukiuqtaqtumilu atuqnigit puyuuqniginik, immaliqijutinik havaat, qaraqtitautit, immakpaliayulu qanuritariaqaqnigit • Maliklugit BMP-kut uqauhiit igluqpaqaqviuyuq munarinigagut upalugaiyautit • Atuqlugit hiuqanik hituariipkutiniklu mikhiyaagani nunami kuuktut kuuktilugilu munariviuyunut piqutinut • Atuqlutik hiuqariipkutinik ihuaqtuni hiuqtitigitaagani immaliqijutini havaani • Amirilugit taqyumi avatauyuq Havavaluknik Uyaraktaqtut Atakuinik Maliruanik Avatauyumiklu Aktuqniginik Amirijutinik talvani. • Maliklugit ihuaqtautit, munarijutit, amirijutinik pigiarutit uqautauyut Iqaluliqinikut Agirutauyut piyunautilu. • Tuutquqlugit uqhukhat uqhuvaluilu puuqatiaqlutik ihuaqtumik kiklimaktirijutiqaqlutik kuviyuqaqat • Qaguguraagat ihivriuqnigit munarijutinut napayut.	• Umiaqtuqvik • Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmit Aktugauyut Immavaluit • Kuuktitiniq	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
Taqyumi Hiraqatiaqniga	Taqyumi Hiuraqatiaqniga	• Umiaqtuqvik • Igluqpaqaqvikhaq Ihuaq-haqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmit Aktu-gauyut Immavaluit • Uqhukhat, Uqhuilu, PAH-lu • Kuuktitiniq • Hiuraqaqniga Hilap	• Ajikutaa Taqyuup Imarikniganik	• Umiaqtuqvik • Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu	Ihumagiyaugituq
Taqyumi Iqaluit	Iqaluit Nunagiyait	• Nunaiyaqnigit aalaguqniginikluniit	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Piqutit ihuaqhaqnigit mikiniqhauyaagani inigiyauyuq nuna qanikligitaaganilu qayaknaqtut taqyumi Iqaluit nunagiyaat • Aturiaqaginirit Hulijutinik Hunautilugu • Munarijutinut upalugaiyautit Avatauyumiklu Munarinigagut Upalugaiyaut • Ahiaguritit aturiaqaqat agiqtaukpalu DFO-kunit	Nahuriyaugitut	-
		• Aalaguqnigit taqyumi immariknigit natqanilu halumanigit	• Atuqlugit puplaktuqtut kautauyat tunmirat hanayautilugu • Umijat kayumiiqpaklutik Robert's Bay-mi • Takulugu Taqyumi Imarikniga Hiuraqatiaqnigalu	Nahuriyaugitut	-
	Iqaluqaqnigit: Iqalukpiit (utiqpaktut igliriyamiknut tatini)	• Tuqujutauyuq Talvanga Amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Qaraqtitaiyut nipaaqniginiklu naunaipkutit ilagiyailu amirijutit • Atuqlugit hiuqtitiriipkutit immaknik havaani • Igluqpaqaqvikmi munarijutinut upalugaiyautit Avatauyumiklu Munarinigagut Upalugaiyaut	Nahuriyaugitut	-
		• Aalaguqnigit taqyumi immariknigit natqanilu halumanigit	• Takulugu Taqyumi Imarikniga Hiuraqatiaqnigalu	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Iqaluqaqnigit: Uukaat	• Tuqujutauyuq Talvanga amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Qaraqtitaiyut nipaaqniginiklu naunaipkutit ilagiyailu amirijutit • Atuqlugit hiuqtitiriipkutit immaknik havaani • Igluqpaqaqvikmi munarijutinut upalugaiyautit Avatauyumiklu Munarinigagut Upalugaiyaut	Nahuriyaugitut	-
		• Aalaguqnigit taqyumi immariknigit natqanilu halumanigit	• Takulugu Taqyumi Imarikniga Hiuraqatiaqnigalu		
Taqyumi Umayut	Nattiit	• Nunaiyaqnigit	• Piqutit ihuaqhaqnigit mikiniqhauyaagani inigiyauyuq taqyumi nunagiyauyumi qaniklitaililugilu taqyumi angutikhat hinaniilviit • Auyami umiaqtuqlutik talvatuaq (ukiumi umiaqtugilutik)	Nahuriyaugitut	-
		• Kamahuktitiniq	• Taqyumi Angutikhat Qiniqhimaniginut Havaaq 2-hanat miitamik ugahikniqaqlutik • Nuutqaqlutik tungavikhanik kauktilugit taqyumi angutikhat iluaniiliqata aaniqnainigani • Atuqlutitk puuplaktuqtunik kautauyanik tungaviliuru-mik ukunigaugituq kaukyuarutinik ayuqnaitpat • Imikniganik amirijutit tungavikhanik iliuraitilugit nunamut • Iniqhilutik immap iluani nipaaqniginik naunaipkutik-hanik tungavikhanik iliurailirumik munarijutikhalu naunaipkutini avatquutpata pigiarutikhat • Iniqhilutik Qayagilutik Pigiarutikhanik tungavinik iliurialirumik	Nahuriyaugitut	-
		• Tuqujutauyuq Talvanga	• Kayumiknikhait Robert's Bay-mi piqutiqaqvikmi nattiit nunamiiniqata hinaani • Iqaguut munariyaulutik taqyumut hiamayagitaagani • BMP-kut munarijavut uqhukhanik, aanirutaulaaqtu-nik hanaugakhanik, upitpaklutiklu kuviiyuqaraagat	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Taqyumi tikmijat	• Nunaiyaqnigit	• Piqutit ihuaqhaqlugit mikiniqhauyaagani inigiyauyuq taqyumi nunagiyauyumi	Nahuriyaugitut	-
		• Kamahuktitiniq	• Umijat qaniklitailiniaqaat agiyuq taqyumi tikmijat inigiyaanik Prince Leopold-mi Qigiqtami 25-kilamitamik ugahiktigilutik, umiaq naamakniaqniqat • Umijat qaniklitailiniaqut tikmijat nunagiyainik 5-hanat kilamitamik ugahiktigilutik, umiaq naamakniaqniqat • Umijat amiriniaqut amigaitunik taqyumi tikmijanik qaniklitaililugilu, umiaq naamakniaqniqat	Nahuriyaugitut	-
		• Tuqujutauyuq Talvanga	• Umijat qaniklitailiniaqaat agiyuq taqyumi tikmijat inigiyaanik Prince Leopold-mi Qigiqtami 25-kilamitamik ugahiktigilutik, umiaq naamakniaqniqat • Umijat qaniklitailiniaqut tikmijat nunagiyainik 5-hanat kilamitamik ugahiktigilutik • Milviit amirilugit tikmikhagiaqtinagit mitaqturiaqtinagilu • Kayumiknikhait iniriiqhimaniaqut Havaam apqutaini. • Umayut atuluaqpakniaqut tamainik apqutauyunik • Nakuniqhat munarijutit atuqtauniaqut munariyaaga-ni uqhukhat, aanirutaulaaqtut ihuaqutit quviiyuqagi-taagani, hiamayaktaililugit halumaqtiqlugilu kuviyuqaqniqat taqyumi avatauyumi	Nahuriyaugitut	-

Naunaipkut 5. Naitumik Uqauhiq Inuit Nunagiyait Kiguani Aktuqniginik

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
Igilraaqnitaliqijutit	Igilraaqnitanik piqaqtut nunat	• ahiunigit titiraqhimayunik igilraaqnitanik piqaqtut nunat	• Uqatiaqhimayut nunap qaagani piqaqniginik • Ihumagilugit qaniklitaililugit havaaq ihuaqhaqtauliqat • Ihumagilugit munarijutinut atulirumayainik • Qaguguraagat amirilugit naunaitut inigiyauyut • Qauyipkaqnigit maniqami havaktut • Atuliqnigit aulanikut pigiarutinik	• Aktuqniga titiraqhimayut igliraaqnitanik piqaqtut nunat	Ihumagiyaugituq
		• ahiunigit titiraqhimagitunik igilraaqnitanik piqaqtut nunat	• Ilituqhaqtautiaqlutik kahaktaugiaqtinagit • Ilituqhaqlugu TK-nik ahiiniklu naunaipkutinik taimani ilitquhiqmik hivuniqhijutikhanik • Qiniqhimainaqlugit hivigitumik kahaktaunigini hulitilugit amigaitunik igilraaqnitanik piqutiqaqtut nunat • Qauyipkaqlugit maniqami havaktut • Atuliqnigit aulanikut pigiarutinik	• Aktuqniga titiraqhimagitunik igilraaqnitanik piqaqtut nunat	Ihumagiyaugituq
		• Aktuqniga ilitquhiqmik hivuniqhijutinik piqaqtut nunat	• Ilituqhaqlugu TK-nik ahiiniklu naunaipkutinik taimani ilitquhiqmik hivuniqhijutikhanik • Qauyipkaqlugit maniqami havaktut • Ahiruitaililutik katitiriyaagani ilitquhiqmik hivuniqhijutinik inigiyauyunit qaniklitailiyaami ayuqnaqata • Ilipqamayaunigit katitigaiyut naunaipkutit igilraaqnitaqaqvikmi	• Qauyivaalirutit ilitquhiqmik hivuniqhijutinik piqaqtut nunat	Ihumagiyaugituq
Inujutit manikhaqhirutilu	Manikhaqhiurutinik Pivalianiq	• Aalaguqnigit manikhaqhiurutit amigaiqpalianigini	• Amirilugit ikayuutit Inuit timigiyainut uqatiaqhimayut nutaami Qanuriniganik Agiqatiriigunmi IIBA-milu pijutit KIA-kulu	Nahuriyaugitut	-
	Manikhaqhiurutikhat Atulaaqtut	• Aalaguqnigit nunami manikhaqhiurutit amigaiqpalianigini	• IIBA-ga pivikhaqaqluni pivaaliriagani Inuit ilaunigit havaktitauniginik, aturiaqaqnigalu upipkariagani Qitiqmiuni Ayugitut Manikhaqhiurutiqaqtut havaktulu, ilagani qanurituunigini, Manikhaqhiurutinik Pivalianikut Manikhaqvikvik • TMAC-kut Kivgaktuqtia ikayuriagani amihuuniqhat Qitiqmiuni Ayugitut Manikhaqhiurutiqaqtut havaktitaagani tikuaqhivaklutik manikhaqhiurutiqaqtunik ilauyumayunik havaakhanik atulaaqtamiknik	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			• Ikayuqpaklugit, tuhaqtilugit, hivuniqhijutikhainiklu pipkakpaklugit tuhaqtinariqlugilu katranik havaaqa-laaqtut Qitiqmiuni nunagiyauyuniitut uktuutinik pitquhiuyuniklu ukunani • Aturiaqaqniga amirilugilu nunanit ilauyunik upalugaiyautit agiyunik uktuutini havaamik • Pivaklutik aipagutaraagat manikhaqhiarutinik atulaaqtunik nalautarutinik • Qauyipkaqpaklugit havaanik atulaaqtainik Qitiqmiuni Nunami		
	Havaktut	• Aalaguqnigit havaktut atulaaqtainik manikhauhiiniklu • Aalaguqnigit havaktut ayuruiqnigit • Akitaqutauyut nunani havaktunik	• IIBA-mi pivikhaqaqluni aipagutuaraagat Inuit havaktukhat turaaqvikhanik, atuqaaqtilugit nunaqaqtut Qitiqmiuni Inuit havagiami, kiguani nunamiugitut Inuit • ilitquhiqmik qauyiyaagani atuqtilugilu pitiagitunik pitquhiuyunik • qauyipkaqlugit havaakhanik atulaaqtunik Qitiqmiuni nunagiyauyuni • ihuaqhaqlugu atuliqlugulu Havaktukhanik Atulirumayaannik • ihuaqhaqlugu atuliqlugulu Havaktunik Nuuniginut Upalugaiyaunmik Umiktaukpat	• Aalaguqnigit Havaktut Atuqtakhainik manikhauhiiniklu • Akitaqutauyut nunani havaktunik	Ihumagiyaugituq
	Ilihaqnik Ayuiqhaniqlu	• Aalaguqnigit tuukhigauyut ilihaqniqmik ayuiqhajutikhanilu havaanik • Aalaguqnigit ihumagiyauyunik ilihaqniqmik havagiamilu	• IIBA-mi pivikhaqaqluni aipagutuaraagat hivunikhamilu Inuit ayuiqhayukhani turaaqvikhanik, iniqtiqniganiklu munariniganiklu Ayuiqhajutikhanik Ilihautiniklu Manikhaqvikhamik • havaqatigilugit KIA-kut, kavamat, ayuiqhaiyilu timiuyut • pivalianiga Havaktukhanik Atulirumayainik ihuaqhautauyunik ayuiqhajutikhanik ilihautiniklu • Inuhiqmi Havauhikhamik Upalugaiyautikhainik Inuit havaktut • Nunagiyauyumi Hivuniqhijutikhat Inuhiqmilu Havauhikhamik Qauyiviuyunik Katimaviknik Qitiqmiuni	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	Nuunigit, Igluliqijutit, Piqutilu, Ikayutilu	• Nuutpaliayut Qitiqmiuni Nunamut • Aalaguqnigit piyumayuayunik iglunik • Aalaguqnigit nunagiyauyumi ikayuutinik	• Amigailutik havaktikhanik piviuyut aularutikhainiklu Inuit havaktut, nunaqaqtut Qitiqmiuni nunagiyauyuni, talvuga talvangalu havaktitaivikmiknit Havaamit inigiyauyumulu • Upipkakhimainaqlugit nunagiyauyut uqautauyunik Nunagiyauyuni Ilauniginik Upalugaiyaunmi	Nahuriyaugitut	-
	Nunagiyauyumi Aniaqtailinikut Inuhiqatiaqniqlu	• Aalaguqnigit ilagiit inutiaqniginik • Aalaguqnigit ilagiit akiliqtuutainik • Aalaguqnigit niqiqhaqatiaqnikmik akituniginiklu inujutit	• IIBA-mi pivikhaqaqluni Havaktuq Ilagiyainiklu Ikayutikhanik Havaamik (EFAP); niqhiuqpaklutik niqainaqnik inigiyauyumi; atuinaqlugu imigaknaqtunik taagaqniklu pitquhiuyunik ilaqaqtumik "hiuruyalimagitut"; atuqtitilutik inigiyauyumi tuhaumajutikhanik Inuit havaktut inuqatimiknik ilagiyamikniklu; atuqtitilutiklu niqainaqnik igaviknik ilitquhiqmilu hulijutinik Havakviuyumi ihumaliugainik Atuqpalianigagut • TMAC-kuni Kivgaqtuiyuq tikuaqhiyaagani havaktut uqaujuriagani aturiaqaqat ihuaqnigani; ihuaqhailutik atuinaqtumik uqaqatiriigutinik Inuit havaktulu naunairiagani ihariagiyainik, ihumagiyainik, ihumaluutainiklu; ikayuqlutiklu tiquaqhiyaagani pivalianiginiklu inuhiqatiaqnikhamut	• Aalaguqnigit ilagiit inutiaqniginik • Aalaguqnigit ilagiit akiliqtuutait	Ihumagiyaugituq
Nunanik Atuqnigagut	Manikhaqhiuqviuyuq Nuna Ihuaqutiniklu Atuqnigagut	• Aalaguqniga atuqniganik nuna ihuaqutilu • Aalaguqniga angunahuatuq aguniginik, angunahuarutiniklu • Aalaguqniga qauhiniginik maniqamiuyunik	• Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Ahiqpaniilutik nipaaqtut hulijutini qimalatitigitaagani ayuqnainiqat • Hanalugit apqutit hanirait kigiktuuginaqlugit ila ikaaqpagiagani ayuqnaitumik inuit umayulu • Atuqpalianiga Inuit Aktuqnigagut Ikayuhianik Agiqatiriigut (IIBA) KIA-kulu, ilaqaqtumik, ahiinit pivikhaqaqniginit, aturiagani Havaami piqutinik apqutiniklu • Pipkaklugit nunanik atuqtut aaniqnaitumik	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			ikaaqpagiagani havakviuyut nunat • Iniqhimaniganik Inuit Avatiliqinikut Ihumakhaqhiuqtinik Kamitiuyuq • Atuliqniga Nunagiyauyumiitut Ilauniginik Upalugaiyaut ilaqaqtumik pigiarutinik upipkaijutikhanik nunagiyauyuni ilauyunik.		
	Igilraat Hulijutait Qauyimayailu	• Aalaguqniga atuqniga-nik nuna ihuaqutilu • Aalaguqniga anguna-huatuq aguniginik, angunahuarutiniklu • Aalaguqniga qauhinigi-nik maniqamiuyunik	• Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Ahiqpaniilutik nipaaqtut hulijutini qimalatitigitaa-gani ayuqnainiqat. • Hanalugit apqutit hanirait kigiktuuginaqlugit ila ikaaqpagiagani ayuqnaitumik inuit umayulu • Atuqpalianiga Inuit Aktuqnigagut Ikayuhianik Agiqa-tiriigut (IIBA) KIA-kulu, ilaqaqtumik, ahiinit pivikha-qaqniginit, aturiagani Havaami piqutinik apqutiniklu • Pipkaklugit nunanik atuqtut aaniqnaitumik ikaaqpa-giagani havakviuyut nunat Iniqhimaniganik Inuit Avatiliqinikut Ihumakhaqhiuqtinik Kamitiuyuq • Atuliqniga Nunagiyauyumiitut Ilauniginik Upalugai-yaut ilaqaqtumik pigiarutinik upipkaijutikhanik nunagiyauyuni ilauyunik.	• Aalaguqnigit angunahuarutinut pitquhiuyunik	Ihumagiyaugituq

Nunapta Anirniqautiit Ikiariit Avatikhangillu

Ilangani 2 Havaanut hulidjuhiit uuminnganit akhaluutinut atuqpagait unalu uunaqutikhamaat aturvikhangit taimaa anurinut puyunit anianingit, aktuqhimalaaqtauyut uuminngat anurium qanurilinganingit. Kihiani, hamna Havaangit ungahiktumiittuni nunalingnit, ihumagiyakhaqanngittuni kinaliqaak nunaqatigiingmiuttait iluaniinniarumik aktuqtaunianut nayugaanit qangaraalungmi.

Una Ilangani 2 Havaangit unguvaiyarahuaqtangit puyum anialailaqutaangit tamainnut inuudjutaanit uunaqutingnut aturvikhaat akhaluutim aturvikhaangalu aahiittauq hulidjuhiit (uuminngatut, ikulahimayangit iqqakuut aturvikhangillu qagalaaqtumit). Tahapkuat puyum anianingit anianginnaqpangniaqtut Havaktaugumik Aulavikhanullu ilanganit havaliqtaugumik kihiani. Hamna kangiqhidjuhingit haffumani puyum anialailaqutingit aadjigiinngittuni aahiit uyaraqtarviuyut havaangit Nunavunmi Nunatsiamilu, kihimi ikittumik ilagiinnautaa nunaryuarmi nunallaangit puyum anialailaqutaanit ihivriurningit.

Nunamiuttait Avtimiuttait

Havaariyauyukhat haffumani Ilangani 2 Havaangit ilaliutait ilagiyauniaqtangit tutqiqhimalugit nunahimayuit. TMAC tiliuqtauhimayait Havaangit aktuqtailinahuarianlik qayangnaqtumik nunanganit, hapumminahuarlugillu qayangnaqtut nayuqpauhingit pigiarumik, nailinahuarlugillu ihiit Ilangani 2 hulidjuhiit unguvaiyaqhimayauyut nauhimayut inuuhingit. Uvani umingnialirumiuk TMAC utirminiaraat iningit hamna nauhimayut utiffaariaqaqhutik inmikkut.

Una Dolphin unalu Union (Qikiqtaq) tuktut amihuaryuit ingilravaktut ikaaqpakhutik taryum hikuani Kiillinirmit Ahiarmut upinngaami ukiakhamilu. Agyaqhiiniarumik agyaqattaqhimayukhaq imaq angmaumalirumi hapumminahuariangani amihuaryuit.

Una Havaangit qaliriiqhimalaittuq tukut nurriuliraangamik irniuqtaaraangamiglu, nayuqtauvakkamik malrurnik atauhirmik hannatiigut pusaatigut haffuminngat Dolphin unalu Union amihuaryungit ukiumi ingilrayut unalu haffumani atauhirmik-uan hannannut pusaatigut haffumani Beverly/Ahiak amihuaryuit auyannguraangat ingilrayunut. TMAC tiliuqhimayangit hamna Ilangani 2 Havaangit ilagiyauyukhat mikitqiyaanit ininganit unalu tiliugainit igluqpaqarvikhaliurutikhait pittailinahuarlugillu ihumagiyaulluarningit iningit tuktunut ingilraliraangamik, halumayumik imarnit ikaaliraanganit, nunait iviqanirmit qulvahiktut nayugaan atuqtauvakkamiuk kikturiaqanngittumi nayugaat niklaumanirmilu. TMAC nutqallakhimaniaqtut qagaqtuinirmut tuktut hanianiitkumik uyaraqtarviuyumi, nutqaqtiriaqaqtut tingmiyunut ihumaginahuarlugillu tahapkuat huradjat ikaaliraangat tukiliurutauhimayangit uvani Havaagnit Ilitaridjutaanut (qayangnaiqutiliraangamik), kayumiiqhimalugillu akhaluutit kayumiiqtukhat ingilraliraangat taimaa niryutit ikaariaqaqtut apqunmi, amiqhainahuarlugillu ihiit, unalu ikulahimayunit tamainnut iggaviit iqqakuutit nutqallakhimagiaqaqtuqtauq taimaa niryutinit naimatqunngittunilu. Una Ilanga 2 Havaangit taimaa anguniarvikhaunngittunilu havaktunut maliguarutainit malikhimalugit havaliraangata.

Tamainnut, Ilangani 2 naaguhiyauhimayut amiqhainahuarlugillu ikivallaarningit hannat pusaatigut nakuuyumik-nakuudjuhiutainit akhait aimavigigamiuk nunanganit. Ilitturvikhangit takunnaqhunilu akhait pittailiyuittangit uyaraqtarvikhanut havaangit iluani Ukiuqtaqtumi akhaillu amihuuningit avataani uvani Ekati unalu Diavik uyaraqtarviit Nunatsiami ittuuvluni angiklivallialiqhunilu. Kihiani, akhait kangiqhiyauhimaittut aktuqtauyuittut uvani Ilangani 2 Havaangit hulidjuhiinit. TMAC pitquiyangit akhait atuqhimagiangani uvunga Havaangit nayugaanit amiqhaivakkamiuk iqqakuurvingit, halumavlunilu nayugaat hiniktarviit, akhanut-hiamittiyuittangit nayugaqaramik, taimaa atuagaliaqaqhutiktauq niqhiuqtakhaunngittangit niryuit manirarmiuttait, akhaillu amiqhaigiaqaramik maligautiqaqhutiktauq.

Hamna aadjigiigutaat uukturautainnit TMAC upalungaiqhimaniaqtut aturlugillu hapummigiami tuktut akhaillu —hamna qaaqtuinahualiraangat uyararnut pittailinahuarlugit, anguniarviugakhaunngittunilu atuagangit, apqunmilu kayummakhimaittumik, unalu niryutit piyunnautiqaqtukhat hapummiyauniaqtangit umingmait, qalviit amaruillu. Hamna tulagviat haffumani Ilangani 2 Havaangit tiliuqhimayauyut aktuqtailinahuarlugillu niqikhaqhiuyuktunut manningit. Avaliqanngittut iblaunga, qupanuaqpangnut nunallaangit amihunit iblaungit, naniyauhimayuq atauttimut Havaangit havagviannit, kangiqhiyauhimayuq hamna qupanuaqpak atuqpagungnaqhiyut aallamik iblaungat nayugaanit iluani nunallaani aktuqtauyungnaqhivluniluuniit Havaangit hulidjuhingit. Ilangit Ukiuqtaqtumi uyaraqtarvingit havaangit unipkaariyauhimavaktut uyaraup talungit angmaumayumi hauhimaningit tahapkuat niqikhaqhiuyuktut ivaliqpaktut hauhimayumi, kihimi ihivriuqtauhimanngittuni iluani Doris Havaangit uyaraqtarviit. Amihuuyut ilitquhiriyangit ivayunit nayugaat, haniani amiqhaivaktait amiqhidjutauvlutik uyararnut nailiyauvagaat niqikhaqhiuqtunut atuqhimavagaat uyaraqtarviit.

Utiqtaqtut tingmidjait ilaliutigiyangit imarmiuttait tingmidjait unalu qulvahikhivaktut ivayunit tingmidjait (qupanuat). Atuqhimavagaat iblaut pittailivagaat havaktaugaangat nutaamik igluqpaqarvikhaliurahuaqtunut hilataanit ivayunit, qanurmiluuniit qauyihaqtauliraangamit, unaluuniit kuinginnaqtumik havaktaugaangat hanianit iblaunganit havakkumik auyami. Kayumiiquyauvaktut apqunmi taimaa tingmidjat pittailinahuaqpagaat akhaluutit tuluqtailivagaat tingmidjanut.

Imaup nakuudjuhia unalu ihirnut amiqhaivagaat. Uqhuryuat hivuuranaqtunillu qayangnaqtuit amiqhailluaqtakhaat kuviyaunnirumik halummariaqaqtangit qilamiuqtumik. TMAC'ip tiliugait haffumani Ilangani 2 Havaangit, atauttimut ingattaqhittailivlutik amiqhaivlugillu uuktuutingit, pittailinahuaqhugillu atuliqtaunikkut uumani Nunamiuttait Niryutit unalu Niryutit Nayuqpaktangit.

Halumayumik Imait Avatimiuttait

TMAC upalungaiyariiqhimayangit atuqhimagiangani amihunit uuktuutikhait nailinahuariangani Havaangit atuqtauniagut atuliqtaunikkut imarmut nakuudjuhingit, halumayumik imait Iqaluit nunaqatigiiktunut, Iqaluit nayuqpaktangillu.

Hamna Havaangit atuqhimayakhaat mikiyumik imarmik piyumayaukpat, unalu TMAC uuktuinnaqhunnguvauk amiqhailugillu tamaat imaup utiffaaqtinnani avatikhanut. Anaqtautit amiqhaiyangit anaqtautiviit taimaa pidjarikhigiaqaqtangit tamaat unguvaiyaqhutik imarmik aktuqhimayaukpat naahimaitkumiluuniit qaangiutinnirumigluuniit aulapkaqtaaqhimaningit kigliyauhimayangit uumani Nunavut Imaliqinikkut, Iqalut Taryurmiuttat Kanatami, unalu Avatiliqinikkut Hilaup Aallannguqpauhirningit Kanatami. Imait aktuqtauhimannirumik uuminngat uqhuryuanit tutquumavingit ihuaqhainikhaviillu, unalu imarnut halumaittumik hamanngat akhaluutiryuangani akhaluutiqarviingnit, aktuqhimalaaqtangit aulavikhangit uuktuutingit turaaqtautinnani.

Hamna Havaangit ihumagiyauvagaat aulaviginahuaqhugit hiirnaqpiaqtumik qurluarvikhaat hamanngat huruqhimaningit uyarait, uyaraillu illiriyauhimayut, uyarait taunaniitpallaaqtummik, amiqhaivikhangillu upalungaiyautit taimaa imait akturnaittukhauyut kiglikhautainit uvani imait laisikhaanit unguvaqhimaittumik avatikhanut.

Iqalut nayuqpauhingit hapummiyakhaat havaktaulirumi imarnut ikaaliraangat ilaliutihimayangit uuktuutingit pivalliahimayangit uumani Iqalungnit Taryurmiuttainillu Kanatami. TMAC tiliuqhimayait hamna Havaangit pittailinahuariangani iqalungnit nayuqpaktangit aktiryuangani piyumayaukpat. Hamna Iqaluit nayuqpaktangit ihumagiyaulluaqtakhaat, hamna nayuqpaktangit aadjigiiktukhauvluni ukunanngat upalungaiyautingit angiqtauhimayumik uumani Iqalungnit Taryurmiuttanit Kanatami. Hamna Qitirmiut Inuit Katudjiqatigiingnit ilagiyaillu haffumani kitunuliqaak ilaliutigiyaulaaqtangit uumani piliriakhait unalu inikhautikhangit ikayuqhimagiangani ihumagiyakhait piliriakhangillu.

TMAC'iup tiliugait haffumani Ilangangit 2 Havaangit, atauttimut uuminngalu ingattaqhittailinahuarnikkut amiqhaiyakhaallu uuktuutingit, atuliqtaunahuaqhimaittumik ukunanngat Halumayumik imaq Avatikhangillu.

Imarmiuttait Avatimiuttait

Uqhuryuat turaaqtauvaktut iluani Roberts Bay mi katilviugiangani Agyaqtuinikkut Kanatami maliguarutainnit. Hamna unguvaqtauhimayut hamanngat kuvingit hanayauhimayut kiilirahuarlugit inikhaangit iluani Roberts Bay mit katilviugiaqaqhuni havigaliit uyaraqtarviuyuq anaqtarviuhimayut maliguarutait pinahuaqtangit uumani Avatimiuttait unalu Hilaup Aallannguqpauhingit Kanatami, aadjigiiktut tamainnut uyaraqtarviit Kanatami. Ilagihimayait, TMAC kiugiaqaqtut amiqhaigiangani avatikhanut iluani Roberts Bay mi pidjarikhigiangani taamna unguvaqtauhimayut aktuqhimaittumik uumani imarmiuttanik inuuhingit.

Tamainnut havaangit haffumani agyaqtuiyunit tulagviata iluani Roberts Bay, TMAC kiglikhautikhangit aktuqtauningit imarmiuttainit Iqaluit atuqtakhait Iqalungningit unalu Taryurmiuttainit Kanatami uukturautainit pittailinahuariangani pinguttailinahuariangani iqalungnut Iqaluit nayuqpaktangillu, ilagivluniuktauq aahiit uuktuutingit nailinahuariangani kuinginningit, aktuqhimayangit, hayungningillu (uuminngatut, kititiqpallialiqtumik aquttuni, qagaqtuiyunillu agyaqtuinirnillu). Havaangit iluani imarmiuttait imait iniqhimayakhait taamna ihumagiyaugumi iqaluqanngittuni, unalu iningani aktuqtauhimagumi ilagiyaita haffumani imarmiuttait imait tulagvingit nailiyauniaqhutik qanurilingayaugumik. Tahapkuat amiakkut nayuqpaktangit piiqhimayut, hamna avvautihimayaugumik hamna Iqaluit amihuuningit aulayukhaunngittut qakugunnguqtumi.

Qauyiharningit naunaiqhiiyangit hamna inikhaqanngittuni nattiit agyaqtaugiangani (uuminngaluuniit unaguiqhiriamilu hinaani hikumiluuniit) uvani auyami uvani Roberts Bay mi. Uvani ukiumi, hamna hilingnia agluata iluani hikumi uvani Roberts Bay mi ilagiyangit Melville Soundmi naitqiyauyuqtauq uvanngat Qingaungmit, ihumagiyauvagungnaqhiyangit nattiit nunamiuttanit niqikhaqhiuqtumik pittailinahuaqpaktangit uuminnganit akhait qalviinillu. Roberts Bay mi tuniyauhimaniaqtut uqhuryuanit parnautikhangillu umiaryuakkut angmaumagaangat kihiani imait, hilataani ikaarningit nattiit tuktuillu atuittaraangat hikut.

Hamna qanilruani taryurmiuttait tingmidjait amihuuyut unalu Ilangani 2 Havaangit mikiyumi qikiqtarmiitpaktut kangiqhurmilu qulvahiktumi Qingaungmi unalu Elu Kanqhuangani uvani kivataanit kinguani Melvillu Sound mi. Hamna Taryurmiuttait tingmidjait ibuangit uvani mikiyumi qikiqtait iluani Melville Sound mi, kihimi taryuit tingmidjait hilingningit ahiarmi hinaani ikitpiaqtut. Kihimi mikiyuit aktikkutait aturnaqtut Roberts Bay mi havagviata unalu tukhiutaaqhimayauyuq nutaamik Havaariyakhaat havagviata, uuminngalu ikittumik amihuuningit tingmiat ivayut ahiarmi hinaanit, hamna havaagnit aktuqtauningit taryumi tingmidjait ihumagiyauvlutik ikivalliavlutik.

TMAC'p tiliugait haffumani Ilangani 2 Havaangit, atauttimut uuminngat ingattaqhittailinahuarnikkut amiqhaivikhangillu uuktuutingit, pittailinahuaqhugillu atuliqtaunikhainut Imarmiuttanut Avatimiuttait.

Inungnut Avatimiuttait

Qaffiuyungnaqtut 50 nitluuniit initurlingit nayugaanit ilittuqhimayauyut takunnaqhutik iluani nunangani haffumani Ilangani 2 Havaangit. TMAC upalungaiyauyut aktuqtailinahuaqhutik nayugaanit nakuutqiyahiurnikhanut inikhaanit aulapkaivalliagumik quyaginnaq Havaangit hulidjuhiit ilittuqhailugillu manirarmi havaktunut qanuq naunaiqhiinahuarlugillu initurlingit nayugaanit, uuminngalu nalaumayumik inikhautikhangit maliktakhait naunaiqhiivalliagumik. Nutaamik nayugaat naunaiqhiivlutik, TMAC aulapkainiaqtut hapummivikhangit tutquumavikhaat hilataani nayugaanit. Initurlingit nayugaat pittailiyaulaitkumik tumingit haffumani Ilangani 2 Havaanginut, hamna nayugaat ingattaqhittailiyukhat;

tukiqaqhunilu taamna piyunnautingit piyumayaukpat piyakhatit hamanngat Nunavut Kavamangit, tamaat ilitturvikhait hamanngat nayugaanit piyumayainnit titirariaqaqhuni, unalu piqutingit titiraqtauhimayut hapummiyauhimavlutiktauq hivunikhanut akunianut Nunavunmiunut. Kihiani hamna nayugaat unguvaqtauhimayut, ihumagiyauyuttauq hamna ilitturvikhangit kititiqtauhimayut unalu hapuumiyauyukhat pitquhiriyamingnit ihumagiyaulluaqtangit. Kihimi aktuqtauhimaittut uumani initurlingit avaikhait naaruhiyauhimayut piyukhat hamanngat Ilainnaa 2 mi. Kinguani, hamna Kapihiliktuum Havaangit ikayuutaulluaqhuni qauyimayamingnit kiglikhait ilagiyauhimayangit kinguani nunami atuqtakhainninganut inuuhirmingnullu.

Hamna Ilaninnaa 2 Havaangit naaruhiriyauvluni ikayuutaulluaqtut atuliqtauyukhait uumani maniliurahuarnikkut angikliktirninganut pivallianingillu uumani ikayuutikhanut uvunga Kanatam Pitquhirilluangit Aimavingit Niuviqtakhait unalu kavamatuqangit nunallaangillu kavangit taaksiutikhainit maniliugait. Tahapkuat atuliqtauyukhat naaruhiriyauhimayut aktuqhimayangit nunaqatigiiktunut inikhaat, aviktuqhimaningit,Nunavunmi, Kanatamilu Havaktaulluaraangat Aulapkailluaraangallu ilanganit. Tahapkuat Havaangit ihumagiyaulluaqpagaat ikayuutaulluarnaqhuni maniliurahuarnikkut haffumani Qitirmiunmi uvani nakuuqpiaqtumik ilitturnaqtumiktauq inikhautaanit, taimaa ikayurnarluaqhuni amihunut pivallianikkut aallatqiit. Nunaqatigiingmiuttait nanminilik inikhautait angikligiaqaqtut havaariyauyukhanut Qitirmiunut Ilittiaqhimayunut Nanminilgit uuminngattauq aahiit Inuin Inuinnaunnguttunullu nanminilgit iluani Qitirmiut nunalingnit. Haman Havaariyakhait angiklipkainiaqhuni havaamingnut maniliugainnit uuktuutingit tamainnut Qitirmiut nunangani Nunavunmilu, uuminngalu humiliqaak Kanatami.

Hamna Ilangani 2 Havaangit ihumagiyaulluaqpagaat angiyaaqtumik akiharnaqtumik havaktunut puqtuyumik, amihunitlu ayuinninganit; kihiani, tahapkuat aktuqtauningit naaruhiyauhimaittut hivituyukhamut. Hamna havakhutik ilihaqhutiktauq ilaliutauyukhat, ilitturluaqtukhautauvlutik iliharutikhaillu piliriakhait naaruhiriyauyuq angikliktiqtakhaat. Hamna parnautingit aulavigiyauvluni uumani havagvingnut, unalu Qitirmiut Inuit Katudjiqatigiit, aahiillu ilitturvikhangit ilaliutauhimayauyut ikayuqhimagiangani ihumagiyakhaat uumani TMAC'iup inikhautikhaat aktuqhimagiangani ilihautikhait piyumayainnit.

Hamna Ilangani 2 Havaangit kangiqhiyauhimayut kiuyauluni aallannguqtauhimayut ilagiiktunut ilitturvikhait ilagiyauyut uumani aktuqhimayauyunit angikliktiqtauhimayut iglumiuqatigiit maniliugait aallannguqtiqtauvlutik ilagiiktut inikhautikhait ilagiyangillu ukunanngat Havaariyakhaat havaangit. TMAC naunairiiqhimayangit inikhautikhait pinahuarianganit nakuuyumik nailinahuariangani ayurnaqtumik aktuqtaunikhainut ilagiyauhimayut aallannguqtiqtauningit. Uuminngatut, turaarvikhangit ikayuutauyukhamaat katilviuhimagiangani uumani havaktunut ilagiiktunullu piyumayaukpat havagvingnut. Ilaginahuarlugillu, TMAC havaktingit amiqhaigiaqaqtut aturaaqtakhainit katimadjutigiyakhait uumani Inuit havaktiit naunaiqhiigiaqaqhutiktauq havaktunut piyumaiyainnit ikayuqhimalugillu quyaginnaq akihautiqarniqqata.

Kangiqhiyauvakhunilu taamna Ilaita 2 aulapkaiyakhaat tahiyaaqtunit nakuuyumik atuliqtaunikhait inungnut iluani Qitirmiut nunangani hamnalu nakuuyumik nakuunngittumiglu aktuqtauhimaningit amiqhaiyukhat uumani TMAC unalu maligautait nunaqatigiiktut kavamaita. Ilangani 2 tahilaaqhuni inuudjuhianut Havaatigut kinguani ilaliutigiyakhait iniliurvikhangit nunalingnit qulaani arvinilikniglluniit ukiukhamut uumani inuuhiutikhaat Havaangit atiliuqtaaqtut. Inuit Aktuqtauningit unalu Ikayuutikhait

Angirutait uumani Qitirmiut Inuit Katudjiqatigiit ikayuutauniaqhunilu taamna Havaangit ikayuutauniarami Inuinnainut.

Hamna inuit aanniaqtailinikkut avatikhaitalu ingattaqhittailinahuarnikkut ihivriurnikkut iniqhimayauyut Havaatigut, unalu ilaliutauhimayangit iniqpiaqhimayumik piliriakhangillu tiliuqtauhimayut naunaiqhiigiangani, qauyihaqhimagiangani, ihiviuqhimayakhaillu aktuqtaunianut Havaangit uumani avatimiuttainit inuuhirnullu aanniaqtailinikkut. Kiglikhautikhait ilittuqhimayangit qimilruqhimayait inikhait atuqhimayangillu uuktuutingit uumani hururningillu kuinginninganillu qanilruani aviktuqhimayumilu ilitturvikhait haffumani Havaangit aulapkaigiangani uuktuutikhait ihivriuqtakhait ihumagiyauyut hivunngani aktuqtaunianut Havaangit ilitqhuiutauvlunilu kuingingilrumi qanurilinganingit hivunikhautingit utiffaaqhimagiangani hulidjuhiit.

Ilagiyangit haffumani inuuhianit aanniaqtailinikhainut avatikhangillu ingattaqhittailinahuariangani ihivriurningit, naunairvikhangillu qimilruqtauhimayauyut aniruim qanurilinganingit; imaup qanurilinganigillu; imaup qanurilinganingillu hiuralingnillu qanurilinganingit (halumayumik imait taryurmiuttanillu); uuminngalu nunamiuttait imarmiuttait niryuutit; marluit nauhimayunillu; niqainnaat; kuinginninganillu. Tahamna ihivriurningit ihivriuqtauhimayut atuqhimayait unalu kangiqhiyauvaktut halumaittut uuktuutingit unalu aallatqiit ihumagiyauvaktut inikhautikhait tamainnut takunnaqtut. Tamainnut ihumagiyauyut ihivriuqtangit, hamna Havaangit ilaliutaulaittuni ihuittumik tamainnut inungnut aanniaqtailinikkut avatingnillu aanniaqtailinikkut.

AANNIQTAUNIKHANUT UNALU IHUINNAAQTAUNINGIT

TMAC malittiaqhimayangit hapummiyauvikhangit aanniaqtailinahuariangani attarvikhangillu havaktiit, nunaqatigiingmiuttait, avatingillu avatimiuttangillu, unalu ukpiqtakhait maligautainit attarnaqtumik uuktuutikhait, uuminngalu inmikkut inmikkut akhuurnaqtumik inikhautikhait uuktuutingillu.

Aanniqtaunikhainut ihuinnaaqtaunikhanullu pivangniaqtuq quyaginnaq ilangani haffumani Ilangani 2 Havaangit. Hivunngani avatikhangillu ihumaaluutingit kiuvagaillu aaniqtaunikhainut ihuinaaqtaunikhainullu taimailiurnirumik kuviyaugumik, unguvaqtaugumilluuniit qayangnaqtumik, akuhimayumigluuniit, uqhuryuanganilluuniit ilaurutikhait uuminngaluuniit piliriangit huliniit nunamut imarmulluuniit (halumayumik imait taryurmiuttainlu). Ikulayaugumik taimaattauq ingattarnautivaktangit akhaluutimik, ahiruqtaugumigluuniit alruyarniit qanurilingannirumigluuniit qagaqtaugumigluuniit. Kinguani, qagarnaqtut pihimattiaqpagaat ahinit qanurilingayaugumik qagaqtaunniqqat.

Amiqhainikkut uumani ingattaqhittailiyakhaat unalu qanurilingayaugumigluuniit upalungaiyautigiyakhaat ilaliutauvagaat TMAC’iup inikhaanit. Iniqpiaqhimayumik ihivriurnikhait haffumani ihumagiyaulluarnirumik ingattaqhittailiyakhaat piyaugumik taimaa aktuumiyakhaat maliguarutait, uuminngalu TMAC’iup aanniaqtailinikhait, ingattarniktailiyakhaat unalu avitikhait iniliurvikhaat. Taimaa ittuuvlutik aanniqtuqarniqqat ihuinaaqtaunnirumigluuniit, TMAC’iup hivunikhautait nailinahuariaqaqtut qanurilingayaugumik unalu ilaliutaugumigluuniit ihuinaarningit taimaa aktuumiyaulaaqtangit inungnut avatingnullu. TMAC’iup amiqhaivikhangit ilaliutauhimayangit atuliqtauyakhaat ihuiriyamingnit amiqhaivikhangit uuktuutingit tiliuqtauhimayauyullu ingattaqhittailinahuarlugit nailinahuarlugillu qanurilinganingit. Tahapkuat malikhimayait ilaliutauhimayangit havaktut ilihautikhait, ilinnirutikhait, ihivriuqattaqpagaillu, amiqhaivagaallu ihuaqhivagaallu ingilrutingit, ilitturviuvlugillu qanurilingayauningit ihuaqtumik pinahuariangani.

Ingattaqhittailinikhait avatikhait atuqtauhimayuauyut ilitturvikhangit uumani 18 nit ihumagiyauvagaat qanurilingayauningit ihuinnaaqtauningit kigliqaqtumik tallimanit ingattaqhittailinikhait maligautait; hamna uuktuutingit ihumagiyaulluaqhimayangit ihumagivlugit tamainnut itqudjauhimayauyut inikhaanit unalu avatingillu qanurilingayauyunit pivlutik. Uumani 18 nit ihumagiyauyunit, 7 nit uuktuutauhimalluaqtauyut “naittumik” ingattaqhimayauvlutik, unalu 6 nit “ihumaalungnaittumik” ingattaqhimayauvlutik, unalu 5 tauq “naivyaktumik” ingattaqhimayauvlunilu. Qanurilingayauhimaittut ihumagiyauvlutik “puqtuhiqanngittumik” uuminngaluuniit “ihumaaluutaulluaqtaunngittunilu”. Ihumagivluniuk uuktuutingit ingattaqhimayaunikut ilagihimayait uuminngat ihuinnaaqtaunikkut aanniqtauhimainnikut, *TMAC'iup Qilamiuqtumik Kiuyakhaat Upalungaiyautingit* atiliurnaqhunilu tamainnut aanniqtaunikut ihuinaaqtaunikunulluuniit.

ATULIQTAUNIANUT AVATIKHAIT HAVAATIGUT

Qaayurnaqtumik anurimut hulidjuhiit (piqhigaangat, nipallipallaaraangat, qanniqpallaaraaangalluuniit, hilalukpallaaraangalluunit) una nunaup-hivuuranarningit (hilaumm nunauplu mayuqqaup qanurilinganingit) aktuqtauvagaat Havaanut igluqpaqarvikhaliurahuarnikkut unalu—utimut—ihumaaluutauvaktut qayangnarnikhanut inungnut avatingnullu. Hilaum aallannguqpallianingit inuuhianut uyaraqtarvingnut ihumagiyauvagaallu aktuqtaunianut Havaatigut.

Tiliugait haffumani Havaanut ihumagiyauvaktut aktuqtaunianut haffumani avatikhainut taimaa aktuqhimallualaaqtangit Havaatigut igluqpaqarvikhaliurutikhait, havaariyakhait ikaaruhiit, hulidjuhiinullu. Ihumagivagaattauq, nunaum qauyiharvingit ihivriurningit turaaqtauvaktut, huli ihivriuqhimmaaqtauvakhutik tiliuqtauvaktunut ikayuutauvlunilu naunaiqhiivlutik ihumaaluutainnit ilagivluniuk nunaup puvitquumannga unalu nunami-hivuuranarningit aktuumilaaqtangit Havaanut igluqpaqarvikhaliurutikhait. Tamainnut, nayugaanit uumani igluqpaqarvikhaliurutikhait ihuaqhiyauvagaat (uuminngatut, tautukhimayait qaiqtuit, piyaugumik) pittailinahuariangani ihuittumik inikhaanit angiyaaqtumik piyaugumik taimaa. Ihuinaarningit aktuqtaulaitkumi, igluqpaqarvikhaliurutukhait havattiaqtauhunnguyut tiliugainnut nunaup puvitquumanngahapummiyakhaat uuktuutingit unavyaktumik inikhaanit. Ukunanngat hivunngani tiliugainit tiliuqhimayait unalu havaangit, ilaliutauhimalugillu aadjiliugait qauyiharningit atuqtaulaaqtut ihuaqhigiangani kangiqhidjuhianut uumani nunaup qauyiharningit aahiillu aktuqtauhimaningit uumani avatikhanut.

ANGIKLIKTIQTAUHIMANINGIT UNALU KIGLILIURAHUARNIKHAINUT ATULIQTAUNINGIT

Ihumagiyauyut tunihimayauyut uumani ihumagiyauyukhat angikliktiqhimayauyut atuliqtauningit puqtuhiyauyut uumani Havaatigut atuliqtauningit ilaliutauhimayauyut uumani aahiit havaangit, uuminngalu atuliqtauningit ikaaqtaulaaqhunilu atanniqtuivingit kiglikhautikhait iluani aallat ilagiyait Kantami (qauyimayauvagaat aahiit kigliliuqtaunikhanut atuliqtauyukhanut). Aallamik ingattaqhiitailiyauvkahunilu aahiittauq kigliliuqtauhimaittunilu naunaiqhiiyut, ilangani hamnaguuq Ilainnaa 2 Havaangit naaguhiyaunngittuni atuliqtauhimaittuni qanilruani ilaliutauhimaittunigluuniit havaanut hulidjuhiinulluuniit ungahikpallaaqhimayumi.

AVATIKHAIT, AANNIAQTAILINIKKUT UNALU ATTARNIKHAINUT AMIQHAIVIKHANGIT

TMAC ilitarihimayangit nalaumattiaqtumik avatikhait amiqhaivikhangit nanminirilluaqtangit hivunikhautikhait. Hamna kampaniup *Ukpiruhuutait uvunga Malittiaqhimayait Nanminiriyakhaat Ukpiruhuut* ilaliutihimayangit aturaaqtakhait nanminiriyangillu ihivriurnikhait uumani avatikhait havaariyauyukhaat, huli ihivriuqhiivakhutik tiliugait unalu pilimmakhainirnut uumani avatikhait amiqhaivikhangit, aadjiliurahuaqtangit havaatigut nalaumaqpaingit uuktuutingit, taimaa avatikhangillu piyumayaukpat haffumani TMAC havaktunut aktuqhimayakhaat avatikhainnut amiqhaivikhangit havaangit. TMAC Attarnaqtumik, Aanniaqtailinnaqtumik, unalu Avatikhanuttauq Katimayiralaat ihivriuqattainnaqhugillu avatikhanut ingattarnikhainnut, qimilruqattaqhutik, nutaannguqtiqattaqhutiktauq kampaniup avatikhanut atuagait maligautaingillu, unalu kiuqattaqhutiktauq qanuq avatikhanut ihumaaluutiqarniqqat qilamiuqtumik. Ilagiyangillu, malikhugit haffumani Inuit Aktuqtaunianut Ikayuutikhangillu Angirutait, una Inuinnait Avatikhanut Kiuqattautivagaat Katimayiralaat qimilruinnaqpagaat avatikhait amiqhaivagaat upalungaiyautiit, niplautigivagaallu Havaatigut-ilagiyauyunut avatikhait akihautainit, ilaliutigivagaallu kiuyakhait TMAC nut.

Nalaumayumik amiqhaivikhangit upalungaiyautit iniliuqhimataaqtut aallatqiinut ilakhaita pivallianikkut haffumani Kapihiliktuum Havaariyakhaat. Haman qimilruqtauvlunilu uumani Ilainnaa 2 tamaat piluqutauhimayut nunaliit, Qitirmiut Inuit Katudjiqatigiit unalu ilagiyauhimayut kavamaita ilaudjutilgit qimilruqhimaniaqtangit amiqhaivikhangit ingattaqhittailinahuarnikhangillu uuktuutikhait. Kiuhimataaqtangit, atuqtaaqhimayangit amiqhaivikhangit upalungaiyautingit nutaannguqtiqtauniaqtuq aktuqtauvikhangit nutaamik arlingnaqtumik ilitquhikhaat uumani Ilainnaa 2 pulahimaittumi uvani atuqtaaqhimayainnit upalungaiyautimi.

INIRUTAANUT HAFFUMANI AVATIKHAINUT AKTUQTAUNIANUT KIUVINIIT

TMAC'iup Avatikhait Aktuqtaunianut Kiuviniit iniqhimayangit taamna Ilangani 2 Havaangit ihuittumik ihumaalungnaqtumik aktuqtaulimaittuni avatingnut, inungnut-ikayuutikhangit qanurilinganingit, nunaqatigiiktunulluuniit.

TMAC tiliuqaqhuni hamna Havaangit nainaaqtauyukhat aktuqtaunianut avatingnut. Hamna kampaningit malittiaqhimayait pivallianirnut uumani Ilainnaa 2 Havaangit aturaarnaqtumik ilitquhikhait ihumagiyauvaktut nunaqatigiingmiuttanit avatingillu. Uumani qimilruttiaqtumik ingattaqhittailinahuarnikhainut amiqhaivikhangillu, hamna Havaangit naaruhiyauyut avatingnut atkuqtauhimaittunilu, ilaliutigivluniuk maniliurahuarnikkut ikayuutikhait Inuinnainut nunaliit, nunangani iluani, Nunavunmilu tamainnut.

Executive Summary

INTRODUCTION

Project Overview

The Hope Bay Greenstone Belt (“the Property”) is TMAC Resources Inc.’s (“TMAC”, “the Proponent”) prime holding and is its sole focus for exploration, development and mining. TMAC holds mineral claims, leases and one Inuit Mineral Exploration Agreement that comprise an approximately 20 × 80 km property. These mineral holdings comprise the Hope Bay Greenstone Belt, on which the primary gold deposits Doris, Madrid North, Madrid South and Boston are located. The Hope Bay Belt is host to numerous other prospective areas which suggest that economic reserves will continue to be delineated, permitted and developed, creating a multigenerational operation.

Phase 2 Project (“the Project”) focuses on mining of the Madrid North, Madrid South, and Boston deposits by utilizing and expanding upon the Doris Project infrastructure for the integrated development of the Hope Bay Belt. The Project represents a timely opportunity to develop the well-established Hope Bay gold deposits into a long-term mining operation in Canadian Arctic that provides sustained economic stability and benefits for the Kitikmeot region. The development plan minimizes capital investment and builds on the existing assets to generate cash flow that can sustain continuing exploration and expansion.

Setting

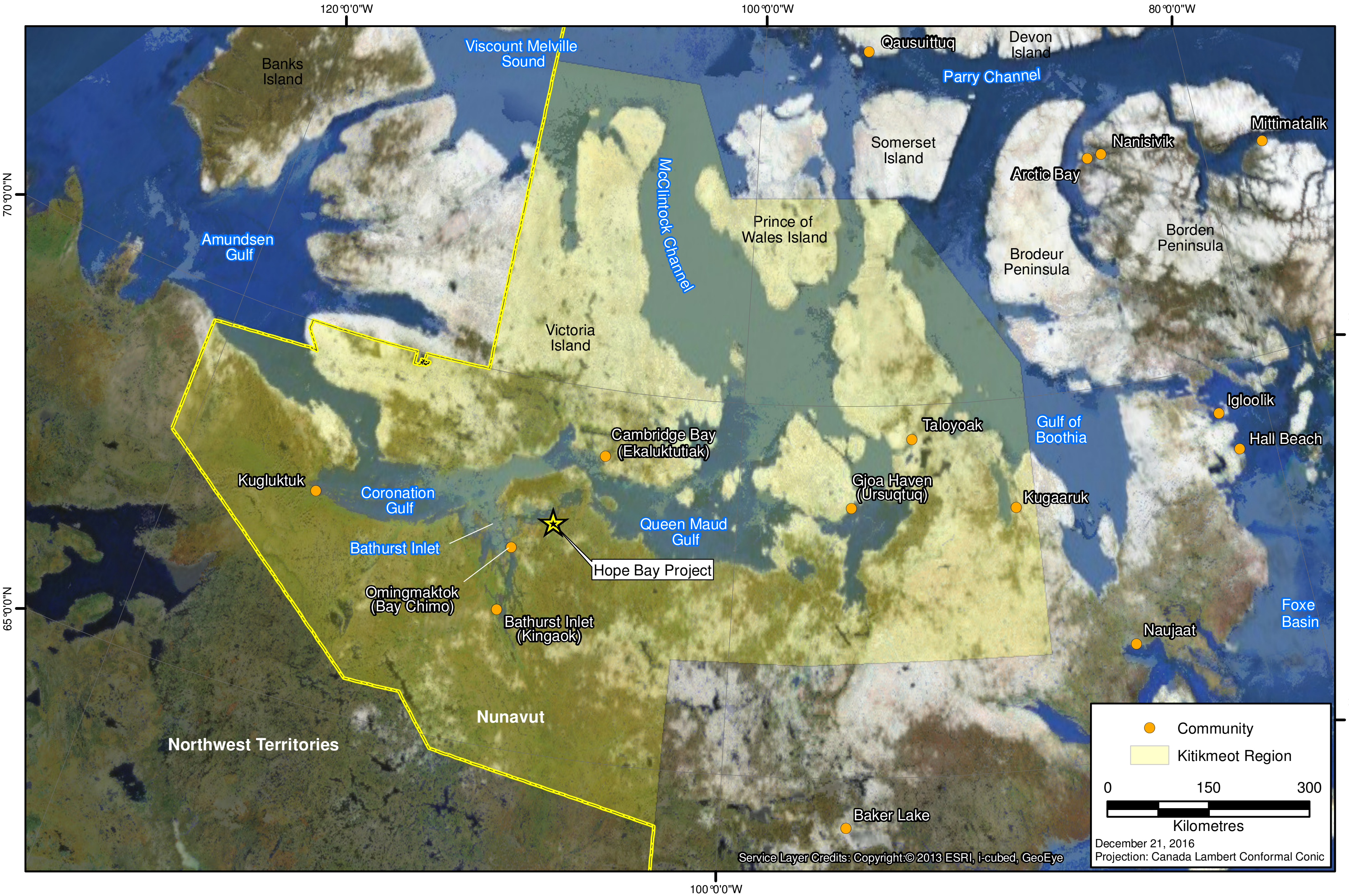
The Project is located east of Bathurst Inlet, approximately 150 km southwest of Cambridge Bay in western Kitikmeot, Nunavut, and 700 km northeast of Yellowknife (Figure 1). The nearest settlements are Omingmaktok, located approximately 60 km to the west, and Kingaok (Bathurst Inlet), located 130 km southwest. Both Omingmaktok and Kingaok are historical settlements; past residents have moved to Cambridge Bay or other communities, although the settlements continue to be used seasonally.

The northern portion of the Hope Bay Belt consists of several watersheds that drain into Roberts Bay, and the Koignuk River which flows into Hope Bay west of Roberts Bay. Watersheds in the southern portion of the belt drain into the upper Koignuk River. The entire area lies within the Bathurst Inlet-Burnside Watershed.

The EIS

TMAC’s Phase 2 Project is the result of a continual evaluation of the proposal put forward in 2011 by Hope Bay Mining Limited. In May 2012, the proposal was referred to the NIRB for public review pursuant to Part 5 of Article 12 of the Nunavut Agreement. Guidelines for the Preparation of the draft EIS were issued by the Nunavut Impact Review Board (NIRB) in December 2012. The NIRB’s current review of this draft Environmental Impact Statement for Phase 2 as defined by TMAC is a resumption of the review initiated in May 2012. The EIS is part of the environmental assessment process established for a project under the Nunavut Agreement.

Figure 1
Project Location



TMAC has prepared the EIS with the support of traditional knowledge, community input and perspectives, scientific experts, specialists, and consultants in various fields. Through the EIS, and the environmental assessment process, TMAC describes the Phase 2 Project in relation to the surrounding environment and proposed activities. Potential effects are predicted and mitigation plans are developed. Where residual effects exist (i.e., effects remaining after mitigation measures have been applied), the severity or "significance" of these effects is evaluated based on established criteria and expert opinion. The supporting information and assessment rationale are described in the EIS.

The Proponent

TMAC is a Canadian mineral development company with offices at the Project site, in Cambridge Bay, in Yellowknife, and in Toronto. TMAC purchased the Hope Bay Property from Newmont Mining Corporation in Mach 2013. Following this acquisition, TMAC resumed development of the Doris Project (Phase 1 of Hope Bay Project) and exploration activities on the Hope Bay Belt. TMAC is fully funded and well positioned for exploring, permitting, constructing, operating, and closing known and future gold deposits of the Hope Bay Project. The Company's executive, engineering and environmental teams have a wealth of Arctic development experience and are determined to continue the development of partnerships with local business and companies who have specific northern experience.

Kitikmeot Partnerships

Any project of the scale and importance of the development of the Hope Bay Belt cannot be done in isolation. Many partnerships are required and TMAC has been supported in its development goals by meaningful partnerships with two major Inuit organizations: Nunavut Tunngavik Inc. (NTI) and the Kitikmeot Inuit Association (KIA). The NTI is the partner organization that coordinates and manages Inuit responsibilities set out in the Nunavut Agreement. NTI holds the surface title and mineral rights to Inuit-Owned Lands (IOL) in Nunavut, including the surface rights over the entire Hope Bay Property and mineral rights over selected portions of the Property. The KIA administers the surface rights and the Inuit Impact and Benefits Agreement (IIBA) associated with TMAC's activities at the Property. The Kitikmeot Inuit Association (KIA) and TMAC will continue to share in existing and future benefits through partnerships and agreements already in place including the Framework Agreement, the Inuit Impact Benefits Agreement (IIBA) and the Commercial Lease. Both organizations fill important roles on behalf of Inuit and they ensure, along with TMAC, that the existing Framework Agreement and other, future agreements as required, will provide continued social and economic benefits for Nunavummiut, Nunavut, and, Canada while effective stewardship to the land is maintained.

THE PROJECT

Mine Plan

Approach

TMAC will achieve continuous mine operation at the Hope Bay Project through mining at Doris (the approved and existing Phase 1 of the Hope Bay Project), followed by the start of commercial mining of the Madrid North, Madrid South and Boston deposits. This staged approach will apply across construction, operation, reclamation and closure, and post-closure phases.

The Phase 1 (Doris) Project has already established infrastructure at Roberts Bay and the Doris Site including accommodations (with capacity for up to 280 people); an operating underground mine with ore and waste rock storage areas, an all-weather airstrip, a tailings impoundment area (TIA), 20 million liters of fuel storage, a process plant, and all associated infrastructure required to operate the mining operation.

Phase 2 construction activities will overlap with the Phase 1 operation activities at the Doris Site. The proximity of the Madrid area to the Doris Site, process plant, and TIA means that the Phase 2 Project can utilize existing infrastructure at Doris. This will reduce costs, minimize the footprint, and minimize the time required to develop the Madrid deposits, and support development of the Boston Site. The permitted infrastructure and facilities at Roberts Bay and the Doris Site have sufficient capacity to support Project construction for Phase 2.

The Phase 2 Project involves overlapping construction and production activities. The planned sequence of production activities for the Madrid and Boston sites are:

- Commence mining at Madrid North in Year 1 (2019) and continue to Year 13 (2031), with ore processing at the Doris and Madrid North process plants;
- Commence mining at Boston in Year 4 (2022) and continue to Year 14 (2032), with ore processing at the Doris Site in Years 4 and 5, and at the Boston process plant when it is operational in Year 6.
- Commence mining at Madrid South in Year 11 (2029) and continue to Year 14 (2032), with ore processing at the Doris and/or Madrid North sites.

Project Design Considerations

TMAC is committed to operating in a socially and environmentally responsible manner. To this end, the Company has taken an inclusive and proactive approach to the design of the Hope Bay Project, guided by a desire to avoid and mitigate potential adverse effects. Biophysical, socio-economic, cultural heritage, health and safety, and other studies and baseline information has been considered throughout the design of the Hope Bay Project and Phase 2. Where information is lacking, or cause-effect relationships are uncertain, TMAC has taken a precautionary approach to ensure that serious harm or damage is avoided.

Highlights of the Phase 2 design and planning considerations are summarized below.

- TMAC is committed to workplace **health and safety** and strives to provide a positive safety culture and an incident-free workplace.
- **Traditional Knowledge** (including *Inuit Qaujimajatuqangit* [IQ]) has been also been considered, including information about travel routes, wildlife movements, areas and wildlife of particular importance, and land use activities.
- **Socio-economic** benefits will be enhanced through efforts to hire (and train, where necessary) residents of Kitikmeot Region. Employment and business benefits are established in an Inuit Impact and Benefit Agreement (IIBA) established between TMAC and the KIA. Potential adverse socio-economic effects will be mitigated through progressive workplace programs such as the Employee and Family Assistance Program.
- TMAC has conducted **archaeological** surveys and information collection from sites over the history of the Hope Bay Project (including exploration activities) and has implemented a Standard Operating Procedure detailing the steps to be taken upon discovery of a new archaeological site. Sites are mapped and avoided wherever possible.
- Potential **biophysical effects** are minimized through the incorporation of mitigation measures within the project design. This includes respect for buffer zones, set-backs, avoidance of sensitive areas (e.g. bird nesting areas, fish-bearing streams) where possible, and minimizing habitat loss. Sensitivity mapping was used to identify sensitive ecosystems and habitats; this was also informed by traditional knowledge and cultural values.

- The design considers the potential implications of **climate change**. Analysis includes projections of future climatic and hydrological changes, and the design of mining infrastructure (e.g. roads, tailings management facilities) considered potential vulnerabilities to these changes.
- **Permafrost** has been characterized and geotechnical design principles related to permafrost have been developed. This accounts for changes in permafrost associated with climate change.
- A number of design changes are intended to mitigate **effects on land users**. This includes enabling land users to move through areas of roads and infrastructure so as to minimize effects of people travelling on the land.

Potential for Future Development

Consideration of potential future development is an integral part of the Project development. The Project itself is part of a staged approach to development of the Hope Bay Belt that may facilitate the identification, permitting and development of additional mining activities. The presence of existing infrastructure constructed or maintained for this Project would be of value to future projects.

Project Schedule

The Hope Bay Project integrates a series of the components and activities of four sites over the life of mine. Construction and operation activities on some sites are required to precede construction and operation on other sites. Similarly, closure and post-closure activities on some sites will start prior to the finish of operations on other sites. Overall, the schedule of the Phase 2 Project includes a four-year Construction phase (Year 1 to Year 4), concurrent with the initial part of the 14-year Operation phase (Year 1 to Year 14). Closure and reclamation activities begin in Year 14, and occur for four years in total. Post-closure activities are also staged, beginning in Year 16. Figure 2 illustrates the Project schedule for the various Phase 2 components.

Alternatives

The NIRB Guidelines require TMAC to provide a "go/no-go" analysis of the Phase 2 project, as well as to present alternative means of carrying out the project.

Go/No-Go

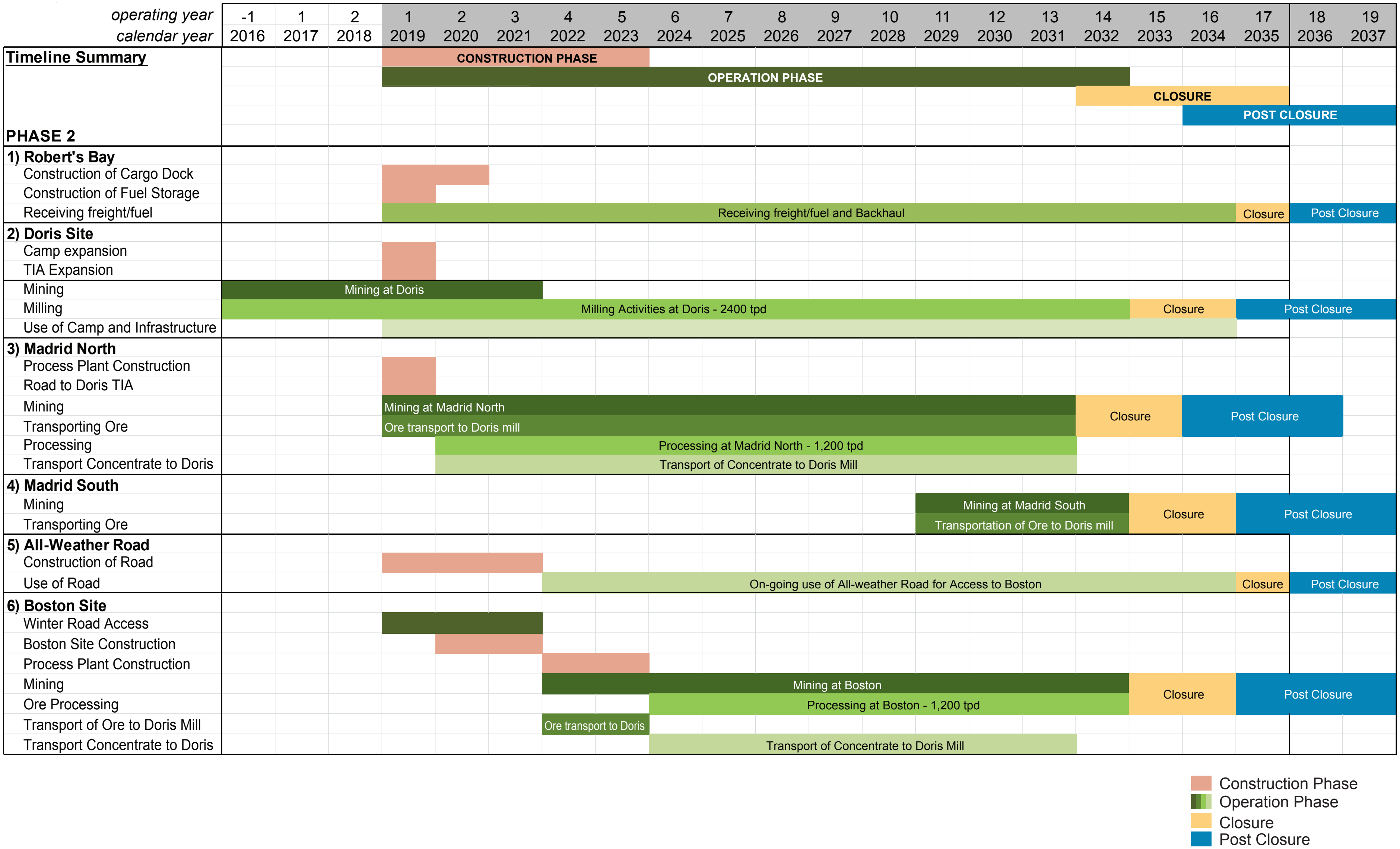
There are two possible outcomes for a go/no-go decision for the Phase 2 Project:

3. Proceed with the Phase 2 Project, as proposed within this Application.
4. Abandon the Phase 2 Project until such time that risks identified through analyses could be reduced or mitigated so as to enhance the Project feasibility.

TMAC believes that Phase 2 project is a viable project and should proceed to the benefit of all stakeholders including the KIA and NTI. This conclusion is based on the fact that Phase 2 represents a significant opportunity for the development of a new mining camp in the Canadian Arctic. The Hope Bay Property represents significant mineral exploration potential, and the Hope Bay Project assets are well advanced. Potential risks have been significantly diminished through expenditures both on- and off-site, including construction of on-site infrastructure. The development plan has been designed to minimize capital investment and build on the existing assets to generate cash flow that can sustain expansion and exploration.

Figure 2

Project Schedule



Predicted benefits of the Project to local communities include employment and economic benefits that support both lifestyles and pursuits of Inuit while providing the opportunity of continuing the integration of wage-based employment in Kitikmeot communities.

Alternative Means of Carrying Out the Project

The physical location of the deposits somewhat reduces the number of potential alternatives for the development of Phase 2 components. The development of each site requires a minimum amount of infrastructure such as mine portal, laydown areas, power supplies, fuel supplies, and, supporting facilities. The design for each site focuses on an efficient layout of infrastructure with a minimal footprint at each of the Project sites where mining occurs, and therefore, a wide range of options have been considered during the conceptual design phase in order to achieve an optimal layout of facilities at each sites.

Alternative means of executing the Phase 2 Project deal with the larger development of the Hope Bay Belt. Alternatives have been evaluated for the location of the cargo dock, access to the Boston Site via AWR and airstrip, surface mining methods versus underground mining methods, number and location of processing facilities, options for tailings management, and means by which to generate and supply power. Ultimately, the various alternatives were evaluated on the basis of technical and economic feasibility, environmental effects, reclamation potential, community acceptability, and socio-economic effects and benefits. TMAC believes that the project presented and assessed in the draft EIS is a thorough evaluation of the comprehensive and thorough proposal submitted by Newmont in December 2011.

Economic and Operating Environment

Employment Impacts

Over the total life-of-mine, the Phase 2 Project will generate an estimated 10,470 person-years of direct employment across Canada. This includes 2,307 person-years of direct employment associated with construction activities (6,685 person-years of total [direct, indirect, and induced] employment), and 8,162 person-years of direct employment (27,245 person-years of total employment) associated with mine operations. Employment will begin with an estimated 411 full-time equivalent (FTE) workers in Year 1, increasing to approximately 808 in Year 3, decreasing modestly for the next two years, and through the rest of the Operation phase, from between 824 to 865 FTE positions.

In Nunavut, 346 person-years of direct employment are predicted during Construction and 960 person-years of direct employment during Operation. All direct employment benefits in Nunavut are expected to be realised in the Kitikmeot Region during Operation, and the majority (90%) of Nunavut's employment benefits during Construction are also expected to be Kitikmeot-based. Table 1 summarizes the predicted economic impacts of the Phase 2 Project.

Local Hiring and Procurement

TMAC estimates that approximately 15% of the construction workforce and up to 30% of the operation workforce will be sourced from Nunavut. Employment opportunities will focus on hires from the Kitikmeot communities of Cambridge Bay, Kugluktuk, Gjoa Haven, Taloyoak, and Kugaaruk. Under the IIBA (March 2015), the top priority for hiring is for Inuit residents in the Kitikmeot Region.

Table 1. Predicted Economic Impacts

Economic Benefits	Construction (Year 1 to Year 4)			Operation (Year 5 to Year 14)		
	Canada	Nunavut	Kitikmeot	Canada	Nunavut	Kitikmeot
Total Employment (person-years)[1]	6,685	473	358	27,245	1,740	1,419
• Direct Employment (person-years)	2,307	346	312	8,162	960 (all in Kitikmeot)	
GDP ($ million)	$727.4	$58.1	$40.0	$3,073.7	$229.8	$190.4
Tax Revenue ($ million)	$143.9	$10.1	$6.7	$528.4	$30.8	$24.1
• Federal	$81.2	$6.5	$4.5	$286.4	$18.6	$9.3
• Provincial/Territorial	$62.7	$3.6	$2.2	$242.1	$12.2	$14.8
Labour Income ($ million)[2]	$526.6	$50.3	$36.2	$2,236.7	$192.1	$170.5
• Direct Employment Income	$287.1	$42.8	$34.3	$1,248.2	$147.1 (all in Kitikmeot)	

Notes:
[1]"Total Employment" estimates include direct, indirect, and induced employment generation.
[2]Labour income includes personal income benefits associated with direct, indirect, and induced employment opportunities.
Source: ERM, 2016. Hope Bay Project: Economic Impact Model Report.

TMAC is also committed to maximizing contracting opportunities for Kitikmeot Qualified Businesses. As outlined in the IIBA, Kitikmeot Qualified Business contracts represent contracts for goods and services only open to bids from Kitikmeot Qualified Businesses, whereas Open Contracts are for the provision of goods and services not provided by Kitikmeot Qualified Businesses. TMAC, in collaboration with the KIA and other appropriate agencies, will work to establish a bid preparation training program for Inuit business operators. Overtime TMAC believes that the Phase 2 project will help facilitate capacity building in the Kitikmeot and Nunavut which should assist with greater employment opportunities for future Nunavummiut.

Workforce Accommodation and Transportation

It is expected that the total workforce at the Hope Bay Project (construction and operation crews) will peak at up to 600 individuals. The Doris accommodation will be expanded to house 400 persons while a new 200-person accommodation will be constructed at Boston. Employees working at the Madrid sites will be housed at Doris.

The Project will be a fly-in/fly-out operation. Chartered flights between Edmonton/Yellowknife and the site will run four times per week, and will transport employees not based in Nunavut. Nunavut residents are to be transported from local communities through Cambridge Bay to site. All personnel will operate on a three-weeks-on/three-weeks-off basis.

Project Infrastructure and Activities

Existing Infrastructure

Existing (and/or approved) site infrastructure that will be in use for other operating/exploration projects and that may also be used to support Project construction activities includes: the Doris Site accommodations with capacity for up to 280 people; Doris airstrip; Roberts Bay offloading facility and road to Doris; and the Madrid North and Madrid South sites and access roads; and the accommodations and airstrip at Boston.

New and Expanded Infrastructure

The proximity of the Madrid area to the Doris Site, process plant, and TIA provides the opportunity for the Phase 2 Project to utilize existing infrastructure at Doris, thereby reducing costs and minimizing the footprint. Table 2 summarizes the planned new construction and/or expansion of existing infrastructure associated with Phase 2.

Table 2. New and Expanded Infrastructure

Location	Construction and/or Expansion Activities
Roberts Bay	• Construction of an off-loading cargo dock at Roberts Bay. • Construction of a 10 ML diesel tank farm (i.e., two 5 ML tanks). • Extension of service/access roads to cargo dock.
Doris Site	• Expansion of accommodations. • Expansion of the Doris Tailings Impoundment Area (TIA), to raise the south dam and construct the west dam.
Madrid North	• Completion of the Madrid North underground workings. • Incremental expansion of surface infrastructure at Madrid North to accommodate production mining, including the processing plant, power plant, laydown area, and, stockpile areas. • Construction of a 1,200 tpd processing plant and a power plant at Madrid North. • Construction of all-weather access road and tailings line from Madrid North to the south end of the Doris TIA. • Construction of maintenance facilities and other buildings required to support mining activities. • Construction of all other infrastructure necessary to support mining and milling activities at Madrid, including fuel storage, ore pad, waste rock pad, and contact water pond. • Construction of other infrastructure necessary to support ongoing exploration activities at both Madrid and Boston. • Development of quarries for construction and for use as backfill in the mine.
Madrid South	• Completion of the Madrid South underground workings. • Incremental expansion of surface infrastructure at Madrid South to accommodate production mining. • Construction of all infrastructure necessary to support mining activities at Madrid South including fuel storage, ore pad, waste rock pad, contact water pond. • Development of quarries for construction and for use as backfill in the mine.
All-Weather Road	• Construction of Madrid-Boston AWR linking Madrid and Boston sites, inclusive of all stream crossings along the road alignment. • Development of quarries for construction of the AWR.
Boston	• Construction of all-weather airstrip at Boston. • Construction of all infrastructure necessary to support mining and processing activities at Boston including construction of a new accommodation (200 beds) and associated support facilities (sewage treatment, incinerator, water supply), ore pad, waste rock pad, concentrator, and dry-stack tailings management area (TMA), laydown area, maintenance facilities, contact water ponds. • Construction of Boston Site processing plant. • Construction of a power plant and fuel tank farm. • Construction of a wastewater treatment plant including discharge outfall to Aimaokatalok Lake. • Other infrastructure necessary to support ongoing exploration activities at Boston.

Borrow Pits and Quarry Sites

The development and ongoing maintenance of Project facilities and infrastructure will require the development of quarries for aggregate sourcing. The Project design has identified all potential quarry sites and the quarry material is geochemically stable. Up to 5 Mt of quarried material will be required for Phase 2 Project construction.

Shipping and Transportation

Roberts Bay will receive all fuel, equipment and material required for Phase 2 Project construction and operation with the exception of special or timely items that will need to be flown in. During both phases, TMAC expects to receive up to three fuel shipments, and three to four cargo vessels (sealifts for materials, equipment, freight, and resupply) each open-water season.

Phase 2 will utilize a network of project site roads of roads. Speed limits will be enforced for safety purposes. Personnel will be transported on charter aircraft from Edmonton, Yellowknife, or Kitikmeot communities. Air freight service will utilize regular crew transports, as well as freight aircraft. A new 2,000 m-long airstrip will be established at the Boston Site. This airstrip is designed for aircraft such as Dash-8 and Boeing 737-200 and would also allow larger aircraft such as Hercules C-130. There is also an existing all-weather airstrip (and ice airstrip) at the Doris Site.

Madrid-Boston All-Weather Road

The Madrid-Boston All-Weather Road (AWR) will be a new facility constructed for the Phase 2 Project. The road is designed to be a single-lane road with turnouts to allow for passing. Haul trucks will be used to construct the road and will travel the road hauling ore and concentrate during the Operation phase.

Mining Methods

The Doris, Madrid, and Boston deposits will occur in permafrost and in non-permafrost conditions. In particular, the Madrid deposits are situated partially beneath lakes, and are therefore not entirely under permafrost conditions, whereas the Boston deposit is in permafrost conditions. The deposits will be accessed by ramp declines from the surface, and ramps will also be used to haul ore and waste from underground. Underground mining activities will incorporate several methods that address the geometry and anticipated ground conditions of the deposits.

Waste Rock and Tailings Management

The use of mining methods will generally minimize waste rock material brought to the surface, thereby reducing the potential for contact water at the surface, and minimizing blasting and fuel requirements for haulage out of the mine. Waste rock will be used as backfill prior to closure. Each of the mine sites includes a waste rock pile located as close as practicable to the mine portals. Waste rock generated by the Project has been characterized and does not pose a risk of acid drainage.

Ore Management and Mineral Processing

During Phase 2, ore stockpiles will be established at the Madrid North, Madrid South, and Boston sites. The existing Doris processing plant is operational and will continue to be used in Phase 2; the Doris ore stockpile will also continue to be used. Ore will be processed at Doris, Madrid North, and Boston sites; all ore mined at Madrid South will be hauled by truck to the Doris or Madrid North process plants. The Madrid North processing plant (1,200 tpd) and Boston processing plant (1,200 tpd) will produce concentrate that will be transported to Doris for gold extraction. Excess ore mined at Madrid North will also be transported to Doris for processing. It is expected that from Year 4 to Year 6, ore from the Boston Site will be trucked to Doris until the Boston processing plant is operational in Year 6.

Tailings Management

The tailings produced at the Madrid North processing plant will be pumped to the Doris TIA through a pipeline along an access road. Operation of the Doris TIA will continue as currently authorized. The tailings produced at the Boston processing plant will be dry-stacked at Boston.

Water Management

Water management for the Doris TIA follows the authorizations under the Type A Water Licence 2AMDOH1323. Water management will be modified so that the Doris TIA will receive all site surface and underground mine water that does not meet discharge criteria, including: water collected from Madrid contact water ponds; flotation tailings from ore processing and concentrate processing (all sites); and intercepted groundwater from the Madrid sites. Water that meets discharge criteria (set forth in the Type A Water Licence) will be discharged to Roberts Bay via the marine outfall. Concentrate tailings will be placed underground with waste rock.

The volume of water reclaimed from the Doris TIA will be maximized in order to minimize the need for freshwater make-up from Doris Lake. Domestic (potable) water for Doris Site will continue to be drawn from Windy Lake; industrial water will be drawn from Doris Lake. At Boston, domestic and industrial water will be drawn from Aimaokatalok Lake; wastewater, including mine contact water, will be reused, and treated wastewater will be discharged to Aimaokatalok Lake via an outfall. Treated domestic water at Boston will be discharged to the tundra.

Waste Management

Non-hazardous waste will be segregated and disposed of by incineration, landfill, or open burn. Domestic waste generated at Madrid will be trucked to Doris and integrated with the Doris waste stream for handling and disposal. A new incinerator and a landfill will be constructed at Boston.

The fully functional Boston accommodations will include a biological sewage and greywater treatment plant. Discharge of the treated effluent will be to the tundra or into Aimaokatalok Lake with other site discharges. The sludge will be incinerated or trucked underground for disposal with the backfill waste. There will not be accommodations at the Madrid North or South sites; black- and gray-water waste will be collected (via portable facilities) and transported for disposal at the Doris Site sewage treatment facility.

Utilities, Storage, and Auxiliary Services

The power load requirement for Phase 2 (mine, mill, and site-related facilities) will peak at approximately 85,000 MWh/yr. The existing Doris power plant has sufficient capacity to support the Doris Site. A dedicated power generation plant will be established at Madrid North (three 1.2 MW units) and Boston (eight 1.2-MW units with 725-KW standby generator). Power required at Madrid South will be supplied by generators (two 725-KW generators with one 350-KW emergency standby generator). Power lines connecting all sites will eventually ensure a more stable and efficient power network with wind power being explored as a means to supplement diesel power generation across the belt.

Diesel fuel will arrive at the Roberts Bay port and will be primarily stored at the tank farm at Roberts Bay (35 ML), with supplemental storage at the existing Doris tank farm (7.5 ML) and new tank farms at Madrid North (4.5 ML) and Boston (4.5 ML). Bulk fuel trucks will transport fuel between Roberts Bay and the sites. Explosives will be stored in authorized magazines; magazines are currently located at the Doris Site and smaller storage facilities will be established at the Boston Site. Hazardous materials (including reagents) will be transported, handled at stored in accordance with the requirements of the Transportation of Dangerous Goods Act; the primary reagent storage facilities are at the Doris Site. Hazardous waste will be removed from the site for authorized disposal.

The Hope Bay Project has limited access points due to the remote location. All persons entering and leaving the site are tracked and approved prior to boarding aircraft, and will be oriented to the site regulations and procedures. There is zero tolerance for alcohol or drug use at the site. Workers will be trained to identify and respond to fire hazards, and formal evacuation procedures will be maintained. An emergency response team will be trained and equipped to deal with emergencies.

Environmental Management

TMAC's Environmental Management System (EMS) is the high-level framework that enables the proper implementation of the Environmental Management Plans (EMPs). The list of EMPs also includes a series of socio-economic management plans to be updated as required. TMAC's commitment to environmental management is integrated through all levels of company. Overall, the EMS and associated EMPs provide the means by which TMAC will monitor, evaluate, and report on the performance of mitigation measures to manage potential adverse effects and enhance socio-economic benefits.

Specific EMPs are already in place for the previous phases of development of the Hope Bay Belt, and TMAC does not expect the core content of these plans to change significantly over the life of the Project. However, plans will be updated to respond to changes in regulations and reporting requirements, evolving organizational structure, monitoring information (i.e., adaptive management) and review of Phase 2 during the NIRB and NWB processes.

Closure and Reclamation

Most of the Hope Bay Project areas will be actively used during the Construction and Operation phases of the Project. However, where practicable, areas which are no longer needed to carry out Project activities will be progressively reclaimed.

A Phase 2 Closure and Reclamation Plan has been prepared and addresses three closure scenarios:

- **Short-term temporary mine closure** may occur if activities are suspended for a period of less than one year. The project will enter a Care and Maintenance phase, wherein equipment and facilities are maintained in a state of readiness to resume operation, while also maintaining appropriate environmental protection measures.
- **Long-term temporary mine closure** occurs when activities are suspended (in Care and Maintenance) for more than one year (e.g., due to prevailing economic conditions). In this scenario, TMAC will ensure that sites are maintained in a secure condition; all facilities and equipment are de-energized and winterized, and hazardous waste and explosives are removed from the site. Essential personnel (including environmental staff) will maintain site security and monitoring. A Long-term Care and Maintenance Plan would be submitted, and operations would resume when the influencing circumstances change.
- **Final mine closure** would involve full closure and reclamation activities as described in the Phase 2 Mine Closure and Reclamation Plan. This includes removal of site buildings and infrastructure. The Doris and Boston tailings facilities will be prepared for long-term closure, with reclamation and monitoring measures to ensure environmental integrity. The Boston airstrip and the Madrid-Boston AWR will remain in place as a permanent permafrost protection measure, although peripheral equipment (e.g., signposts) and water management infrastructure (e.g., drains, culverts, bridges) will be removed.

The site abandonment goal of the final closure activities is to return Project sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities. TMAC's closure principles, objectives and criteria have been developed to achieve this future land-use goal in as short a duration as reasonably practical. Post-closure monitoring will take place at the site until such time that the objectives of the closure and remediation activities have been met to the satisfaction of the regulatory authorities and all affected parties.

CONSULTATION AND ENGAGEMENT

Public Consultation and Engagement

TMAC is committed to public consultation and engagement. Public information and input has been achieved for the Phase 2 Project in a variety of ways, including community meetings and one-on-one meetings with hamlets, the KIA and NTI, and other groups, and wildlife workshop with local elders and harvesters. Outreach materials written in non-technical, accessible language have been circulated and translated into Inuktitut and Inuinnaqtun. Through the Phase 2 engagement program to date, Kitikmeot Inuit have provided local knowledge and raised questions and concerns regarding the Phase 2 Project.

Government Engagement

TMAC's government engagement efforts focus on providing review agencies with comprehensive information regarding the Phase 2 Project. Timelines and milestones are routinely communicated to review agencies so that they can more effectively plan their workloads and be sufficiently prepared to participate in the environmental assessment process. All Project-related correspondence with government agencies is copied to NIRB so that it becomes part of the public record.

In September 2016, TMAC invited representatives of the KIA and federal and territorial review agencies to tour the Hope Bay Project (including existing facilities and Phase 2 sites).

Traditional Knowledge

Traditional Knowledge (TK) is a term used to capture the knowledge held by Inuit of the land and wildlife, the Earth's natural processes, and of ways to ensure harmony and balance in life. TK studies provide a valuable way of documenting spatial and temporal patterns of hunting, harvesting, fishing, habitation, and travel in a given area. They can also provide detailed information on local ecological processes, socio-cultural patterns and institutions, spirituality, ethical, and other matters.

TMAC has considered TK in the Phase 2 Project design, baseline studies and assessment of Valued Ecosystem Components (VECs) and Valued Socio-Economic Components (VSECs), and development of mitigation and management plans. A significant amount of TK collected for the Project has been sourced from the Naonaiyaotit Traditional Knowledge Project (NTKP) database. The NTKP is the foundation for recorded and geo-referenced Inuit TK in the western Kitikmeot Region. The Project is located in an area that has seen considerable historic use by Inuit, as demonstrated by the large number of gathering places and travel routes identified in the RSA. This is likely due to the abundance of terrestrial, freshwater, and marine wildlife resources that have traditionally been found in the region and harvested by Inuit.

Of particular note, TK (and the broader body of Inuit knowledge known as *Inuit Qaujimajatuqangit*, or IQ) informed the wildlife studies of past and current trends in wildlife migration and potential disruptions to wildlife movements. Targeted workshops were held with local representatives to understand and discuss how other Project infrastructure such as roads can be built and operated in a way that minimizes potential impacts to wildlife.

ENVIRONMENTAL SETTING

Physical Setting

The climate in the Hope Bay Project area is one of extremes. There is relatively little precipitation, and temperatures stay below freezing for most of the year, reaching over 20 degrees for short periods in the summer. Summer is a season of nearly constant light, while darkness, twilight, and extreme cold dominate winter.

Inuit have noted changes in climate trends (as recorded in a Naonaiyaotit Traditional Knowledge Project report), and their observations are supported by historical climate data collected over the last half a century. While predicting the effects of climate change is difficult, effects are believed to include higher temperatures and precipitation, which in turn may affect permafrost and snow depth.

Air quality in the Hope Bay Project area and elsewhere in Nunavut is generally of good quality, reflecting the low amount of air pollution from large human populations. Outside of the Hope Bay Project area, most air emissions are from the use of diesel generators, heaters, vehicles, snowmobiles, all-terrain vehicles and boats. Noise levels are generally low.

The Phase 2 Project is located on the Canadian Shield, a huge geological formation made up of ancient volcanic rock scraped level by glaciers. Exposed bedrock outcrops are common. Sediment deposited by glaciers and rivers have collected to form long, winding ridges known as eskers. Phase 2 is within the continuous permafrost region of western Nunavut, where a layer of soil and rock stays frozen year-round.

Biological Setting

Where rock outcrops, water and cliffs are absent on the landscape, trees and summer flowers are numerous and dense in the tundra of the Phase 2 Project area. Trees are short and stunted forms of dwarf birch, green alder, willow, and white and black spruce can be found in some areas. Sedge meadows and wetlands are common in low moist areas. More than 870 plant species grow in the Phase 2 Project area, including many species of lichens, mosses, and algae.

Terrestrial animals in the region include barren-ground caribou (of the Dolphin/Union, and Beverly herds), muskox, grizzly bear, wolverine, and grey wolves, as well as several species of raptor, waterfowl, and upland breeding birds. Caribou and caribou hunting are central to Inuit culture, identity, recreation, and kinship and are of economic importance to the Inuit and other residents of Nunavut.

Four species of cliff-nesting raptors (peregrine falcon, gyrfalcon, rough-legged hawk, and golden eagle) and three ground-nesting raptor species (snowy owl, short-eared owl, and northern harrier) may live in the area. Waterbird species in the Phase 2 Project area include geese, tundra swan, several species of ducks, gulls, Arctic tern, four species of loons, and sandhill crane.

A total of fourteen fish species are found in lakes, ponds, and streams in the Phase 2 Project area. The most common fish species is the Ninespine Stickleback, followed by Lake Trout, Arctic Char, Arctic Grayling, Slimy Sculpin, Lake Whitefish, Cisco, Least Cisco, Burbot, Broad Whitefish, Arctic Flounder, Fourhorn Sculpin, Greenland Cod, and Starry Flounder. The latter four species were captured at the downstream ends of outflows leading to Roberts Bay.

Marine fish species include Saffron Cod, Capelin, Arctic Flounder, Pacific Herring, Fourhorn Sculpin, Arctic Char, and Greenland Cod. Ringed seals are sometimes seen in Roberts Bay.

Human Setting

Social and economic conditions in Nunavut are unique within Canada and have changed significantly over the last 50 years. In the late 1950s and early 1960s, many people transitioned from a semi-nomadic hunter-gatherer existence to live in predominantly permanent or settled communities.

Following the collapse of pelt prices in the 1950s and a series of epidemics that killed many Inuit, the family allowance program was introduced in 1947 and became a primary source of income for many who had relocated to settlements. Previously, gathering among Inuit was seasonal and kinship-based, but the settlements gathered together a large number of Inuit from different kin groups.

Moving to a wage economy was disruptive to social roles within Inuit culture. Hunters, who had been the most highly respected leaders, started to take on employment, with varying degrees of success. Prestige became increasingly associated with what money could buy. In the settlements, economic inequality was common, and households cooperated with each other less frequently. Authority that used to belong to elders shifted to the government. Improved medical care and government payments contributed to an increase in birth rates.

The resulting social and economic conditions are not a matter of 'old ways' and 'new ways', but rather a blend created by Inuit to navigate their current realities and the continuously changing elements of social and economic life, forming the context within which the proposed Phase 2 Project might be developed and contribute to further social and economic change. Kitikmeot communities continue to face a number of social and economic challenges, such as high unemployment rates, low levels of education, and the need to improve health outcomes.

Nunavut is being explored for uranium, diamonds, gold and precious metals, base metals, iron, coal, and gemstones. Within the Kitikmeot region TMAC's Doris mine is the only operating mine, but there are three advanced exploration projects and 14 active mineral exploration projects.

There are local and commercial land uses in the area. Commercial land use is minor, consisting of sport hunting, guide-outfitting and lodges, and tourism (e.g., nature tourism, recreation, and cruise ships). One lodge offers tourism activities (e.g., hiking, wildlife observation, and photography). Sport hunters and harvesters rely upon muskox, caribou, wolf, and wolverine. Land uses consist of hunting, trapping, fishing, camping and travel. Harvested game is used for personal consumption and shared throughout the community.

PROJECT INTERACTIONS AND EFFECTS

Valued Components

Valued Ecosystem Components (VECs) and Valued Socio-economic Components (VSECs) are, respectively, those components of the natural and human environment considered to be of scientific, ecological, economic, social, cultural, or heritage importance. Valued components for the Phase 2 Project were scoped through a process of public consultation, regulatory engagement, review of traditional knowledge, and recommendations included in the NIRB EIS guidelines; candidate VECs and VSECs were also considered in terms of their potential interaction with the Phase 2 Project.

Based on this information, TMAC identified the VECs, VSECs, and other Subjects of Note for the Phase 2 Project. Valued components are related to the atmospheric, terrestrial, freshwater, marine, and human environments, and are listed below by subject area.

The following sections and Tables 3 to 5 summarize the key findings of the EIS with reference to potential effects for each VEC and VSEC, proposed mitigation and management actions, residual effects, and the overall significance ratings of the predicted impacts.

Atmospheric Environment	Terrestrial Environment	Freshwater Environment	Marine Environment	Human Environment
• Ambient Air Quality • Noise and Vibration	• Vegetation • Special Landscape Features • Caribou • Grizzly Bear • Muskox • Furbearers • Raptors • Waterbirds • Upland Breeding Birds	• Surface Water Quantity • Water Quality • Sediment Quality • Fish Habitat • Fish Communities ▪ Arctic Grayling ▪ Lake Trout ▪ Arctic Char ▪ Cisco/Whitefish	• Water Quality • Sediment Quality • Fish Habitat • Fish Communities ▪ Arctic Char ▪ Saffron Cod • Ringed Seal • Marine Birds	• Archaeological Sites • Economic Development • Business Opportunities • Employment • Education and Training • Migration, Housing, and Infrastructure and Services • Community Health and Well-being • Commercial Lane and Resource Use • Traditional Activities and Knowledge • Human Health and Environmental Risk Assessment

Atmospheric Environment

Phase 2 Project activities such as vehicle use and power generation will produce air emissions, which have the potential to affect ambient air quality. However, as the Project is in a remote location far from the nearest community, it is unlikely that members of the public will be inside the affected area for any extended period of time.

The Phase 2 Project will emit greenhouse gas emissions throughout its lifetime due to power generation and vehicle use and other activities (for example, incinerating waste and use of explosives). These emissions will take place during the Construction and Operation phases. The estimated greenhouse gas emissions are comparable to other mine projects in Nunavut and Northwest Territories, but low in comparison to national and global greenhouse gas inventories.

Terrestrial Environment

Construction of the Phase 2 Project will involve clearing vegetation to build Project components. TMAC has designed the Project to avoid sensitive areas, protecting sensitive habitats wherever possible, and reducing the amount of dust Phase 2 activities deposit on plant life. At closure TMAC will reclaim the area ensuring that vegetation can naturally regenerate.

The Dolphin and Union (Island) caribou herd migrates across the sea ice between Victoria Island and the mainland in the spring and fall. Shipping will be conducted during the open water season to protect the migration of this herd.

Table 3. Summary of Atmospheric and Terrestrial Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Atmospheric Environment	Ambient Air Quality	• Changes to ambient air quality	• A portion of the TIA will be subaqueous to help reduce fugitive dust emissions • Stacks with sufficient height to help reduce ground level air contaminates • Road and infrastructure optimization to reduce transportation and haul distances • Employee training and instruction relating to process control and air emissions • Waste recycling program to reduce incinerated waste • Emission control systems used on equipment, where applicable • Fuel efficient and low emission equipment use, where applicable • Regular equipment servicing and preventative maintenance • Dust suppressants applied to roads, stockpiles, TIA and TMA where needed • Road speed limit of 50 km/hr • Contour stockpiles and install engineering dust controls, where needed • Adaptive management through air quality monitoring • Stack testing and reporting, when applicable • Ongoing dust deposition and airborne particulate monitoring and reporting	• Changes to ambient air quality	Not significant
	Noise and Vibration	• Effect on Humans • Effect on Wildlife	• Ensure equipment is fitted with appropriate mufflers and silencers; • Use enclosures, berms, acoustic screening and shrouding where stationary sources requiring control (noise reduction at the source) are identified. • Ensure equipment is well maintained. • House stationary high noise emitting sources in buildings. This will target fixed milling, power generation, processing, and material handling (i.e. crushing) infrastructure • Haul road designed to optimise the haulage route to avoid receptors, where feasible, and to minimise the distance travelled to reduce the overall noise generation	• Effect on Humans • Effect on Wildlife	Not Significant (see Terrestrial Wildlife VECs)

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Vegetation and Special Landscape Features	Vegetation	• Loss of vegetation	• Minimize footprint of facilities • Avoidance of sensitive areas and rare plants during Project design • Minimize disturbance of vegetation, permafrost and soils outside of Project footprints	• Loss of vegetation	Not significant
		• Alteration of vegetation	• Limit dust production - dust suppressants on roads • Speed limits to reduce dust generation • Vehicles restricted to site roads and quarry footprints and ice roads • Minimize soil degradation (i.e., erosion) by establishing and implementing erosion control • Progressive reclaim unused disturbed areas where possible • Monitor water quality to meet discharge requirements • Adequate fill depths to ensure preservation of permafrost	None Predicted	-
	Special landscape features	• Loss of special landscape features	• Avoidance of rare of sensitive areas and rare plants during Project design • Minimize disturbance of vegetation, permafrost and soils outside of Project footprints	• Loss of special landscape features	Not significant
		• Alteration of special landscape features	• Limit dust production - dust suppressants on roads • Speed limits to reduce dust generation • Vehicles restricted to site roads and quarry footprints and ice roads • Minimize soil degradation (i.e., erosion) by establishing and implementing erosion control • Progressive reclamation of unused disturbed areas where possible • Monitor water quality to meet discharge requirements • Adequate fill depths to ensure preservation of permafrost	None Predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Terrestrial Wildlife and Wildlife Habitat	Dolphin and Union (Island) herd	• Habitat loss • Disturbance • Disruption of Movement • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Open water shipping only to avoid affecting ice while Dolphin and Union caribou migrate on the Dease Straight • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if caribou present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.	• Habitat loss • Disturbance	Not significant
	Beverly/Ahiak herd	• Habitat loss • Disturbance • Disruption of Movement • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if caribou present • Speed limits to minimize the chance of collisions with wildlife. TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.	• Habitat loss • Disturbance	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Terrestrial Wildlife and Wildlife Habitat (*cont'd*)	Muskox	• Habitat loss • Disturbance • Disruption of Movement • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if muskox present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.	• Habitat loss • Disturbance	Not significant
	Grizzly Bear	• Habitat loss • Disturbance • Disruption of Movement • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if bears present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so. • Waste management, camp hygiene along with employee education will limit the attractiveness of the Project for bears.	• Habitat loss • Attraction to the Project	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Terrestrial Wildlife and Wildlife Habitat (*cont'd*)	Furbearers (Wolverine	• Habitat loss • Disturbance • Disruption of Movement • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so. Waste management, camp hygiene along with employee education will limit the attractiveness of the Project for furbearers	• Habitat loss • Attraction to the Project	Not significant
	Raptors	• Habitat loss • Disturbance • Attraction to the Project • Direct Mortality • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Clearing and construction at sensitive locations for ground-nesting raptors to occur outside of the sensitive time periods (breeding period) or to be accompanied by nest survey during sensitive periods; • Avoidance of known nests or nesting areas, where possible	• Habitat loss • Disturbance	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Terrestrial Wildlife and Wildlife Habitat (*cont'd*)	Waterbirds	• Habitat loss • Disturbance • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Conduct ground clearing outside of sensitive nesting periods for waterbirds or conduct pre clearing surveys for waterbirds if construction cannot be scheduled outside of sensitive periods policies that prohibit hunting on site, littering, and feeding wildlife; • Speed limits, giving wildlife the right of way, and dust control on roads; • Avoidance of areas of large concentrations of foraging or moulting birds • Avoidance of known nests or nesting areas	• Habitat loss • Disturbance	Not significant
	Upland Birds	• Habitat loss • Disturbance • Attraction to the Project • Direct Mortality • Increased Access and Harvest • Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Conducting ground clearing outside of sensitive nesting periods for upland birds or conduct pre clearing surveys for upland breeding birds if construction cannot be scheduled outside of sensitive periods. • Ensure that waste management facilities and Project buildings are wildlife-proof • policies that prohibit hunting on site, littering, and feeding wildlife; • Speed limits, giving wildlife the right of way, and dust control on roads; • Avoidance of known nests or nesting areas	• Habitat loss • Disturbance	Not significant

Table 4. Summary of Freshwater and Marine Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Surface hydrology	Surface water quantity	• Alteration of Streamflow at Doris Watershed • Alteration of Streamflow at Windy Watershed • Alteration of Streamflow at Aimaokatalok Watershed	• Using existing infrastructure, and minimizing footprint and contact water • Recycling and reusing contact water • Following permit conditions for water withdrawals • Contact water storage facilities designed for high flows • Incorporation of climate change in design flows • Implementation of erosion control measures • Adherence regulatory requirements for culvert maintenance and in-water work • Monitoring ponds and the TIA • Using groundwater to reduce fresh water consumption	• Alteration of streamflow in Doris Watershed • Alteration of streamflow in Windy Watershed • Alteration of streamflow in Aimaokatalok Watershed	Not significant
Freshwater Water Quality	Surface water quality	• Site Preparation, Construction, and Decommissioning • Site and Mine Contact Water • Water Use • Quarries and Borrow Pits • Explosives • Fuels, Oils, and PAH • Treated Sewage Discharge • Dust Deposition	• Use existing infrastructure for Doris Project and minimize footprint of Phase 2 infrastructure • Build on competent bedrock and use geochemically stable rock for roads, pads, and structures • Recycle site and mine water • Adhere to Federal and Territorial standards for emissions, in-water works, explosives, and receiving water criteria • Follow BMPs outlined in site management plans, including the Phase 2 Aquatic Effects Monitoring Plan (AEMP) • Treat sewage and mine water as appropriate and discharge to tundra or waterbodies as required by regulations and permits • Implement sediment and erosion control measures to reduce over-land water flow and direct water to management structures • Store fuels and petroleum in secondary containment systems with appropriate spill contingencies in place • Regular inspections of management structures and adherence to site surveillance plans as directed by Water Licences.	• Site Preparation, Construction, and Decommissioning • Site and Mine Contact Water • Explosives	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Freshwater Sediment Quality	Sediment quality	• Site Preparation, Construction, and Decommissioning • Site and Mine Contact Water • Quarries and Borrow Pits • Explosives • Fuels, Oils, and PAH • Treated Sewage Discharge • Dust Deposition	• Same as Freshwater Water Quality	• Site Preparation, Construction, and Decommissioning • Site and Mine Contact Water	Not Significant
Freshwater Fish	Fish habitat	• Habitat loss or alteration	• DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat • Restricted Activity Timing Windows • Management plans including Environmental Protection Plan • Infrastructure sited to avoid fish-bearing habitat where possible • Infrastructure design minimizes footprint and avoids critical freshwater fish habitat • Designing crossing structures to maintain fish passage at water crossings along all-weather roads • Limiting water withdrawal by recycling water, limiting groundwater inflows, and returning compliant effluent to waterbodies from which they were withdrawn • Offsetting as deemed necessary and approved by DFO	None predicted	-
		• Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Freshwater Fish (*cont'd*)	Fish community: Arctic Grayling	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		• Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
	Fish community: Lake Trout	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		• Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
	Fish community: Arctic Char (freshwater life history)	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		• Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	
	Fish community: Cisco/ Whitefish (freshwater life histories)	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Freshwater Fish (*cont'd*)		• Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
Marine Water Quality	Marine water quality	• Shipping • Site Preparation, Construction, and Decommissioning • Site Contact Water • Fuels, Oils, and PAH • Discharge • Dust Deposition	• Use existing infrastructure for Doris Project and minimize footprint of Phase 2 infrastructure • Build on competent bedrock and use geochemically stable rock for roads, pads, and structures • Discharge TIA to Roberts Bay mainly during open-water season where feasible • Discharge buoyant TIA and groundwater to Roberts Bay • Adhere to Federal and Territorial standards for emissions, in-water works, explosives, and receiving water criteria • Follow BMPs outlined in site management plans • Implement sediment and erosion control measures to reduce over-land water flow and direct water to management structures • Use silt curtains as appropriate to reduce turbidity from in-water works • Monitor marine environment through Metal Mining Effluent Regulations and Environmental Effects Monitoring therein. • Follow mitigation, management, monitoring procedures as outlined in Fisheries Authorizations and permits. • Store fuels and petroleum in secondary containment systems with appropriate spill contingencies in place • Regular inspections of management structures.	• Shipping • Site Preparation, Construction, and Decommissioning • Site Contact Water • Discharge	Not Significant
Marine Sediment Quality	Marine sediment quality	• Shipping • Site Preparation, Construction, and Decommissioning • Site Contact Water • Fuels, Oils, and PAH • Discharge • Dust Deposition	• Same as Marine Water Quality	• Shipping • Site Preparation, Construction, and Decommissioning	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Marine Fish	Fish Habitat	• Habitat loss or alteration	• DFO's measures to avoid causing harm to fish and fish habitat • Infrastructure design minimizes footprint area and avoids critical marine fish habitat • Restricted Activity Timing Windows • Management plans including Environmental Protection Plan • Offsetting as deemed necessary and approved by DFO	None predicted	-
		• Changes to marine water quality and marine sediment quality	• Use of vibratory hammer during dock construction • Minimize vessel speeds in Robert's Bay • See Marine Water Quality and Marine Sediment Quality	None predicted	-
	Fish community: Arctic Char (anadromous life history)	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Blasting and noise thresholds and associated monitoring • Use of turbidity curtains during in-water works • Site management plans including Environmental Protection Plan	None predicted	-
		• Changes to marine water quality and marine sediment quality	• See Marine Water Quality and Marine Sediment Quality	None predicted	-
	Fish community: Saffron Cod	• Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Blasting and noise thresholds and associated monitoring • Use of turbidity curtains during in-water works • Site management plans including Environmental Protection Plan	None predicted	-
		• Change in marine water quality and marine sediment quality	• See Marine Water Quality and Marine Sediment Quality		

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Marine Wildlife	Ringed seal	• Habitat loss	• Infrastructure design minimized footprint in marine habitat and avoided marine mammal haul-outs • Open-water season shipping only (no winter shipping)	None predicted	-
		• Disturbance	• Marine Mammal Observer Program in 200 m safety zone • Stop pile driving if marine mammals inside safety zone • Use of vibratory pile driving instead of impact pile driving where possible • Acoustic monitoring of pile driving activity • Establish underwater noise thresholds for piling activities with additional measures triggered if thresholds exceeded • Establish Soft Start Procedures for pile driving	None predicted	-
		• Direct mortality	• Speed limit on the Roberts Bay facility in case ringed seals haul out • Wastes managed to avoid introduction to marine environment • BMPs to manage fuels, hazardous materials, and respond to spills	None predicted	-
	Marine birds	• Habitat loss	• Infrastructure design minimized footprint in marine habitat	None predicted	-
		• Disturbance	• Vessels will avoid the large marine bird colony on Prince Leopold Island by 25 km, vessel safety permitting • Vessels will avoid known bird colonies by at least 500 m, vessel safety permitting • Vessels will monitor for large groups of marine birds and avoid, vessel safety permitting	None predicted	-
		• Direct mortality	• Ships will avoid the large marine bird colony on Prince Leopold Island by 25 km, vessel safety permitting • Ships will avoid other marine bird colonies by 500 m • Airstrips monitored prior to take-off and landings • Speed limit will be set on Project roads. • Wildlife given the right-of-way on all roads • Best management practices will be used to manage fuels, hazardous materials to prevent spills, and to contain and clean up any spills that may occur in the marine environment	None predicted	-

Table 5. Summary of Human Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Archaeology	Archaeological sites	• loss of recorded archaeological sites	• Detailed recording of surface site content • Consideration of avoidance during project design • Consideration of protection strategies • Periodic monitoring of specific sites • Orientation of field personnel • Implementation of operational procedures	• Effect on recorded archaeological sites	Not Significant
		• loss of unrecorded archaeological sites	• Thorough surveys before disturbance • Research of TK and other data bases of past cultural information • Surveillance during short term disturbance activities in high archaeological potential areas • Orientation of field personnel • Implementation of operational procedures	• Effect on unrecorded archaeological sites	Not Significant
		• Effect on cultural information content of sites	• Research of TK and other data bases of past cultural information • Orientation of field personnel • Careful recovery of cultural information from sites that cannot be avoided • Preservation of collected data in museum	• Gain of cultural information content of sites	Not Significant
Socio-economics	Economic Development	• Changes to economic growth	• Monetary contributions to Inuit associations as defined by the new Framework Agreement and IIBA with the KIA	None predicted	Not Significant
	Business Opportunities	• Changes to local business growth	• IIBA with provisions for promotion of Inuit content in procurement, including requirement to engage Kitikmeot Qualified Businesses and establishment, under certain conditions, of a Business Development Fund • TMAC Liaison to help maximize Kitikmeot Qualified Business procurement by identifying businesses interested in procurement opportunities • Provide assistance, feedback, information and lead time to contractors from the Kitikmeot communities on bids and bidding policies • Require and monitor local content plans on major bids • Provide annual business opportunities forecast Not Significant • Promote awareness of procurement opportunities within the Kitikmeot Region	None predicted	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Socio-economics (*cont'd*)	Employment	• Changes to employment opportunities and income • Changes to labour force capacity • Competition for local labour	• IIBA with provisions for annual Inuit employment targets, first opportunity to resident Kitikmeot Inuit for employment, followed by non-resident Inuit • build cultural awareness and enforce harassment policies • promote awareness of employment opportunities within Kitikmeot communities • develop and implement a Human Resource Strategy • develop and implement a Workforce Transition Plan for Closure	• Changes to employment opportunities and income • Competition for local labour	Not Significant
	Education and Training	• Changes to the demand for education and training programs • Changes in perceptions of education and employment	• IIBA with provisions for annual and long-term Inuit training targets, and establishment and administration of a Training and Education Fund • collaborate with the KIA, government and training organizations • development of a Human Resource Strategy that addresses training and education • Career Development Plans for Inuit employees • Community Information and Career Awareness Sessions in the Kitikmeot	None predicted	-
	Migration, Housing, and Infrastructure and Services	• In-migration to the Kitikmeot Region • Changes to the demand for housing • Changes to the demand for local services	• Multiple points of hire and transportation for Inuit employees, who are residents of Kitikmeot communities, to and from the point of hire and the Project site • Ongoing engagement with communities as defined by the Community Involvement Plan	None predicted	-
	Community Health and Well-being	• Changes to family stability • Changes to family spending • Changes to food security and cost of living	• IIBA with provisions for Employee and Family Assistance Program (EFAP); serving country foods on site; maintaining a drug and alcohol policy which includes "zero tolerance"; providing on-site access to communications facilities to allow communication between Inuit employees and their spouses and families; and providing country food kitchens and cultural activities at the Project as determined by the Implementation Committee • TMAC Liaison to identify employee counselling needs as appropriate; develop on-going consultation with Inuit employees to identify their needs, issues and concerns; and assist in identifying and developing wellness initiatives	• Changes to family stability • Changes to family spending	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Land Use	Commercial Land and Resource Use	• Change in access to land and resources • Change in harvesting success/ harvesting practice • Change in experience of nature	• Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Speed limits which will minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Confine the areas where noise-generating activities occur to avoid disturbance where possible • Construct roads without continuous berms to allow for the easy passage of people and wildlife • Implementation of the Inuit Impact Benefits Agreement (IIBA) with the KIA, which includes, amongst other provision, access to Project facilities and roads • Allowing land users to safely cross project areas • Establishment of an Inuit Environmental Advisory Committee • Implementation of a Community Involvement Plan that includes mechanisms for engagement with community members.	None predicted	-
	Traditional Activities and Knowledge	• Change in access to land and resources • Change in harvesting success/ harvesting practice • Change in experience of nature	• Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • TMAC has a no hunting policy for all personnel while working on site. • Confine the areas where noise-generating activities occur where possible. • Construct roads without continuous berms to allow for the easy passage of people and wildlife • Implementation of the Inuit Impact Benefits Agreement (IIBA) with the KIA, which includes, amongst other provision, access to Project facilities and roads • Allowing land users to safely cross project areas Establishment of an Inuit Environmental Advisory Committee • Implementation of a Community Involvement Plan that includes mechanisms for engagement with community members.	• Change in harvesting practice	Not significant

The Project does not overlap with caribou calving or post-calving areas, and occupies about two one-hundredths of a percent of the Dolphin and Union herd's winter range and about one one-hundredth of a percent the Beverly/Ahiak herd's summer range. TMAC has designed the Phase 2 Project to occupy the smallest possible area and designed infrastructure to avoid important areas for caribou such as migratory paths, freshwater crossings, eskers and upland areas used for insect and heat relief. TMAC will pause blasting when caribou are near quarries, instruct pilots to respect minimum flight heights described in the Project Certificate (when safe to do so), enforce speed limits, give all wildlife the right-of-way on roads, control dust, and incinerate all kitchen waste so as not to attract wildlife. The Phase 2 Project will have a strict no-hunting policy for workers when on site.

Overall, Phase 2 is expected to occupy less than a hundredth of a percent of good-quality grizzly bear home range. Studies show that the bears do not avoid mining projects in the Arctic and the grizzly bear population surrounding the Ekati and Diavik mines in the Northwest Territories is stable or increasing. Thus, grizzly bear populations are not predicted to be disturbed by Phase 2 Project activities. TMAC will discourage grizzly bears from being attracted to the Project site by managing waste, keeping camps clean, bear-proofing facilities, having a policy against feeding wildlife, and a bear management protocol.

The same measures TMAC plans to use to protect caribou and grizzly bear—such as blasting restrictions, a no-hunting policy, roadway speed limits, and wildlife right-of-way—will also protect muskox, wolverine, and grey wolf.

The layout of the Phase 2 Project has been designed to avoid raptor nests. A single nest, in a rough-legged hawk territory with multiple nests, is found adjacent to Project facilities, and it is predicted that this pair may use a different nest location in their territory if disturbed by Project activities. Some Arctic mining projects have reported that the rock walls of open pits attract raptors to nest, but this has not been observed in the Doris Project's quarries. The abundant natural nesting sites, along with monitoring and management of quarries will limit raptors use of quarries.

Migratory birds include waterbirds and upland breeding birds (songbirds). Loss of active nests will be avoided by constructing new infrastructure outside of the breeding period, or conducting surveys and setting buffers around nests if construction occurs in the summer. Speed limits on roads will also reduce the risk of vehicle strikes on birds.

Water quality and dust will be controlled. Fuels and hazardous chemicals will be strictly managed and any spills will be cleaned up immediately.

TMAC's design for the Phase 2 Project, together with its mitigation and management measures, will prevent significant effects to Terrestrial Wildlife and Wildlife Habitat.

Freshwater Environment

TMAC plans to use a number of methods to reduce the Project's potential effects on water quality, freshwater fish communities, and fish habitat.

The Project will use the minimum water necessary, and TMAC will test and treat all water before releasing it back to the environment. Sewage treatment facilities will ensure that all discharged water meets or exceeds established limits made by the Nunavut Water Board, Fisheries and Oceans Canada, and Environment and Climate Change Canada. Water that comes into contact with fuel storage and maintenance facility areas, and wastewater from truck maintenance facilities, will meet established standards before being released.

The Project's potential to generate acidic drainage from waste rock, ore stockpiles, or quarries is low, and management plans will ensure that any water that doesn't meet limits set in the water licence is not discharged to the environment.

Fish habitat will be protected during the construction of water crossings according to standards developed by Fisheries and Oceans Canada. TMAC has designed the Project to avoid fish habitat to the extent possible. Where fish habitat cannot be avoided, the loss of habitat will be offset through a plan agreeable to Fisheries and Oceans Canada. The Kitikmeot Inuit Association and members of the public will be engaged throughout the process and have opportunities to provide input into this process.

TMAC's design for the Phase 2 Project, together with its mitigation and management measures, will prevent significant effects to the Freshwater Environment.

Marine Environment

Fuel transfers in Roberts Bay will meet Transport Canada regulations. The discharge from the tailings impoundment area into Roberts Bay will need to meet the metal mine effluent regulations imposed by Environment and Climate Change Canada, similar to all mines in Canada. In addition, TMAC will be required to monitor the environment in Roberts Bay to ensure that the discharge is not having an impact on aquatic life.

For the construction of the cargo dock in Roberts Bay, TMAC will limit impacts to marine fish using Fisheries and Oceans Canada's measures to avoid harm to fish and fish habitat, in addition to other measures to minimize noise, pressure, and vibration (for example, from pile driving, blasting, or shipping). Work in marine waters will be done during times that pose the least risk to fish, and the area disturbed as part of the marine cargo dock will be minimized to the extent possible. For the remaining habitat losses, offsetting will allow for fisheries productivity to remain stable or be enhanced over time.

Surveys indicate that there are no places for ringed seals to haul out (or rest on the shore or ice) during the summer in Roberts Bay. In winter, the density of breathing holes in the ice in Roberts Bay and adjoining Melville Sound is much lower than in Bathurst Inlet, probably because ringed seals prefer to avoid land-based predators such as grizzly bears and wolverine. Robert's Bay will receive fuel and supplies by vessels r only in the open-water season, outside of the periods when ringed seals and caribou are using the ice.

The closest seabird colonies to the Phase 2 Project are on small islands and bays in northern Bathurst Inlet and Elu Inlet at the east end of Melville Sound. No large seabird colonies have been found in Roberts Bay or along the shipping route in Melville Sound. Seabirds nest on small islands in Melville Sound, but seabird density on the mainland shore is low. Because of the small size of the existing Roberts Bay facility and proposed new Project facilities, as well as the low numbers of birds nesting on the mainland shore, the Project's effects on seabirds are anticipated to be low.

TMAC's design for the Phase 2 Project, together with its mitigation and management measures, will prevent significant effects to the Marine Environment.

Human Environment

Approximately 50 archaeological sites are known to be present in the area of the Phase 2 Project. TMAC plans to prevent impacts to sites by screening areas before starting any Project activity and educating field personnel on how to identify archaeological sites, as well as the correct procedures to follow if they unexpectedly discover one. Once a new site is identified, TMAC will create a protective buffer zone around the site. If archaeological sites cannot be avoided by the footprint of the Phase 2

Project, the site will be mitigated; this means that a permit needs to be obtained from the Government of Nunavut, all information from the site needs to be documented, and artifacts are catalogued and preserved for future generations of Nunavummiut. Although the site is removed, it is thought that the information collected and preserved is of great cultural importance. No significant impacts to archaeological resources are expected to occur from Phase 2. Further, the Hope Bay Project has contributed to the knowledge base providing insight into past land use and livelihoods.

The Phase 2 Project is expected to have beneficial effects on economic growth and development through contributions to Canada's Gross Domestic Product and to federal and provincial government tax revenues. These effects are expected to be felt in the local area, the region, Nunavut, and Canada during the Construction and Operation phases. The Project has the potential to contribute to the economy of the Kitikmeot in a positive and meaningful way, making it able to support diverse development types. Local business capacity will be increased through contracts to Kitikmeot Qualified Businesses as well as other Inuit and non-Inuit businesses in the Kitikmeot region. The Project will increase employment and income levels across the Kitikmeot region and Nunavut, as well as elsewhere in Canada.

The Phase 2 Project has the potential to cause greater competition for workers with higher, more specialized skills; however, this effect is not expected to be widespread. While on-the-job training will be provided, demand for local education and training programs is expected to increase. The partnerships that have been established between industry, the Kitikmeot Inuit Association, the other institutions to provide education and training programs will be critical to the TMAC's ability to meet these training needs.

The Phase 2 Project is predicted to result in changes to family spending and changes to family stability associated with the influence of increased household incomes and the change in family roles and relationships associated with Project work. TMAC has identified ways to enhance the positive and reduce the negative impacts associated with these changes. For example, communications facilities to help maintain connections between employees and their families will also be available on site. In addition, a TMAC liaison will be responsible for ongoing consultation with Inuit employees to identify specific employee needs and provide support for any issues that arise.

It is anticipated that Phase 2 will create significant positive effects for people in the Kitikmeot region and that positive and negative effects can be managed by TMAC and mandates of local governments. Phase 2 will extend the life of the Project further providing opportunities for capacity building in communities beyond the approximate six year life of Project currently permitted. The Inuit Impact and Benefit Agreement with the Kitikmeot Inuit Association will help ensure that the Project benefits Inuit.

A human health and environmental risk assessments was completed for the Project, and involved the comprehensive and systematic processes designed to identify, analyze, and evaluate the effects of the Project on environmental and human health. Baseline studies reviewed the existing levels of contaminants and noise in the local and regional study areas of the Project to establish a benchmark for evaluating the potential future effects of the Project and to characterize pre-disturbance conditions for the purpose of reclamation activities.

As part of the human health and environmental risk assessments, data were reviewed for air quality; water quality and sediment quality (freshwater and marine); fish and aquatic habitat (freshwater and marine); terrestrial and marine wildlife; soil and vegetation; country foods; and noise. The assessments examined existing and predicted contaminant levels and various potential pathways of exposure. For all factors assessed, the Project would not contribute negatively to overall human health and environment health.

ACCIDENTS AND MALFUNCTIONS

TMAC is committed to protecting the health and safety of its workers, local communities, and the environment and ecosystems, and adheres to legislated safety standards, as well as its own stringent procedures and standards.

Accidents and malfunctions may occur during any phase of the Phase 2 Project. The primary environmental concern resulting from accidents and malfunctions is the possibility for spills, release of chemicals, reagents, petroleum products or process materials onto the land or water (freshwater and marine). Fire presents another risk resulting from vehicle accidents, damage to electrical systems or accidental explosions. Lastly, explosives are kept onsite and have the potential for an accidental blast.

Management of risks and contingency planning are integral to TMAC's approach. A comprehensive evaluation of the potential risks is essential in order to meet regulations, as well as TMAC's health, safety, and environmental objectives. While there exists the possibility of accidents and malfunctions, TMAC's objective is to minimize the likelihood of such incidents and the associated consequences that might affect people and the environment. TMAC’s management systems incorporate effective adaptive management practices and are designed to mitigate risks and limit consequences. These strategies include personnel training, education, regular inspections, monitoring and maintenance of equipment, and learning from incidents to improve performance.

A risk matrix was used to categorize 18 potential accidents and malfunctions based on five risk levels; the levels were determined with consideration to both the likelihood of the event and the environmental consequences if it occurs. Of the 18 scenarios, 7 are rated as “very low” risk, 6 are “low” risk, and 5 are “moderate” risk. No scenarios were determined to be of “high” or “extreme” risk. Regardless of the level of risk associated with an accident and malfunction, TMAC’s *Emergency Response Plan* is applicable to all accidents and malfunctions.

EFFECTS OF THE ENVIRONMENT ON THE PROJECT

Extreme weather events (storms, extreme rainfall or snowfall, extreme low temperatures) and geo-hazards (seismicity, ground and slope instabilities) have the potential to affect Project infrastructure and—in turn—represent concerns for the safety of people and the environment. Climate change over the life of the mine also has the potential to affect the Project.

Design of the Project has considered effects of the environment that could potentially influence Project infrastructure, schedule, or activities. In particular, geotechnical assessments have been carried out, and continued investigations will occur during detailed design to help identify areas of concern related to permafrost and potential geo-hazards that could impact Project infrastructure. In general, the location of infrastructure has been optimized (i.e., siting on bedrock, where possible) to avoid potential problem areas to the maximum extent possible. If problem areas cannot be avoided, infrastructure will be constructed with conservatively designed permafrost protection measures and thermal barriers. Through forthcoming detailed design and engineering, additional models and analyses may be used to improve understanding of geotechnical and other potential effects of the environment.

CUMULATIVE AND TRANSBOUNDARY EFFECTS

Consideration was given to potential cumulative effects arising the Project’s effects combining with those of other projects, as well as to effects that may cross jurisdictional boundaries into other parts of Canada (known as transboundary effects). No significant cumulative or transboundary effects were identified, partly because the Phase 2 Project is not expected to have significant effects nearby or in combination with projects or activities that are a great distance away.

ENVIRONMENTAL, HEALTH, AND SAFETY MANAGEMENT

TMAC recognizes sound environmental management as a corporate priority. The company's *Commitment to Ethical Business Conduct* includes ongoing and independent examination of its environmental performance, continually evaluating the design and implementation of its environmental management systems, comparing against industry best practice, and making the resources available for TMAC personnel to meet their environmental management obligations. TMAC has a Safety, Health, and Environmental Affairs Committee assessing environmental risks, reviewing and amending the company's environmental policies and standards, and responding to specific environmental matters as directed. In addition, under the Inuit Impact and Benefit Agreement, an Inuit Environmental Advisory Committee reviews environmental management and monitoring plans, discusses Project-related environmental issues, and provides advice to TMAC.

Specific management plans are already in place for the previous phases of development of the Hope Bay Belt Project. During the review of Phase 2 all affected communities, the Kitikmeot Inuit Association and relevant government agencies will be reviewing management and mitigation measures. As required, existing management plans will be updated to account for new or unique aspects of Phase 2 not already covered under the existing plans.

CONCLUSIONS OF THE ENVIRONMENTAL IMPACT STATEMENT

TMAC's Environmental Impact Statement concludes that the Phase 2 Project is not likely to cause significant negative impacts to the environment, socio-economic conditions, or communities.

TMAC has designed the Project to minimize effects to the environment. The company is committed to developing the Phase 2 Project in a sustainable manner that is respectful of local communities and the environment. Through careful mitigation and management, the Project is anticipated to have no significant environmental effects, while providing economic benefits to Inuit communities, the region, and Nunavut as a whole.

PHASE 2 OF THE HOPE BAY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Glossary and Abbreviations

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

μg	Microgram
AEMP	Aquatic Effects Monitoring Plan
AWR	All-weather road
CCME	Canadian Council of Ministers of the Environment
CEA	Cumulative effects assessment
cm	Centimetre
CO	Carbon monoxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWP	Contact water pond
dB	Decibel
DFO	Fisheries and Oceans Canada (not Department of Fisheries and Oceans)
dm	Decimetre
EC-MSC	Environment Canada – Meteorological Service of Canada
EIS	Environmental Impact Statement
EFAP	Employee and Family Assistance Program
EMP	Environmental Management Plan
EMS	Environmental Management System
GDP	Gross Domestic Product (the value added by economic activity, principally composed of personal income and corporate profits)
GHG	Greenhouse gas
GN	Government of Nunavut
ha	Hectare
HBML	Hope Bay Mining Ltd.
HBVB	Hope Bay Volcanic Belt
ICRP	Interim Mine Closure and Reclamation Plan

IIBA	Inuit Impact and Benefit Agreement
ILUOP	Inuit Land Use and Occupancy Study
INAC	Indigenous and Northern Affairs Canada
IOL	Inuit-owned Land
IQ	Inuit Qaujimajatuqangit
ISQG	Interim sediment quality guideline
L	Litre
kg	Kilogram
KIA	Kitikmeot Inuit Association
km	Kilometre
KW	Kilowatt
LOM	Life of mine
LSA	Local Study Area
m	Metre
MEA	Mineral Exploration Agreement
ML	Million litres
MMER	Metal Mining Effluent Regulations
NIRB	Nunavut Impact Review Board
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NRCan	Natural Resources Canada
NSA	Nunavut Settlement Area
NTI	Nunavut Tunngavik Inc.
NTKP	Naonaiyaotit Traditional Knowledge Project
NWB	Nunavut Water Board
O_3	Ozone
OPEP	Oil Pollution Emergency Plan
OPPP	Oil Pollution Prevention Plan
PASS	Passive Air Sampling System

PDA	Project Development Area
PEL	Probable effects level
PFS	Pre-feasibility study
PM_{10}	Particulate matter with a diameter less than 10 micrometres (μm)
$PM_{2.5}$	Particulate matter with a diameter less than 2.5 micrometres (μm)
RSA	Regional Study Area
SARA	*Species at Risk Act* (2002)
SEMP	Socio-economic Monitoring Program
SO_2	Sulphur dioxide
STOL	Short take-off and landing
TIA	Tailings Impoundment Area
TK	Traditional Knowledge
TMAC	TMAC Resources Inc.
tpd	tonnes per day
TSP	Total suspended particulate (not TSS)
VEC	Valued Ecosystem Component
VSEC	Valued Socio-Economic Components
WIR	Winter ice road

1. Introduction

TMAC Resources Inc. (TMAC) was formed in 2012 for the purpose of acquiring, permitting, constructing, operating, and closing known and future gold deposits at the Hope Bay Property. The Company purchased the Hope Bay Property from Newmont Mining Corporation in Mach 2013. Following this acquisition, TMAC resumed development of the Doris Project (Phase 1 of Hope Bay Project development) and exploration activities in the Hope Bay Belt. Doris Project activities are authorized under NIRB Project Certificate No. 003 and NWB Type A Licence 2AM-DOH1323.

Further development of the Hope Bay Project includes the Phase 2 Project, which focuses on the mining of the Madrid and Boston deposits. The Phase 2 Project utilizes and expands upon the Doris Project infrastructure for the integrated development of the Hope Bay Belt Project. Phase 2 will enable TMAC to increase ore processing capacity of the Belt to 5,000 tpd. Looking Forward, TMAC intends to pursue development of the Hope Bay Belt with the mining of additional as yet undiscovered deposits (refer to Section 1.5).

This draft EIS is provided to the Nunavut Impact Review Board (NIRB) by TMAC Resources Inc. in support of TMAC's applications for Phase 2 development of the Hope Bay Property ("Phase 2").

1.1 PURPOSE AND NEED FOR THE PROJECT

Phase 2 Project represents a timely opportunity to develop the well-established Hope Bay gold deposits into a long-term mining operation that provides sustained economic stability and benefits for the Kitikmeot region. The purpose of Phase 2 is to expand mining and processing operations at the Madrid and Boston deposits to increase gold production from the Hope Bay Belt. The development plan for Phase 2 minimizes capital investment and builds on the existing assets to generate cash flow that can sustain expansion and exploration. Phase 2 Project represents a significant opportunity for the development of a new mining development in the Canadian Arctic.

In addition to generating revenues for TMAC, Phase 2 Project will provide a long-term sustained mining operation in the Kitikmeot region that will be operated in an environmentally sound manner and that will provide direct, sustained benefits to Nunavummiut, Inuit-owned businesses, and local communities.

The Hope Bay Project represents a predictable and stable economic platform that can provide a number of benefits that can only be realized through a sustained long-term business plan. The Phase 2 Project will:

- support regional infrastructure initiatives, such as regional transportation networks. Phase 2 will require the ongoing use of Northern marine shipping routes. Regular and predictable marine transport of bulk supplies by ship or barge can help to support efficiency initiatives for regional shipments to Kitikmeot communities.
- provide substantial trades, technical, and management training for Nunavummiut. These programs can be targeted towards desired long-term skills that will carry forward and create future opportunities for Nunavummiut.
- provide a platform enabling the identification, permitting, and mining of additional gold reserves on the Hope Bay Property.

- provide sustained and predictable payment of production royalties to Kitikmeot Inuit Association (KIA), Nunavut Tunngavik Inc. (NTI), and Government of Canada.
- enhance Canadian presence in Canada's North during the current period of increasing international use of the Northwest Passage connecting the Atlantic, Arctic, and Pacific oceans.
- through provision of substantial physical infrastructure (i.e., airstrips, roads, accommodations, bulk fuel storage), create opportunities for ongoing use by others after the mine closes.

1.2 PROJECT LOCATION AND REGIONAL CONTEXT

The Hope Bay Property has an area of over 1,000 km^2 and comprises one contiguous property approximately 80 km by 20 km. The Property is located approximately 150 km southwest of Cambridge Bay in Nunavut Territory, east of Bathurst Inlet, as illustrated in Figure 1.2-1. The nearest settlements are Omingmaktok (Bay Chimo), located approximately 60 km to the west, and Kingaok (Bathurst Inlet), located 130 km southwest. The centre of the Property lies approximately 700 km northeast of Yellowknife, and 143 km above the Arctic Circle at 67°50' N latitude and 106 °30' W longitude.

The primary access route to the Property for fuel, equipment and supplies is through marine transport to Roberts Bay. The shipping season is typically from late July through September when open water conditions allow for passage. Goods are transported by air during the rest of the year. Personnel are transported by air year-round. The nearest commercial airport is Cambridge Bay, approximately 150 km by air.

The Property lies north of the tree line in the West Kitikmeot region. The northern portion of the Property consists of several watersheds that drain into Roberts Bay, and the Koignuk River which flows into Hope Bay west of the Property. Watersheds in the southern portion of the Property drain into the upper Koignuk River. The entire area lies within the Bathurst Inlet-Burnside Watershed.

1.3 PROPONENT INFORMATION

TMAC is a publicly-traded (Toronto stock exchange, TSX:TMR) Canadian mineral development company with offices at the Project site, in Cambridge Bay, in Yellowknife, and in Toronto (Table 1.3-1). TMAC was formed in 2012 for the purpose of acquiring, permitting, constructing, operating, and closing known and future gold deposits at the Hope Bay Property.

Table 1.3-1. TMAC Resources Inc. Contact Information

Hope Bay Project c/o #18 Yellowknife Airport 100 McMillan Drive Yellowknife, NT X1A 3T2 Phone: 867-873-4767 Fax: 867-766-8667	**Cambridge Bay Office** 18 Mitik Street, 2nd Floor Cambridge Bay, NU X0B 0C0 Phone: 867-983-2385 Fax: 867-983-2386
Yellowknife Office #18 Yellowknife Airport 100 McMillian Drive Yellowknife, NT X1A 3T2 Phone: 867-873-4767 Fax: 867-766-8667	**Toronto Corporate Office** 95 Wellington Street West Suite 1010 P.O. Box 44 Toronto, Ontario, M5J 2N7 Phone: 416-628-0216 info@tmacresources.com

Figure 1.2-1
Phase 2
Project Location

1.4 LAND TENURE

The Hope Bay Property (the Property) is the Company's prime holding and the sole focus of the Company's resources. TMAC wholly holds 80 mineral claims and leases and one Inuit Mineral Exploration Agreement that comprise approximately 20 × 80 square km (km^2) of the Hope Bay Greenstone Belt (the Belt) in the Canadian Arctic, east of Bathurst Inlet and south of Roberts Bay. These mineral holdings comprise the Belt, including mineral resources in the Doris, Madrid, and Boston areas as well as promising exploration potential.

NTI is the partner organization which coordinates and manages Inuit responsibilities set out in the Nunavut Agreement. NTI holds the surface title and mineral rights to Inuit-owned lands (IOL) in the Kitikmeot region of Nunavut, including the surface rights over the entire Hope Bay Property and mineral rights over selected portions of the Property. The KIA partner administers the surface rights and the Inuit Impact and Benefit Agreement (IIBA) associated with TMAC's activities at the Property.

Mineral tenure consists of 69 Crown mining leases (48,019.82 ha); nine pending Crown mining leases (6,111.16 ha), and one NTI Inuit Mineral Exploration Agreement (MEA) (55,976 ha). All of the Crown mining leases for the Hope Bay Property are in good standing. Mineral tenure is summarized in Appendix V2-1D, listing mineral leases, pending mineral leases and the NTI Inuit MEA.

Effective March 30, 2015, TMAC entered into a series of landmark agreements with the KIA with respect to the Inuit-owned surface title for the lands on which the Hope Bay Property is located. These agreements comprise a 20-year comprehensive framework agreement (the Framework Agreement). The Framework Agreement sets forth the terms under which land use licences, advanced exploration leases, and IOL commercial leases will be extended by the KIA to TMAC. Additionally, the Framework Agreement replaces TMAC's pre-existing land use licences with a single land use licence and replaces the Company's pre-existing quarry permits with two advanced exploration leases.

1.5 FUTURE DEVELOPMENT

The Hope Bay belt is host to numerous mineral deposits and the development of the Hope Bay belt will be a multigenerational undertaking. TMAC is confident that new mineral will be found through ongoing exploration efforts. Partnering with Inuit organization for the ongoing development of the Hope Bay belt will ensure continued social and economic benefits for Nunavummiut, Nunavut, and Canada.

The Phase 2 Project provides for underground mining at the Madrid North, Madrid South and Boston. This includes a number of individual deposits that have been identified to date, which may be added, based on the results of ongoing exploration.

TMAC's exploration on the Belt will continue in much the same way it has been undertaken for the past several years. The exploration program consists of mapping and drilling programs aimed at discovering potential mineralized zones in the Belt, and better defining the known deposits at Doris, Madrid, and Boston. These activities are supplemented with ground and aerial geophysical programs. The majority of drilling has been focused on known deposits with the goal of better defining the resources. Underground exploration diamond drilling will be performed to explore deposits at depth and TMAC plans to proceed with underground advanced exploration and bulk sample testing at Madrid and Boston.

It is expected that planned exploration drilling and bulk sampling will enhance the economic viability of the Madrid and Boston deposits. If additional resources/reserves are identified through this work, TMAC anticipates that additional infrastructure will not be needed; however, the mine life would be extended along with extension of the associated local and regional benefits of a long-term sustained mining operation.

Given the staged development of the Belt, the infrastructure at Roberts Bay, Doris, Madrid, and Boston will be able to accommodate mine life extensions.

1.5.1 Potential for Development of Additional Ore Deposits

Mining operations and benefits may be extended should additional mineral deposits become economical to develop. As exploration is an on-going activity, it is possible that additional deposits will be delineated within the Belt and become economically feasible to develop. Should additional deposits be identified that are beyond the scope of the authorizations and approvals held, TMAC will enter into the appropriate permitting processes. The presence of existing infrastructure would be of environmental and economic value to future projects, just as it is for the Phase 2 Project.

1.6 REGULATORY REGIME

TMAC's Phase 2 Project is a continuation of the proposal put forward in 2011 by the previous owner of the Hope Bay property (HBML 2011). In May 2012, the proposal was referred to the NIRB for public review pursuant to Part 5 of Article 12 of the Nunavut Agreement. Guidelines for the Preparation of the EIS were issued by the Nunavut Impact Review Board (NIRB) in December 2012 (NIRB 2012a). The NIRB's current review of the Phase 2 Project is a resumption of the review initiated in May 2012. As new deposits are identified, TMAC will apply for amendment(s) to its Project Certificate, or apply for a new Project Certificate as required by the NIRB in order to continue its proposed development of the Hope Bay Belt.

A list of permits, licences and authorizations required for Phase 2 Project is presented in Table 1.6-1.

Table 1.6-1. List of Permits, Licences and Authorizations Required for Phase 2 Project

Permit / Approval Legislation	Administering Agency	Project Activity
Territorial		
Project Certificate Nunavut Agreement (Article 12)	Nunavut Impact Review Board (NIRB)	Required to obtain the requisite permits and approvals to proceed with Project
Water Licence Nunavut Agreement (Article 13) *Nunavut Waters and Nunavut Surface Rights Tribunal Act* Northwest Territories Water Regulations	Nunavut Water Board (NWB)	Amendment to Type A Water Licence required for water use and waste disposal
Archaeology Permit *Nunavut Act*	Government of Nunavut - Department of Culture Language and Youth	Required to conduct archaeology research, and to mitigate archaeological sites to allow development to occur
Federal		
Mineral Lease Canadian Mining Regulations	Indigenous and Northern Affairs Canada (INAC)	Maintain/update as required
Fisheries Authorizations (if necessary)	Department of Fisheries and Oceans Canada	To be determined during the NIRB review process
Crown Land - Land Lease and Waterlot Lease *Territorial Lands Act* Territorial Land Use Regulations	Indigenous and Northern Affairs Canada (INAC)	Required for cargo dock on foreshore in Roberts Bay

2. Public Consultation and Engagement

2.1 PUBLIC CONSULTATION AND ENGAGEMENT

TMAC‘s commitments to public consultation and engagement is reflected in its corporate policies, operational practices, and management plans.

A variety of methods have been used to disseminate Phase 2 Project information with the public and to seek public input. These include community meetings and one-on-one meetings with hamlet governments, the KIA and NTI, and other groups, and wildlife workshop with local Elders and harvesters. Volume 2 of the EIS presents an overview of TMAC’s public engagement efforts.

Outreach materials written in non-technical, accessible language designed to reach a broad audience have been circulated. A Phase 2 Project information booklet was translated into Inuktitut and Inuinnaqtun and printed copies were distributed at the May 2016 community meetings. These meetings built upon other community engagement activities on the proposed Phase 2 Project carried out since 2010. To support its ongoing public consultation efforts, TMAC intends to continue to update, expand and translate key public outreach materials moving forward.

TMAC tracks its public consultation efforts, including issues and comments raised through meetings and activities. The Company is in the process of implementing a purpose-built consultation and stakeholder tracking database for the Phase 2 Project, to support the review process and the management of consultation and engagement activities over the life of the Phase 2 Project.

Information provided through the public consultation and engagement program is used to inform the planning and design of the Phase 2 Project in a number of ways including baseline data collection, impact prediction, significance assessment, and the development of mitigation and monitoring programs. Public consultation and engagement will also provide new information to be considered as the Phase 2 Project advances. The level of community support for the Phase 2 Project was formally documented during community meetings held in the Kitikmeot Region from May 2nd to 6th, 2016. Of those participants who returned a completed feedback form, a clear majority (72.9%) indicated that they are supportive of the Phase 2 Project.

2.2 GOVERNMENT ENGAGEMENT

TMAC’s government engagement efforts focus on providing review agencies with comprehensive information regarding the Phase 2 Project. Timelines and milestones are routinely communicated to review agencies so that they can more effectively plan their workloads and be sufficiently prepared to participate in the environmental assessment process.

On September 11, 2016, the Company extended an invitation to representatives of the KIA, federal and territorial review agencies to tour the Phase 2 Project site and existing facilities in order to familiarize reviewers with the proposed Project.

TMAC recognizes the ongoing need for both formal and informal government engagement activities. Phase 2 Project-related correspondence with government agencies is forwarded to the NIRB such that it becomes part of the public record, as required by NIRB review process.

2.3 INUIT QAUJIMAJATUQANGIT

Traditional Knowledge (TK) is a term used to capture the knowledge held by Indigenous people of the local land and wildlife, the Earth's natural processes, and of ways to ensure harmony and balance in life. TK studies provide a valuable way of documenting spatial and temporal patterns of hunting, harvesting, fishing, habitation, and travel in a given area. They can also provide detailed information on local ecological processes, socio-cultural patterns and institutions, spirituality, ethical, and other matters.

TMAC has considered Inuit Qaujimajatuqangit (IQ) in the Phase 2 Project design, baseline studies and assessment of Valued Ecosystem Components (VECs) and Valued Socio-Economic Components (VSECs), and mitigation and management plans (summarized in Volume 8). TMAC recognizes the inherent value of TK and the importance local communities place on its use in the environmental assessment of proposed developments. As such, TMAC has made significant efforts to engage local communities. Many of these efforts have been made in partnership with the KIA, which administers the Naonaiyaotit Traditional Knowledge Project (NTKP) database and has assisted TMAC in conducting a comprehensive TK study for the Phase 2 Project.

A significant amount of TK collected for the Phase 2 Project has been sourced from the NTKP. The NTKP is the foundation for recorded and geo-referenced Inuit TK in the Western Kitikmeot region. The NTKP covers Inuit land use and fish and wildlife ecological data within a 750,000 km^2 study area, the Slave Geological Province. As well as being a repository of Kitikmeot Inuit TK, the NTKP was designed as a land-use planning tool, designed to inform and improve the quality of environmental assessments for proposed developments in the Kitikmeot region. The NTKP database report has provided valuable land use, wildlife, and other environmental information at a regional scale.

TMAC has consulted with NTI, the KIA, and Nunavummiut who live in the potentially affected communities as well as all government agencies. Through its engagement program, Kitikmeot Inuit have provided local knowledge and raised questions and concerns regarding the Phase 2 Project. Questions that have been raised and TMAC's responses are documented in Volume 2, Section 3 (Public Consultation and Engagement).

Data from three other regional and site-specific studies were integrated into the NTKP. These included the 1970s Inuit Land Use and Occupancy Study (ILUOP) that provided spatial data at land-scales of 1:500,000. The remaining work involved linking the text and map data for Kugluktuk and Cambridge Bay. Both communities have information for the TMAC study area. Two more studies came from focused workshops held in Kugluktuk and Cambridge Bay by the KIA. The workshops addressed a number of data gaps including those rated to marine environment. A study incorporated the NTKP focused spatial data collected on anadromous trout collected by Dr. Heidi Swanson of the University of Waterloo.

The geographic scope of the study was defined by KIA in consultation with TMAC and is described as the Regional Study Area (RSA). The RSA is based on KIA's understanding and extent of how Inuit use the Project Area, and on the study areas used for wildlife, marine and terrestrial studies as provided by TMAC. Project Area refers to the immediate and surrounding area that will be affected by the proposed development by TMAC. The RSA encompasses broad regional-scale information in the NTKP database that may be relevant to the Project (e.g., animal migration patterns, regional Inuit land use activities and travel routes). The RSA included Omingmaktok, the community which is the closest to the proposed Project.

In general, the report uncovered a number of potential Project interactions with regional wildlife, environmental components, and Inuit land use. The Project is located in an area that has seen considerable historic use by Inuit, as demonstrated by the large number of gathering places and travel routes identified in the RSA. This is likely due to the abundance of terrestrial, freshwater, and marine wildlife resources that have traditionally been found in the region and harvested by Inuit.

IQ describes the historical travel routes that inform current land use activities, indicating where Inuit cross Coronation Gulf as they travel south to the mainland to hunt, trap, and gather. In this instance, IQ provided information on the importance of using only open water shipping as there are numerous travel routes between Cambridge Bay and the mainland.

IQ informs wildlife experts of past trends, which speak to current trends in wildlife migration and specific mitigation and enhancement measures. Open water shipping removes any disruption of caribou movement from the mainland to Victoria Island. Targeted workshops have been had with local representatives to understand and discuss how other Project infrastructure such as roads can be built and operated in a way that minimizes potential impacts to wildlife.

TMAC has entered into an IIBA and a forward-looking IQ agreement with the KIA. These agreements are evidence of TMAC's ongoing commitment to assist the KIA in the collection and preservation of IQ, and to apply IQ in all phases of the Hope Bay Project.

3. Project Components and Activities

Phase 2 Project focuses on the mining of the Madrid and Boston deposits. Phase 2 Project utilizes and expands upon the Doris Project infrastructure for the integrated development of the Hope Bay Belt Project. As additional deposits are identified, TMAC will seek further amendment(s) to its Project Certificate to enable development of these resources.

Phase 2 will enable TMAC to increase ore processing capacity of the Belt to 5,000 tpd. The Project will achieve continuous mine operations in the Belt through mining at Doris, a bulk sample followed by commercial mining at Madrid North and South, and mining of the Boston deposit.

3.1 PROJECT OVERVIEW

The Phase 2 Project provides for the foreseeable incremental development of the Hope Bay Belt. An overview of the facilities and activities already authorized, and, requiring authorization under a new Project Certificate for Phase 2 is provided in Table 3.1-1. Phase 2 Project utilizes and expands on existing infrastructure as listed below:

3.1.1 Use of Existing Infrastructure

Existing site infrastructure and/or approved infrastructure that may be used for Phase 2 Project construction activities include:

- All-weather airstrip at the Boston exploration area and helicopter pad;
- Seasonal construction and/or operation of winter ice strip on Aimaokatalok Lake;
- Boston site accommodations with capacity for up to 65 people during construction;
- Quarry D Camp with capacity for up to 100 people;
- Seasonal construction/operation of Doris to Boston winter road route (WRR); and
- Three existing quarry sites along the Doris to Windy all-weather road (AWR).

Existing site infrastructure and/or approved infrastructure that will be in use for other operating/ exploration projects and that may also be used to support Phase 2 Project construction activities includes:

- Doris site accommodations with capacity for up to 280 people;
- Doris airstrip, winter ice strip, and helicopter pad;
- Roberts Bay offloading facility and road to Doris; and
- Madrid North and Madrid South sites and access roads.

3.1.2 Facilities Approved under the Madrid Advanced Exploration Program

This assessment of Phase 2 Project assumes that construction of the Madrid North and Madrid South pads, roads, facilities, and underground workings will occur under the authorizations and approvals under TMAC's Madrid Advanced Exploration Program (TMAC 2014). TMAC has submitted an application to the NWB for a Type B Water Licence for the Madrid Advanced Exploration Program which includes components related to undertaking an advanced exploration and the bulk sample program located on IOL over a 10-year period.

The application is under review and entails the construction of surface and underground infrastructure at Madrid North and Madrid South to accommodate bulk sample collection. The Project schedules the construction at the Madrid North site first.

The Madrid Advanced Exploration Program includes the following components and activities.

- Utilization of existing infrastructure associated with the Doris Project:
  - Accommodations facilities to support up to 70 personnel as required to undertake the advanced exploration activities;
  - Mill to process ore;
  - Tailings Impoundment Area (TIA);
  - Landfill and hazardous waste areas, particularly if closure and remediation becomes required for the Madrid Advanced Exploration Program infrastructure;
  - Fuel tank farms; and
  - Doris airstrip and Roberts Bay facility for transport of personnel and supplies.
- Utilization of existing infrastructure at the Madrid areas:
  - Borrow and rock quarry facilities: existing Quarries A, B, and D along the Doris-Windy AWR;
  - AWR between Doris and Windy Lake for transportation of personnel, ore, waste, fuel, and supplies; and
  - Future mobilization of existing exploration camp infrastructure, should it become necessary.
- Construction of additional facilities at Madrid North and South:
  - Access portals and ramps for underground operations at Madrid North and at Madrid South;
  - 4.7 km extension of the existing AWR originating from the Doris to the Windy exploration area (Madrid North) to the Madrid South deposit, with associated access road turn-offs;
  - Development of a WRR from Madrid North to access Madrid South until AWR has been constructed;
  - All-weather access road and tailings line from Madrid North to the south end of the TIA;
  - Borrow and rock quarry facilities, and two quarries referenced as Quarries G and H;
  - Waste and ore stockpiles; and
  - Water and waste management structures.
- Undertaking of advanced exploration access to aforementioned deposits through:
  - Continue field mapping and sampling, as well as airborne/ground/downhole geophysics;
  - Diamond drilling from the surface and underground; and
  - Bulk sampling through underground mining methods and mine development.

3.1.3 Scope of Construction and Operation for Phase 2 Project

The proximity of the Madrid area to the Doris site accommodations, process plant, and TIA provides the opportunity for the Phase 2 Project to utilize existing infrastructure at Doris. It is anticipated that this will reduce costs, minimize the footprint and minimize the time required to complete the development, and production at the Madrid deposits, and to facilitate transition to development and production at the Boston deposit. The permitted infrastructure and facilities at Roberts Bay and Doris have sufficient capacity to support Project construction for Phase 2.

Phase 2 Project, in addition to the ongoing use of the facilities listed above (Sections 3.1.1, 3.1.2 and 3.1.3), TMAC requests that the new Project Certificate authorize the construction and operation of the following facilities and activities:

a) At Roberts Bay

- construction of an off-loading cargo dock at Roberts Bay;
- Construction of a 10-ML diesel tank farm; and,
- Extension of service/access roads to cargo dock.

b) At Doris Site

- Expansion of the accommodation complex and associated sewage treatment facility; and,
- Expansion of the Doris tailings impoundment area (TIA; raising of south dam and construction of west dam) and access roads.

c) At Madrid North

- Complete development of the Madrid North underground workings;
- Incremental expansion of surface infrastructure at Madrid North to accommodate production mining, the processing plant, power plant, laydown area, and, stockpile areas;
- Construction of a 1200 tpd processing plant and a power plant at Madrid North;
- All weather access road and tailings line from Madrid North to the south end of the Doris TIA;
- Maintenance facilities and other buildings required to support mining activities;
- All infrastructure necessary to support mining and milling activities at Madrid including construction of fuel storage, ore pad, waste rock pad, contact water pond;
- Infrastructure necessary to support ongoing exploration activities at both Madrid; and
- Development of quarries for construction and for use as backfill in the mine.

d) At Madrid South

- Complete development of the Madrid South underground workings;
- Incremental expansion of surface infrastructure at Madrid South to accommodate production mining;
- All infrastructure necessary to support mining activities at Madrid South including fuel storage, ore pad, waste rock pad, contact water pond; and
- Development of quarries for construction and for use as backfill in the mine.

e) All-weather Road

- Construction of an all-weather road (AWR) linking Madrid to Boston inclusive of all stream crossings along the road alignment; and
- Development of quarries for construction of the all-weather road.

f) At Boston

- All-weather airstrip at Boston;
- All infrastructure necessary to support mining and processing activities at Boston including construction of new accommodations and associated support facilities (sewage treatment, incinerator, water supply), ore pad, waste rock pad, concentrator, and dry-stack tailings management area (TMA), laydown area, maintenance facilities, contact water ponds;
- Construction of a processing plant at Boston;
- Construction of a power plant and fuel tank farm;
- Construction of a wastewater treatment plant and discharge outfall to Aimaokatalok Lake; and
- Infrastructure necessary to support ongoing exploration activities at Boston.

Table 3.1-1. Key Facts for Hope Bay Belt and Phase 2 Project

Project Development Area (PDA) and Facilities Footprint			
	Hope Bay Belt		Phase 2 Project
Site PDA	4,570 ha		4,031 ha
Facilities footprint	1,341 ha		1,225 ha
Roberts Bay Facilities, Infrastructure and Activities			
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323		**Request for Approval for Phase 2 Project**
	Existing	**Permitted**	
Life of Facilities	2022		Year 1 (2019) to Year 14 (2032)
Site Development	Site largely developed		Minimal footprint extension for cargo dock and access
Marine Facilities	Jetty		Cargo dock
Fuel storage - Diesel	4 @ 5 ML	1 @ 5ML	Diesel - 2 @ 5 ML
Fuel storage – Jet fuel	drums within seacan	500,000 L	No additional storage
Site infrastructure	Access roads, laydown areas, weather havens		Extension of access road
Outfall	Outfall pipeline and berm		No additional requirements
Waste management	Storage facilities, incinerators, work area		No additional requirements
Expected shipping traffic			Freight – up to 4 per year (40 kt/year) Fuel – up to 3 tankers per year (40 ML)
Shipping season	August 1 to 15 September		August 1 to 15 September

Doris Site Facilities, Infrastructure and Activities		
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323	**Request for Approval for Phase 2 Project**
Ore processed during Phase 2 Life of Mine Mining method Processing facilities		2,579,000 t Year 1 (2019) to Year 14 (2022) Underground / box cut Year 1 (2019) to Year 14 (2032)
Site Development	Site largely developed	Minimal footprint extension related to TIA expansion
Airstrip	All-weather air strip Ice air strip on Windy Lake/Doris	No change
Fuel Storage - Diesel	5 @ 1.5 ML	No change
Power house	8 gen-set @ 1.2 MW Modularized building with day tanks. Back-up power supply	No change
Processing Facility	2,000 tpd	No change
Miscellaneous buildings and infrastructure	Maintenance shops, workshops, core storage areas, batch plant, brine mixing facility, laydown areas, warehouses, water treatment, vent raise (3), air heating units, reagent storage, power station, processing plant, site service roads	No change
Overburden stockpile	Located west of the Doris Camp area.	No change
Waste rock stockpile (used for backfill of mine)	In use and located to the east and north of the mill building.	No change
Ore stockpile	In use and located to the east and south of the mill building.	No change
Quarries	Four active quarries permitted	Two additional quarries
Tailing	Tailings Impoundment Area (TIA) Capacity of 2.5 Mt	Expansion of TIA, service roads and quarries Capacity of 18 Mt
Mill	2,000 tpd Carbon-in-pulp processing facility (1,000 tpd existing)	No change
Waste management	Landfill (permitted), landfarm and handling/temporary storage of hazardous waste, incineration and open burning for combustible waste.	No change
Accommodations	280-person accommodations Mine dry, administration buildings, security, emergency	400-person accommodations; extension to mine dry and administration building
Potable Water Supply (Windy lake)	22,995 m^3 (with potable treatment plant)	43,800 m^3 (expansion to water treatment plant)
Industrial (Doris Lake)	480,000 m^3 (including pump house)	2,070,000 m^3 (inclusive of Madrid Operations)

Doris Site Facilities, Infrastructure and Activities		
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323	**Request for Approval for Phase 2 Project**
Fire protection tank	500,000 m^3	No change
Water management and treatment	Cyanide destruction at mill and placement of cyanide destruct tailings underground. Mill water pumped to TIA and water recycled to mill. Excess TIA water discharged to Roberts Bay via mixing box. Mine water (saline) discharged to Roberts Bay via mixing box. Site contact water and domestic waste water pumped to TIA.	No change Retain existing water management approach
Contact water ponds	Two contact water ponds, sediment control berm, diversion berm	No change
Sewage treatment	Accommodate 280-persons Discharge to tundra or TIA	Accommodate 400-persons Discharge to tundra or TIA
Heliport	Heli pad and building	No change
Explosives	Explosives storage	No change

Madrid North Facilities, Infrastructure and Activities		
Components	**Request for Approval under Advanced Exploration Madrid Bulk Sample**	**Request for Approval for Phase 2 Project**
Ore mined Life of Mine Mining method Processing facilities	Approximately 50,000 t bulk sample from Madrid North	12,501,000 t Year 1 (2019) to Year 13 (2031) Underground / box cut Year 2 (2020) to Year 13 (2031)
Fuel Storage (Portal, vent raise and power station)	75,000 L/60,000 L	3 @ 1.5 ML
Power Generation	2 self-contained units at 750 MW (within seacan)	3.6 MW (3 units @ 1.2 MW each)
Waste rock stockpile	285,000 t 158,000 m^3	646,000 t 359,000 m^3
Ore stockpile	50,000 t 28,000 m^3	312,000 t 173,000 m^3
Explosives use	Not specified	4,700 kg/day
Miscellaneous buildings and infrastructure	Maintenance shops, compressor building, office trailer, emergency trailer, brine mixing facility, laydown areas, air heating units.	Additional infrastructure: Vent raise and access road Process plant buildings

Madrid North Facilities, Infrastructure and Activities		
Components	**Request for Approval under Advanced Exploration Madrid Bulk Sample**	**Request for Approval for Phase 2 Project**
Water management	Surface water collected in contact water pond and discharged to tundra.	Surface water – contact water ponds and reuse in mine /process plant operation. Mine water (saline) trucked to Doris mixing box and discharged to Roberts Bay
Contact water pond	7,900 m^3 8,350 m^2	15,100 m^3 13,900 m^2
Processing Plant	No plant	Capacity of 1,200 tpd Mill maintenance shop Warehouse/reagent storage
Tailings	No tailings	Tailings pipeline and service road from Madrid plant to Doris TIA
Ore haulage to Doris Concentrate haulage Backhaul of cyanide leached tailing	All bulk sample ore trucked to Doris	Year 2 to Year 13 – 50 trucks/day Year 2 to Year 13 – 3 trucks/day Year 2 to 12 – 3 trucks/day

Madrid South Facilities, Infrastructure and Activities		
Components	**Request for Approval under Advanced Exploration Madrid Bulk Sample**	**Request for Approval for Phase 2 Project**
Ore mined Life of Mine Mining methods	Approximately 50,000 t bulk sample from Madrid South	991,000 t Year 12 (2030) to Year 14 (2032) Underground / Box cut
Waste rock stockpile (used for backfill of mine)	500,000 t 276,000 m^3	826,000 t 459,000 m^3
Ore stockpile	55,000 t 31,000 m^3	Additional 5,400 t Additional 3,000 m^3
Explosives use	Ammonium Nitrate and Fuel Oil	4,500 kg/day
Contact water pond 1	15,000 m^3 12,300 m^2	No change
Water management	Surface water collected in contact water pond and discharged to tundra	Surface water – contact water ponds and reuse in mine /process plant operation Mine water (saline) trucked to Doris mixing box and discharged to Roberts Bay
Contact water pond 2	900 m^3 920 m^2	2,300 m^3 1,720 m^2
Fuel Storage - Diesel	60,000 L	3 @ 1.5 ML
Power generation	3 self-contained units at 750 KW (within seacan)	No additional units

Madrid South Facilities, Infrastructure and Activities		
Components	**Request for Approval under Advanced Exploration Madrid Bulk Sample**	**Request for Approval for Phase 2 Project**
Miscellaneous buildings and infrastructure	Mine equipment shops, compressor building, office trailer, emergency trailer, brine mixing facility, laydown areas, air heating units	Vent raise and access road
Ore haulage to Doris	All bulk sample ore trucked to Doris	Year 12 to Year 14 – 3 trucks/day
Proposed All-Weather Road and Winter Roads - Construction and Activities		
Components	**Approval**	**Request for Approval for Phase 2 Project**
Road	Winter road	All-weather road construction. Multiple (14) water crossings including 8 bridges and 6 culverts. Continued use of permitted winter road
Quarries	Four quarries along Doris-Windy Road	Nine quarry sites identified along AWR Four quarries expected to be used
Transportation	Not specified	Daily haulage of ore, fuel and operating supplies
Ore haulage to Doris Concentrate haulage Total traffic (peak)	N/A	Year 5 to Year 7 – 42 trucks/day Year 7 to Year 14 – 4 trucks/day Year 2 to Year 14 – 23 vehicles per day

Boston Site Facilities, Infrastructure and Activities		
Components	**Approval under Type B Exploration Licences**	**Request for Approval for Phase 2 Project**
Ore mined Life of Mine Mining methods Processing facilities	N/A	5,104,000 t Year 1 (2022) to Year 14 (2032) Underground / Box cut 2022 to 2032
Fuel Storage - Diesel	6 @ 77,000 L 2 @ 33,000 L	Diesel - 3 @ 1.5 ML
Fuel Storage – Jet fuel	drums within seacan	No change
Power Station	Not specified	8 gen-set units @ 1.2 MW and building Emergency power – 750 KW gen-set
Quarries	None	Three potential quarries identified for construction of airstrip Quarry AD used for site development
Overburden stockpile	None	54,100 m^3
Waste rock stockpile (used for backfill of mine)	Waste rock used as construction material	628,000 t 349,000 m^3
Ore stockpile	Bulk sample	7,000 t 3,900 m^3
Explosives use	Not specified	2,770 kg/day

Boston Site Facilities, Infrastructure and Activities		
Components	**Approval under Type B Exploration Licences**	**Request for Approval for Phase 2 Project**
Miscellaneous buildings and infrastructure	Exploration-related maintenance shops, workshops, laydown areas, water pump house, vent raise, warehouse, site service roads	New maintenance shops, workshops Emergency trailer, brine mixing facility, laydown areas, water pump house, vent raise, warehouse, reagent storage, processing plant, site service roads
Processing Plant	None	Capacity of 2,400 tpd
Tailings	None	TMA sized for 4.2 Mt Dry stacked tailings
Accommodations and associated infrastructure	Accommodate 120-persons	New 200-person accommodations; Mine office and dry and administration buildings
Site water management	Surface water and wastewater effluent discharged to tundra.	Surface water from contact water ponds res-used in processing plant. Mine dewatering to processing plant. Wastewater treatment plant with treated effluent discharged to Aimaokatalok Lake via outfall.
Contact water ponds	Containment pond	Pond 1 and 2 sized for 100-year precipitation event; TMA pond – 20,500 m^3
Potable Water Supply Aimaokatalok Lake	100 m^3/day using pump house	Domestic – 22,000 m^3/year Industrial – 290,000 m^3/year Pump house and water treatment plant
Water storage	Not specified	50,000 L
Sewage Treatment Plant	Accommodate 120-persons Discharge to tundra	Accommodate 200-persons Discharge to tundra or to Aimaokatalok Lake
Waste management	Incinerator for site waste Temporary storage of waste Waste transported to Doris or Roberts Bay for disposal	Incinerator for site waste Temporary storage of waste Landfarm Waste transported to Doris or Roberts Bay for disposal
Heliport	Exploration helipad	Helipad and heliport building
Airstrip	Winter air strip Exploration all-weather strip	All-weather air strip (1,524 m) Airstrip building
Workforce		
	Current	**Phase 2**
Construction (peak)	N/A	Doris / Madrid – 400 persons Boston - 200 persons
Operations	190 persons	Doris/Madrid – 400 persons Boston – 200 persons

3.2 PROJECT DEVELOPMENT CONSIDERATIONS

Avoiding and mitigating potential effects of the Phase 2 Project has guided TMAC's design decisions. Project design considerations included health and safety, biophysical environment, archaeological and cultural heritage, and socio-economic information from public engagement, baseline data and other available data sources.

TMAC is committed to acting in a socially and environmentally responsible manner, reducing environmental damage and harm, where possible. To meet this goal, TMAC has used the Precautionary Principle in designing the Project. The approach considers all available baseline information to help design the Project to avoid significant adverse effects to environmental and social values. The applications of this approach and changes to Phase 2 Project design were part of the assessment of alternatives described in Volume 3, Section 7.

The Company's commitment to occupational health and safety is based on the principle of controlling risk to provide a proactive and positive safety culture and an incident-free workplace. TMAC's environmental management framework and associated environmental management plans are outlined in Volume 8.

The design of Phase 2 Project infrastructure considers potential implications of climate change. Analysis of climate change, based on climate change projections, are integrated into Project design (Appendix V3-2A). A discussion of climate change and the potential effects of the environment on the Project is presented in Volume 7, Section 2.

3.2.1 Biophysical Environment

The Phase 2 Project design incorporates design, operational safeguards, and contingency plans to mitigate potential effects to biophysical VECs. Highlights of the mitigation measures incorporated into Project design included:

- establishing setbacks from streams and waterways;
- fish-bearing streams will be spanned using a clear span bridge structures. Fish-bearing streams of very low flow will be spanned using culverts sized for fish passage provided the required conditions necessary to sustain fish habitat can be achieved;
- routing roads, as far as is practical, to avoid streams, channel crossings and wet, boggy areas where fish habitat may be disturbed;
- establishing buffer zone from known rare plants;
- establishing buffer zone from known archeological sites;
- minimizing project footprint to reduce habitat loss and alteration;
- avoidance of important bird nesting areas; and
- developing site-specific mitigations where minimum buffers cannot be achieved.

Project design reduced potential effects to permafrost. Design elements include:

- thermal modelling (Appendix V3-2C, Appendix C) to determine fill requirements over tundra to ensure preservation of permafrost for infrastructure construction; and

- wherever possible, airstrips, roads and other infrastructure pads will be constructed in the winter to ensure the integrity of the permafrost using sufficient cover material to insulate it.

3.2.2 Archaeological and Heritage Resources

Archaeological sites are only mitigated when it is clear that they will be impacted, either directly or indirectly, and that there are no options for avoidance or adequate protection. The only exceptions to this are sites that are limited to a single surface feature with no possibility for additional remains. Detailed mapping may readily mitigate such sites if they are close to Phase 2 Project components or activities.

Over the history of the Hope Bay Project, 27 of the 301 sites have been mitigated by mapping to scale, surface examination/collection, and excavations as judged necessary (Volume 6, Section 2).

TMAC compares exploration programs and proposed developments to recorded site locations, and additional survey or mitigation is applied as necessary. TMAC has incorporated archaeological programs as part of the ongoing baseline data collection and implemented a Standard Operating Procedure for all employees, contractors, and visitors. Upon discovery of an archaeological site, the site is not to be removed or disturbed and the location will be reported to the appropriate regulatory bodies.

3.2.3 Socio-economics

Project design consideration for socio-economics include those targeted to benefit Kitikmeot residents, as well as those developed to more broadly provide benefits of the Project. The benefits of the Project will offset or reduce potential adverse socio-economic effects. For example, potential adverse effects to community well-being may be offset by the provision of income benefits and of the Employee and Family Assistance Program (EFAP), which includes specific offerings including financial management programming.

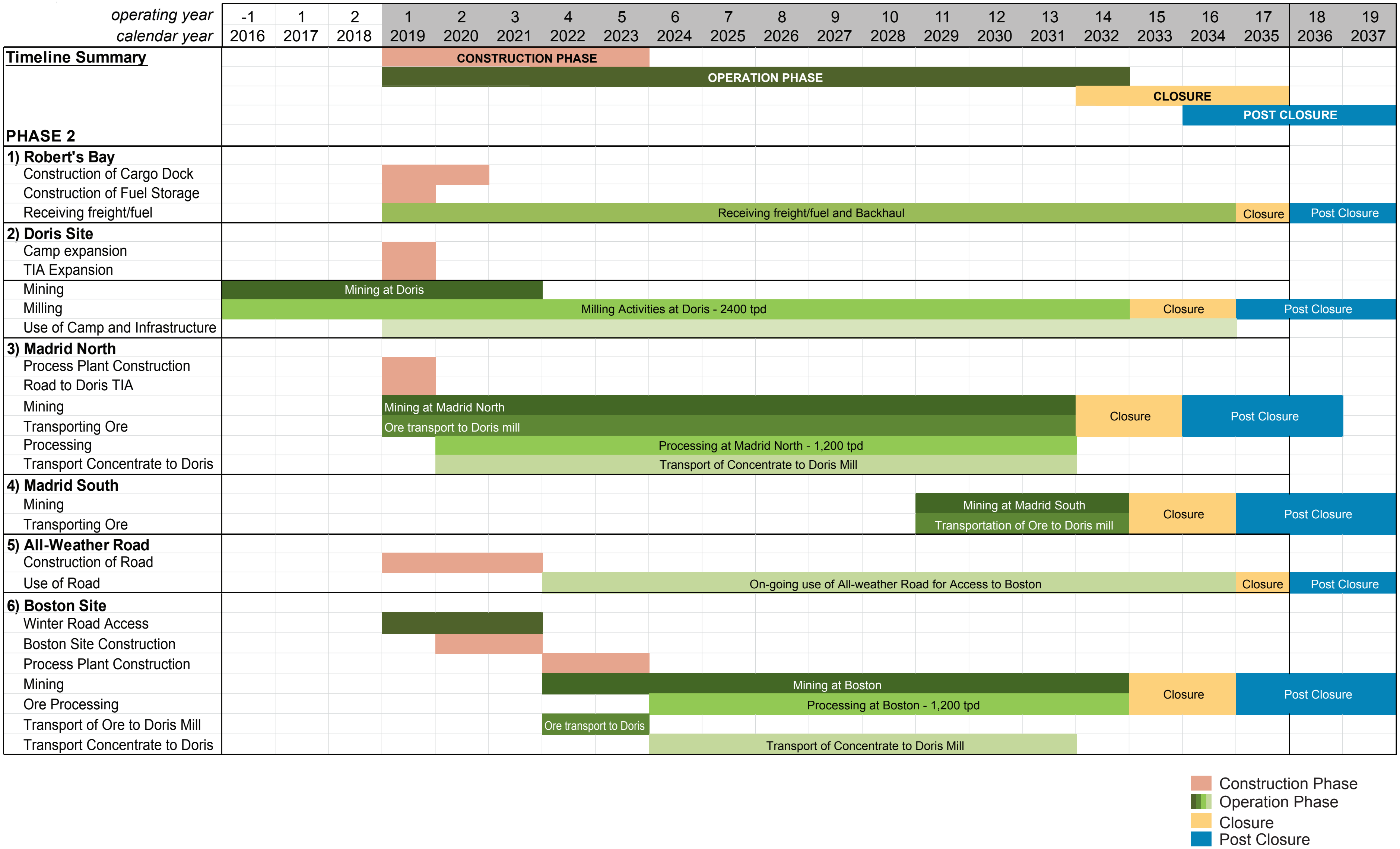
The Project design considerations for socio-economics are focused on the policies and procedures TMAC has adopted to guide the operation of the Project for employees. The Project design considerations reduce effects, provide a benefit to offset adverse effects, or enhance a value related to the identified effects.

3.3 PROJECT PHASES

The Life of Mine for Phase 2 which include construction, operation and reclamation, is expected to be 17 years. As indicated in Figure 3.3-1, construction activities (Year 1 to Year 5) will overlap with operation (Year 1 to Year 14) since Phase 2 utilizes existing facilities at Doris. Reclamation and closure is expected to take 3 years and will begin once mining is completed (Year 15 to Year 17).

The Project schedule (Figure 3.3-1) illustrates TMAC’s staged approach to conducting the Project at Madrid and Boston deposits.

Figure 3.3-1
Project Schedule



3.3.1 Construction

3.3.1.1 Roberts Bay

To support the safe and efficient offloading of fuel, equipment and supplies a cargo dock, and access road to the dock and fuel pipeline along the access road will be constructed at Roberts Bay (Figure 3.3-1). In addition to the construction of the dock, an additional 10 ML tank farm consisting of two 5 ML tanks will be constructed at Roberts Bay. No additional infrastructure or buildings will be required at Roberts Bay. Along with the marine cargo dock, other components required to support a marine dock that unloads fuel will include upland mooring points, beach landing for work boat with gravel pad, and shore manifold for fuel offloading pipeline.

3.3.1.2 Doris

The Phase 2 Project construction activities include expansion of the Doris TIA. In addition, the Doris site accommodations will be expanded to 400 persons. No other facilities or infrastructures require modification beyond existing authorizations.

The Doris TIA is a former lake (Tail Lake), delisted in accordance with Schedule II of the Metal Mining Effluent Regulations (MMER). Phase 2 Project construction will expand the TIA capacity to accommodate the entire volume of flotation tailings scheduled from mining at the Madrid North, Madrid South, and Boston sites. The expansion of the Doris TIA will include:

- construction of a new perimeter road around sections of the expanded TIA;
- raising the south dam by 8 m;
- constructing a 5 m high west dam; and
- quarrying, crushing, and screening of aggregate for the construction.

3.3.1.3 Madrid North

The construction activities for the Phase 2 Project are those required to modify the site from its configuration for the Madrid Advanced Exploration Program. The Project construction activities required to modify the site include:

- expansion of the site pad, primarily to accommodate a larger waste rock stockpile;
- expansion of the contact water pond (CWP) to accommodate the larger pad area;
- use of a local quarry to produce construction bulk rock fill and aggregate;
- construction of a 1,200 tpd capacity concentrator;
- construction of a tailings pipeline and access road to the south end of the Doris TIA; and
- construction of a 3.6 MW capacity power plant.

TMAC proposes to carry out crushing, milling and concentration of ore at Madrid North. The concentrate will correspond to less than 10% of the ore milled, and will be transported to the Doris mill by truck for gold extraction. Hence, the Madrid North concentrator does not require the use of hazardous chemicals in the extraction process. Tailings from the concentrator will be directed to the existing Doris TIA via an access road to be constructed north of Patch Lake. This route is the shortest routing to the TIA and therefore minimizes pumping requirements, maintenance of the line and minimizes spill potential due to a shorter length of pipe.

3.3.1.4 Madrid South

The construction activities for the Phase 2 Project are those required to modify the site from its configuration for the Madrid Advanced Exploration Program. The Phase 2 Project construction activities required to modify the site includes:

- expansion of the site pad, primarily to accommodate a larger waste rock stockpile;
- expansion of the primary CWP to accommodate the larger pad area; and
- use of a local quarry to produce construction bulk rock fill and aggregate.

3.3.1.5 Madrid-Boston All-Weather Road

The Madrid-Boston Boston All-Weather Road (AWR) will be a new facility constructed for the Phase 2 Project. The Phase 2 Project construction activities include:

- development and use of quarries to produce construction bulk rock fill and aggregate;
- construction of the AWR per design;
- installation of culverts and bridges at water crossings; and
- use of the established Madrid-Boston winter road route or other short localized winter routes as required to enable efficient construction of the all-weather road.

The road is designed to be a single lane road with turnouts to allow for passing. Haul trucks will be used to construct the road and will travel the road and during operations for the haulage of ore; therefore, the haul road standards set out in the Consolidation of Mine Health and Safety Regulations (R-125-95 2011) are applied to this road.

It is expected that animals will be able to move freely across the AWR. During design of the road, community members will be consulted as to locations along the road where the road bank could be modified with a more gradual slope to ensure easier passage.

Four types of stream crossings have been identified (culverts, fish-bearing culverts, clear span bridges with pile foundations, and clear span bridges with frozen abutment foundations) for the 16 stream crossings on the proposed AWR.

3.3.1.6 Boston

The Phase 2 Project construction reconfigures and expands the existing exploration camp at the Boston site. The Phase 2 Project construction activities include:

- construction of an expanded site pad and all infrastructure necessary to conduct exploration activities, production-level underground mining, ore processing and tailings deposition;
- expansion of accommodations capacity; and
- use of the established Madrid-Boston WRR until the AWR is operable.

The infrastructure associated with the mining activities at Boston include: accommodations, processing plant, power plant, fuel facility, waste rock pile, ore stockpile pads, landfarm, laydown area, and core storage. The components are grouped into zones that must be in proximity to each other for practical use. In the case of the mine and mill zones, buildings must be located near contact water containment.

Boston site accommodations have an existing capacity of 120 persons, which will be utilized for construction and replaced with accommodations for 200-persons for operation.

TMAC proposes to carry out crushing, milling and concentration of ore at Boston. The concentrate will correspond to less than 10% of the ore milled, and will be transported to the Doris mill for gold extraction. Hence, the Boston process plant (mill) does not require the use of hazardous chemicals in the extraction process.

A filtered tailings disposal facility will be constructed (typically referred to as “dry stack”) approximately 1 km east of the mill (Appendix V3-2F). The facility occupies a flat area just east of the Aimaokatalok Lake extension, and south of the proposed airstrip. The dry stack facility will be built progressively during mine operations entirely of the filtered tailings. The facility will be constructed in thin lifts, 0.3 to 0.5 m thick, built successively to achieve the final height of the facility. Intermediate benches will be constructed at 5-m interbench height, with a width of 5 m. These benches will facilitate placement of the geomembrane and of the final cover at closure.

3.3.1.7 Boston Airstrip

The Boston airstrip will be a new facility constructed for the Phase 2 Project. The Phase 2 Project construction activities include:

- development and use of quarries to produce construction bulk rock fill and aggregate; and
- construction of the airstrip, access road and associated facilities per design.

The Boston mine site requires reliable year-round air access that cannot be achieved with the existing 500 m STOL airstrip. A new 1,524 m long gravel airstrip has been designed for Dash 8 sized and Boeing 737-200 aircraft as well as an optional 450 m extension, which would allow for larger aircraft such as Hercules C-130 aircraft.

3.3.1.8 Quarries

The development and ongoing maintenance of Project facilities and infrastructure will require the development of quarries for aggregate sourcing. The Project design has identified all potential quarry sites and the quarry material is geochemically stable (Appendix V3-3A). Up to 5 Mt of quarried material will be required for Phase 2 Project construction.

3.3.1.9 Shipping Activities during Construction and Operations

Roberts Bays will receive all fuel, equipment and material required for Phase 2 Project construction. During construction and operation, TMAC expects to receive up to three fuel shipment during each open water season (15 ML double hull tankers). From the Roberts Bay main tank farm, tanker trucks will distribute fuel to designated storage areas and tank farms at Doris, Madrid, and Boston, as required.

Sealifts for construction material, equipment, freight, and resupply will also occur during the open water season, from August to September annually. Three to four cargo vessels deliveries are expected for construction and operation.

3.3.2 Operation

3.3.2.1 Geology and Mineral Reserves

The HBVB is a greenstone belt that is located in the northeast portion of the Slave Structural Province. The HBVB is mafic volcanic-dominated, typified by massive to pillowed tholeiitic flows interbedded with calc-alkaline felsic volcanic and volcanoclastic rocks, clastic sedimentary rocks, and rarely synvolcanic conglomerate and carbonates.

Gold mineralization varies depending on mineralization style and relationship to the host volcanic sequences. The Boston deposit is located near the south end of the belt and is associated with a flexure in the Hope Bay regional structure. The Madrid deposit consists of three styles of veining and brecciation. The mineral reserves are estimated as follows:

- **Doris Deposit** – Mineral Resources with 870,000 contained ounces of gold classified as Measured and Indicated, and 247,000 contained ounces of gold classified as Inferred; partially developed by ramp access.
- **Madrid Deposit** – Mineral Resources with 2.55 million contained ounces of gold classified as Measured and Indicated, and 852,000 contained ounces of gold classified as Inferred.
- **Boston Deposit** – Mineral Resources with 1.10 million contained ounces of gold classified as Measured and Indicated, and 330,000 contained ounces of gold classified as Inferred; partially developed by ramp access.

The cut-off grade for the mineral resources is estimated at 4.5 g/t Au.

3.3.2.2 Mining

Underground mining will incorporate several methods that address the deposit geometry and anticipated ground conditions. Mining will take place under permafrost conditions where the mineralization is located away from any water bodies and also under non-permafrost conditions in talik zones. The Madrid North and the Madrid South deposits are situated partially beneath the lakes and, therefore, will not be entirely under permafrost conditions. The Boston mine is situated in permafrost conditions.

The deposits will be accessed and services will be provided by ramp declines from surface. The ramps will also be used for ore and waste haulage from the underground operations. Mining methods will generally minimize waste rock material brought to surface, thereby reducing mine contact water potential at surface and also minimizing blasting and fuel requirements for haulage out of the mine. Waste rock will be used as backfill prior to closure.

The drilling program at Madrid North has focused on continuing to define the spatial extent and the controls of near-surface gold mineralization. The near-surface mineralization is positioned vertically above the mineral resource. The grade, geological controls, and near-surface extent of the gold mineralization will be amenable for extraction using multiple box cuts. At Boston and Madrid deposits, box cuts will be utilized for establishing declines to underground mine workings, or in other locations where subsequent infrastructure could be placed, thereby minimizing surface disturbance of non-gold bearing land. More details on mining methods are provided in Volume 3, Section 4.

3.3.2.3 Waste Rock Management

Each of the mine sites has a waste rock pile located as close as practical to the mine openings. Geochemical characterization of the waste rock produced at each site has been completed. Waste rock generated by the Project does not pose a risk of acid drainage.

Waste rock will be used as underground backfill to the maximum extent possible and is predicted to consume all of the Project waste rock with the makeup underground backfill coming from quarries, as required. At each mine, the temporary waste rock storage pad is located close to the mine portals in order to minimize transportation distances.

3.3.2.4 Ore Management

The ore stockpile area at Doris will continue to be utilized for Phase 2 for Madrid and Boston ores. Ore stockpiles will also be located at Madrid North, Madrid South and Boston. Ore stockpiles at all sites will be continually drawn down and replenished as ore is processed at Doris, Madrid North and Boston.

A 1,200 tpd processing plant will be built at Madrid North. Since the mining rate will exceed the processing plant capacity, excess ore mined at Madrid North will be transported to Doris for processing. The concentrate produced by the Madrid North concentrator will be transported to Doris for gold extraction.

All of the ore mined from Madrid South will be hauled by truck to the Doris or Madrid North mill for processing.

Boston mining operations will begin by Year 4. The ore will be trucked to the Doris mill until the Boston processing plant is operational in Year 6. The Boston processing plant will produce gold concentrate which will be trucked to the Doris mill for gold recovery. This concentrate corresponds to approximately 10% of the ore processed at Boston.

3.3.2.5 Mineral Processing

The Doris mill is operational and authorized under the Doris Project Certificate 003 and Type A Water Licence 2AMDOH1323. The tailings generated at the Doris mill will be disposed of at the expanded Doris TIA.

Ore processing plants at Madrid North (1,200 tpd) and Boston (2,400 tpd) will be similar in design. The processing plant consists of crushing, continuous gravity concentration, grinding of gravity tails, flotation, tails thickening, and concentrate filtering, storage and reclaim. The tonnage of concentrate produced at Madrid North and Boston represents approximately 10% of the incoming ore.

3.3.2.6 Tailings Management

The tailings produced at Madrid North will be pumped to the Doris TIA. The tailings produced at Boston will be dry-stacked and stockpiled at Boston.

Operation of the Doris TIA will continue as currently authorized under the Type A Water Licence 2AMDOH1323. Tailings deposition will minimize the area of exposed inactive tailings surface that might be prone to dusting. Throughout operations of the Phase 2 Project, the containment structures (North, South and West dams) will be subject to monitoring to evaluate their performance. All TIA components and activities will be subject to annual inspections by a qualified engineer.

The tailings produced at the Madrid North processing plant will be pumped to the Doris TIA along the access road to be constructed from Madrid North to the south end of the TIA.

The tailings generated at the Boston processing plant will be dry stacked on the storage pad located at the Boston site as described in Appendix V3-2F. This method of deposition will facilitate closure.

3.3.2.7 Water Management at Doris

Water management for Doris follows the authorizations under the Type A Water License 2AMDOH1323. Water management will be modified at Doris to include the following connections between the other mining areas:

- Water collected in the Madrid North and Madrid South contact water ponds may be deposited in the Doris TIA.
- Madrid North ore and concentrate, Madrid South ore, and Boston ore (Year 3 and 4) and concentrate (Year 4 onwards) will be processed at the Doris mill with flotation tailings deposited at the Doris TIA.
- Detoxified concentrate tailings will be placed underground with waste rock.
- Intercepted groundwater from Madrid mines will be discharged to the Doris TIA or marine outfall mixing box.

During operation, all site surface and underground mine water that does not meet discharge criteria will be redirected to the TIA. Reclaim water from the TIA will be pumped to the Doris mill. The reclaim volume will be maximized so as to reduce the need for freshwater make-up from Doris Lake. A reclaim barge on the polishing pond in the TIA will house the reclaim pump. The reclaim barge will be equipped with a bubbler system to ensure it remains functional during winter months. Water that meets discharge criteria set forth in the Type A Water Licence will be discharged to Roberts Bay via the engineered outfall.

The Madrid North mine will intercept the talik below Patch, Windy, and Imniagut lakes. Mining at the Madrid South mine is expected to intercept the talik below Wolverine and Patch Lakes. This intercepted ground water is expected to saline. To the extent practicable, mine water will be used within the underground workings. Mine water collected in underground settling sumps (this includes groundwater seepage into the workings and drilling wastewater) will recycled for underground use. Underground mine water will also be transferred to the tank to be used as water supply for the Brine Mixing Facility. Excess groundwater will be hauled to Doris for transfer to the TIA or discharge via the marine outfall mixing box and discharge to the ocean.

Domestic water for the Madrid North and South comes from the potable water drawn from Windy Lake under the Type A Water Licence for the Doris Mine. Industrial water (dust suppression, wash bays, and machine shops) comes from the water drawn from Doris Lake. The total volume allocated under the Type A authorization is 480,000 m^3/year for Doris. Additional industrial water will be required for the Madrid mining and process plant operation.

Contact water (surface water runoff) from the waste rock piles, ore stockpiles, and all other surface infrastructure pads will be collected in CWPs. In order to maximize mine water reuse, runoff collected in these CWPs will be transferred by truck or pumped to the tank to be used as water supply for the Brine Mixing Facility. Make-up water will only be drawn from the freshwater sources when it cannot be drawn from the CWPs. Excess contact water will be sent to the Doris TIA or discharged onto the tundra if water meets discharge criteria.

There will not be accommodations at the Madrid North or South sites. A portable wash car containing toilets, washbasins and showers will be equipped with heated black and gray water day tanks (Pacto unit). These tanks will be emptied via a vacuum sewage truck and transported to a holding tank at the Doris site for blending into the Doris site sewage treatment facility.

At Boston, the mine will be within permafrost, and no groundwater interception is anticipated. Contact water from the TMA will be retained by a series of containment berms, surrounding the facility on three sides. The east side berm will double as the access road to the Boston airstrip. The north side is open as the topography slopes back to the TMA and a containment berm is not necessary. Contact water from the waste rock pile, ore stockpile, and other mine surface infrastructure pads will be collected at a CWP. This water will be used for make-up water at the Boston processing plant or pumped to the wastewater treatment plant. Treated wastewater will be discharged to Aimaokatalok Lake via an outfall.

Potable water and raw water for industrial use (brine mixing, dust suppressant, and mill makeup water) will be sourced from Aimaokatalok Lake. A volume of 22,000 m^3/year of potable water is anticipated to be required during operation. The domestic wastewater will be treated prior to discharge to the tundra. Raw water will be used in processing at the Boston mill and for surface and underground exploration. A volume of 270,000 m^3/year of water will be used during operation. Purge water from the mill will be sent to the water treatment plant prior to discharge to Aimaokatalok Lake.

Boston will have a fully functional accommodations facility complete with packaged biological sewage and gray water treatment plant. Discharge of the treated effluent will be to the tundra via a diffuser or into Aimaokatalok Lake with other site discharges. The sludge will either be incinerated or trucked underground for disposal with the backfill waste.

3.3.2.8 Waste Management

Non-Hazardous waste will be segregated and disposed of either in the in an incinerator, landfill, or will be open burnt. Domestic waste generated at Madrid will be trucked to Doris and integrated with the Doris waste stream for handling and disposal. A new incinerator and a landfill will be constructed at Boston. TMAC's Waste Management Plan (Volume 8) outlines the waste management practices for Phase 2 Project.

3.3.2.9 Explosives Storage

Explosives will be stored in magazines as authorized by the Explosives Use Permit granted by NRCan. As required, detonators and dynamite will be stored in steel Type 4 magazines or better (NFPA 495, 2006, Sect. 9.2). The detonators must be housed separately from the explosives in their own magazine(s). The current explosives and detonator storage magazines are located to the east of the Doris TIA at an acceptable distance from the nearest occupied structure and shielded as required by regulations. It is anticipated that this current location will suffice for Project operations with campaigned delivery to a smaller magazine and storage areas near Boston.

3.3.2.10 Fuel Storage and Distribution

Fuel will be transported via the Mackenzie River, east or west coast by double-hull tankers to the port at Roberts Bay. Fuel will be transferred to land-based fuel storage via the floating hose method to the primary fuel storage located at Roberts Bay. Supplement fuel storage is located at Doris site. Additional fuel tank farms will be constructed at Madrid North and at Boston to ensure continuous diesel supplies for the mining operation and at the generator sets.

Bulk fuel trucks will be used to transport diesel fuel between Roberts Bay and the other Phase 2 Project sites. Site wide fuel consumption is expected to peak at 40 ML during the peak mining years at Madrid North and Boston.

3.3.2.11 Power

Power load requirement for the mine, mill and site related facilities, will range from approximately 40,000 MWh/year usage initially up to approximately 85,000 MWh/yr. The existing power plant at Doris has sufficient capacity to support the Doris site.

Madrid North will be serviced by dedicated power generation plant. For Madrid South, power demand will be limited to mining operations and related office space. Madrid South will utilize two 600 V, 725 KW generators. The Boston will be supported by a dedicated power generation plant.

3.3.2.12 Hazardous Material Management

All reagents and hazardous substances used during Phase 2 Project will be transported, handled, and stored in accordance with the requirements of the *Transportation of Dangerous Goods Act* (1992). Reagents will be delivered by sealift and stored at the Doris site where most of the reagents are consumed during the cyanide leaching and gold recovery operation. Flocculants and flotation agents used at the Boston and Madrid processing plants will be transported by truck as required.

There will be no hazardous waste disposal facilities on site. All hazardous waste will be stored using standard industry best practice methods and shipped off site, either via sealift or airlift backhaul as the opportunities arise. Final disposal will be under contract at a designated licenced hazardous waste disposal site close to the designated port or airport.

3.3.2.13 Auxiliary Services, Safety, Security, Fire Control

Auxiliary services include mine maintenance facilities, warehouses, accommodations and administration complexes located mainly at the Doris and Boston sites. The Doris accommodations will be expanded to house 400 persons while a new 200-person accommodation facility will be constructed at Boston. Employees working at the Madrid mines will be housed at the Doris site.

Site Security is achieved primarily by location and limited access points. All persons entering and leaving the site are tracked by passenger manifest and approved for entry prior to boarding aircraft. All persons entering site for a visit or work will receive an orientation on site safety rules, relevant regulations, evacuation procedures, and occupancy rules.

The Hope Bay site is a dry camp – there is zero tolerance for alcohol or drug use. Pre-employment screening and testing for cause will be utilized to ensure the site remains free of the hazard of drugs and alcohol.

Fire control will generally be managed by training and vigilance of the workforce in identifying fire hazards and responding with hand held equipment. In addition, automatic detection and suppression systems are deployed for high risk and/or high value installations. Fire evacuation plans for all areas are formal and include designated muster points and identification of potentially missing persons. Site emergency response will be achieved through the training and equipping of an emergency response team.

3.3.2.14 Roads and Vehicle Traffic

The road network will be maintained using a conventional road grader, following standard road grading procedures for gravel topped roads. Enforcement of speed limits will ensure safety of workers and will be the main mechanism for dust suppression. Water will be used for dust suppression as required and weather permitting. Traffic projections for the major road segments are provided in Volume 3, Section 4.

3.3.2.15 Air Transport

Personnel transport services are based on charter aircraft from Edmonton, Yellowknife or Kitikmeot communities. Southbound (Edmonton and Yellowknife) passenger flights will occur four times a week, and will make use of aircraft sized to optimize transportation costs; these may include Dash 8s, Dorniers, ATR72, 737s or similar aircraft. Nunavut residents are transported via Dorniers, twin otters or other similar aircraft to site.

As the permanent operational workforce is hired, the routing of employees will be examined to optimize transportation costs. The intention in the future is to specify a few regional hubs as points of hire for transportation of employees to limit costs and complexity of travel.

Air freight service to Hope Bay is accomplished on regularly scheduled crew transports which typically accommodate 900 kg of cargo each trip out of the 2,550 kg payload capacity. In addition to the available payload on crew rotation charters, the Project will make use of freight aircrafts.

3.3.3 Closure and Reclamation

3.3.3.1 Overview

The overall objectives of the closure and reclamation plan are to establish stable chemical and physical conditions and ensure the future use and aesthetics of the site following reclamation meet the requirements of Aboriginal, Federal and Territorial governments, landowners, local communities and regulatory authorities. These objectives and the closure and reclamation criteria and strategies presented have been developed in accordance with the Nunavut Mine Site Reclamation Policy (DIAND 2002) and the 2007 Northwest Territories Mine Site Reclamation Guidelines (INAC 2007).

In terms of future land use, some infrastructure at the site is a substantial contribution to the development of Nunavut and could be left in place after closure following consultation with all interested parties. For example, the fuel storage, airstrip, port/jetty, roads and rock pads can be used as a base for other projects in the area. However, the TMAC's site reclamation plan assumes these structures and facilities will all be removed and/or reclaimed to acceptable standards.

A Phase 2 Project Closure and Reclamation Plan will be used to update the existing Doris Interim Mine Closure and Reclamation Plan (ICRP). The following section describes TMAC's approach for closure and reclamation of the Phase 2 Project.

3.3.3.2 Closure Goals

The goals for the Final Closure are to:

- apply the principles of pollution prevention and continuous improvement to minimize ecosystem impacts, and facilitate biodiversity conservation;
- use energy resources, raw materials and natural resources efficiently and effectively;

- engage with governments, local communities and the public to create a shared understanding of closure and reclamation issues and take their views into consideration in making decisions;
- return the Project affected and viable sites to “wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and human activities” (NRCan, 1994);
- where practicable, undertake reclamation of affected areas as soon as practical in an on-going and progressive manner to reduce the environmental risk once the mine ceases operation (INAC 2007);
- provide for the reclamation of affected sites and areas to a stable and safe condition and restore altered water courses to near their original alignment and cross-section, and where practical, affected areas will be returned to a state compatible with the original undisturbed area (Territorial Land Use Regulations);
- reduce the need for long-term monitoring and maintenance by designing for closure and instituting progressive reclamation, when possible;
- provide for mine closure using the current available proven technologies in a manner consistent with sustainable development; and
- provide sufficient detail such that adequate scopes of work can be developed for the execution of reclamation work, and where insufficient details exist, monetary allowances should be included in the cost estimate to account for additional engineering and planning.

3.3.3.3 Progressive Reclamation

Most of the Phase 2 Project areas will be actively used during construction and operation of the Project, although where practical, areas which are no longer needed to carry out Project activities will be progressively reclaimed during construction and operations. Where practicable, progressive rehabilitation will be implemented to achieve the Projects site abandonment goal and closure principles.

3.3.3.4 Temporary Mine Closure and Suspension Of Activities

Short-term temporary mine closure may occur when the Phase 2 Project ceases operations for a period of less than one (1) year with the intent of resuming operational activities or final closure activities. When this occurs, the Project enters a “Care and Maintenance” phase, the main objective of which is to maintain all equipment and facilities in a state of readiness to resume operation with minimal delay or have Project components at the ready for use to support closure activities while ensuring appropriate environmental protection measures or activities continue.

Care and maintenance preparation will be implemented and executed by operational maintenance staff and other support personnel on site and will be carried out within approximately six (6) months of the initiation of the Temporary Closure/ Care and Maintenance phase based on the level of effort required. Access to the Project sites, buildings and structures will be restricted to authorized persons only. Buildings where potential hazards exist will be locked or otherwise secured

During the Temporary Closure/ Care and Maintenance period, all terms and conditions of the Project Certificates and Water Licences will remain in force. Throughout the Temporary Closure/ Care and Maintenance period, TMAC will continue to report on its activities on an annual basis to the NIRB (as per Project Certificate requirements), the NWB (as per Type A Water Licence requirements). If a Care and Maintenance monitoring schedule is required differing from operations, it will be established in compliance with the Aquatic Effects Monitoring Plan (AEMP) and other applicable management plans in consultation with applicable regulators.

3.3.3.5 Long-term Temporary Mine Closure Care and Maintenance

TMAC may extend the mine closure over a longer timeframe than one (1) year should economic conditions dictate while the facility is in Temporary Closure/ Care and Maintenance. In the event the Project ceases operation for a period of greater than (1) year with the intent of resuming activities in the future, Long-Term Temporary Mine Closure activities will occur. Long-term Temporary Mine Closure activities will ensure the Project sites are maintained in a secure condition, and all facilities and equipment are de-energized and winterized. Hazardous waste and explosives would be removed from the site. Personnel necessary, including environmental personnel, to maintain site security and Project monitoring requirements would remain on site seasonally.

A Long-term Care and Maintenance Plan would be submitted to the NWB and the Land Owner at least 60 days prior to entering the Long-term Mine Closure period. Site personnel will conduct general inspections periodically and may decrease that frequency if the site inspections indicate that the site infrastructure is stable. A record of these inspections will be maintained. The names of contact persons will be provided to the pertinent regulators and government agencies such as INAC and Landlord for their information, and to facilitate their access to the site, if and when necessary. The Project could reopen when the circumstances requiring the Long-term Temporary Closure change (e.g., when economic or other conditions that caused the temporary cessation of operations is no longer of concern).

During Long-term Temporary Closure, all terms and conditions of the Type A Water Licence would remain in force unless an amendment to this licence is requested by TMAC as part of the Long-Term Care and Maintenance Plan. The application for a licence amendment would identify the changes proposed for the facilities required to be shutdown, the location of new discharges (if any), updates to any management plans and/or the AEMP (if required), and an indication of sites to be permanently rehabilitated. A monitoring schedule, if differing from operation, will be established as part of the Long-Term Care and Maintenance Plan in compliance with the AEMP and other applicable management plans in consultation with applicable regulators.

Routine inspection, monitoring and reporting as required by the Type A Water Licence and its associated management plans will remain applicable.

TMAC will continue to report on its activities throughout the Long-term Temporary Closure period on an annual basis to the NIRB (as per Project Certificate requirements), the NWB (as per Type A Water Licence requirements).

3.3.3.6 Final Mine Closure and Reclamation Activities

3.3.3.6.1 Buildings, Pads and Infrastructure

Final closure activities for the specific project components such as laydown area, buildings, process plant, power plant, fuel tank farms, mine portals, vent raises, ore pads, reagent pads, equipment and machinery, are described in the approved ICRP and Doris Mine Closure and Reclamation Plan (TMAC 2014). These methods will be followed for closure of the Project components as described in Volume 8 Annex 27.

3.3.3.6.2 Doris Tailings Impoundment Area

The closure concept for the Doris TIA is established in the approved Doris Mine Closure and Reclamation Plan. Upon closure, the tailings surface will be covered with a nominal waste rock cover of 0.3 m thickness. The function of the cover is to prevent dust and to minimize direct contact by terrestrial animals. Once the water quality in the Reclaim Pond has reached the required discharge criteria, the

North Dam will be breached as originally intended. The updated closure and reclamation measures for the Doris TIA are described in Volume 8 Annex 27.

3.3.3.6.3 Madrid-Boston All-Weather Road

The all-weather road will remain in place after closure. Peripheral equipment such as sign posts will be removed. Where rock drains, culverts, or bridges have been installed, the roadway will be breached and the element removed. The breached opening will be sloped and armoured with rock to ensure that natural drainage can pass without the need for long-term maintenance.

3.3.3.6.4 Boston Tailings Impoundment Area

At closure, a low permeability cover will be constructed to reduce the amount of seepage expected. The geomembrane will be placed in direct contact with the tailings and will be protected by a granular cover consisting of 0.3 m of crushed rock and 0.7 m of run of quarry. Construction of the cover will be done in stages or at the end of the active deposition.

The contact water containment berms will be breached and the liner will be cut to prevent collecting any water. Several breaches may be required and will be done at the topographic lows. The balance of the berms will be left in place, as removal of the run off quarry fill could result in localised permafrost degradation.

In post-closure, no seepage is expected, as an infiltration reduction cover incorporating a low-permeability geomembrane will be constructed. A long-term seepage collection system is therefore not required.

The closure and reclamation measures for the Boston TIA are described in Appendix V3-5A.

3.3.3.6.5 Boston Airstrip

The airstrip and access road fill will remain in place after closure. Peripheral equipment such as lighting and sign posts will be removed. Where rock drains or culverts have been installed, the airstrip or roadway will be breached and the element removed. The breached opening will be sloped and armoured with rock to ensure natural drainage can pass without the need for long-term maintenance.

3.3.3.7 Expected Conditions – Post Final Closure

The site abandonment goal of the final closure activities is to return project sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities. TMAC's closure principles, objectives and criteria's have been developed to achieve this future land use goal in as short of duration as reasonably practical.

The airstrip and all-weather roads built using rock fill will be left in place as a permafrost protection measure. The surface will be crowned or graded to prevent permanent ponding. The bridges and the arch culverts will be removed for safety and to restore natural drainage. Roads will be breached in areas where their presence has blocked natural drainage allowing the natural drainage paths to be re-established. When appropriate based on milling rates, TMAC will also apply for Recognized Closed Mine Status and undertake the biological monitoring study prescribed under the MMER.

3.3.3.8 Post-closure Monitoring and Reporting

Post-closure monitoring will take place at the site until such time that the objectives of the closure and remediation activities have been met to the satisfaction of the regulatory authorities and all affected parties. Coupled with the proper implementation of best practice closure and remediation activities, the following post-closure monitoring will support TMAC in meeting closure and remediation objectives:

- The site will be visually inspected by a Professional Engineer annually for three consecutive years to ensure that permafrost degradation areas have stabilized.
- Post-closure monitoring of all covers will be performed every two years for a ten-year period or until it is confirmed the areas are physically stable. These inspections will be completed by a qualified inspector to ensure the physical integrity of the cover is maintained. Maintenance will be performed on areas that monitoring identifies as needing repairs.
- The annual seep sampling program carried out in accordance with Type A Water Licence will be continued to detect any changes in the leachate chemistry downstream of the remediated areas for a period of five years or until the leachate is confirmed to be chemically stable and consistent with the site specific closure criteria.

The post-closure monitoring may require additional activities following the implementation of the project's final closure and remediation plan and the subsequent Reclamation Completion Report.

In addition, the monitoring requirements may again change as a result of the Performance Assessment Report which will be prepared and submitted to the NWB for their review following the initial post-closure monitoring period which will be defined in consultation with NWB as part of the Final Closure and Remediation Plan.

3.4 EXPLORATION ACTIVITIES

Exploration activities related to the Phase 2 Project will continue throughout the Project life. Geological and geophysical mapping, diamond drilling, and sampling provide data for statistically robust estimates of the extent and quality of deposits and an improved geological knowledge of the area. The surface drilling at Madrid North and South, in combination with underground drilling, and the bulk sample program, will collectively provide information that will support a potential upgrade to the mineral resource classification. Exploration work is regulated in Nunavut and activities licenced as required through the NWB.

All surface exploration activities will occur in consultation with the Project archaeologist, and exploration personnel will be trained in archaeological site recognition and reporting. Land-based drilling will be more than 31 m from water bodies. Drill inspections will be routinely conducted to ensure impacts from exploration are minimized. A program of progressive reclamation will be undertaken for all surface drilling. Immediately upon completion of drilling, all casings and collars will be removed to ground level and sealed, and other materials will be removed, and any depressions which may have formed around the drill collar will be filled to the extent practicable to prevent future pooling of water.

3.5 ALTERNATIVES

3.5.1 Alternatives to the Project – Go / No Go Decision

Section 6.4 of NIRB's EIS guidelines requires TMAC to presents an explicit analysis of alternative means of carrying out the Project components including a "no go" alternative. There are two possible outcomes for a go/no-go decision for Phase 2 Project:

5. Proceed with the Phase 2 Project, as proposed within this Application, or

6. Abandon the Phase 2 Project until such time that risks identified through analyses could be reduced or mitigated so as to enhance the Project feasibility.

Based on a Preliminary Feasibility Study (RPA Inc. 2015) completed in 2015, TMAC concludes that Phase 2 Project as proposed in the EIS application, should proceed (i.e., outcome 1). The rationale provided in the PFS is as follows:

> *The outcome for PFS is that the Project represents a significant opportunity for the development of a new mining camp in the Canadian Arctic. The property encompasses an area of significant exploration potential. The Project assets are well advanced and there has been significant de-risking through the expenditures both on site and off site, including construction of significant on-site infrastructure. The development plan has been designed to minimize capital investment and build on the existing assets to generate cash flow that can sustain expansion and exploration. The property encompasses an area of significant exploration potential.*

If the Project does not proceed or is delayed until such time that issues can be de-risked, the mineral resource will not be developed, and the potential effects and benefits predicted in this Application will not be realized. In the absence of the Phase 2 Project, existing conditions are predicted to continue barring other projects within the described LSAs and RSAs for the VECs and trends created by non-Project effects such as climate change. Similarly, socio-economic effects and benefits will not accrue. These effects and benefits are described in Volume 6 Section 3. Predicted benefits of the Project to local communities include the support of both traditional lifestyles and pursuits, and lifestyles that integrate wage-based employment in Inuit communities.

3.5.2 Alternative Means of Carrying out the Project

The physical location of the deposits somewhat reduces the number of potential alternatives for the development of Phase 2 Project components. The development of each site requires a minimum amount of infrastructure such as mine portal, laydown areas, power supplies, fuel supplies, and, supporting facilities. The design for each site focuses on optimizing the layout of this infrastructure at each of the Project sites where mining occurs. The design for each site focuses on optimizing the layout of this infrastructure at each of the Project sites where mining occurs, and therefore, a wide range of options have been considered during the conceptual design phase in order to achieve an optimal layout of facilities at each sites.

As appropriate and where applicable, for each alternative investigated, the evaluation criteria identified in Volume 3, Section 7.1 (technical feasibility, economic feasibility, environmental acceptability, amenability to reclamation, community acceptability or preference, and, socio-economic effects and benefits) were considered.

Volume 3, Section 7 presents a review of the various alternative means of carrying out the Phase 2 Project that were evaluated. An overview of more important alternative means is described below.

3.5.2.1 Cargo Dock at Roberts Bay

A detailed assessment of the cargo dock location alternatives and construction alternatives was carried out by SRK Consulting. This technical memorandum is presented in Appendix V3-3B. Technical, environmental and economic considerations guiding the decision are discussed at length in this report.

3.5.2.2 Access to Boston Site

The Boston deposit is located approximately 55 km from the Doris site. Access to Boston is currently by winter road and by airplane. To minimize footprint of facilities at Boston, the development of the Boston mine site requires reliable year round access, from Roberts Bay/Doris site, for the resupply of fuel, mining equipment and supplies. This can only be accomplished with the construction of an all-weather road as described in the Phase 2 Project.

Several alignment options have been considered for the all-weather road. These options are described in Appendix V3-3I Madrid-Boston All-Weather Road Design. The alignment retained is described in Volume 3, Section 7.

A larger and more reliable airstrip is also required for the Boston site. Again, numerous sites and alignments were considered for this airstrip. These options are described in Appendix V3-3K Boston Airstrip Design. The alignment retained is described in Volume 3, Section 3.8.

3.5.2.3 Mining Methods

For each ore deposit, an assessment is made on the feasibility of underground mining versus open pit mining. Underground mining is generally preferable where high grade veins of ore can be mined with minimal removal of waste rock. By contrast, open pit mining involves large stripping ratio or waste rock to ore depending on the configuration of the ore body.

For the Madrid North and South deposits, as well as the Boston deposits, the PFS 2015 established that underground mining methods were economically feasible. Ongoing exploration will continue to evaluate and consider the feasibility of surface mining and open pits.

3.5.2.4 Number and Location of Processing Facilities

The alternatives considered for the processing facilities included:

1. Expansion of the Doris processing facility; and,
2. Construction of processing facilities at Madrid North and at Boston.

The short life of mine of Madrid South (two to three years) does not justify the construction of a processing facility at Madrid South. However, both the Madrid North and the Boston ore bodies are large deposits with significant upside potential in terms of ore resources. TMAC anticipates that ongoing exploration activities will significantly increase the ore reserves and thus increase the life of mine for both of these sites. On the basis of existing reserves, resources and significant upside potential, Phase 2 proposes the construction of a processing facility at Madrid North and a processing facility at Boston. The purpose of these processing facilities is to produce a concentrate from the ore mined at each site. The concentrate is then trucked to the Doris refinery for gold recovery.

The main technical advantages of this approach are:

- The processing facility is adapted to the specific characteristics of the ore mined at each deposit, based on the specific mineralogy of the deposit which may require specific changes to the processing facility in order to maximize gold recovery.
- It minimizes the capital investment and maximizes use of existing facilities at Doris.
- It reduces transportation requirements for ore and hence fuel consumption and greenhouse gas emissions for the entire site.

The alternative to this approach is to construct and operate one large processing facility at Doris and treat all ore mined at Doris.

3.5.2.5 Options for Disposal of Tailings

The alternatives for tailings disposal include:

1. Optimize the use of the Doris TIA, and
2. Construct and operate tailings impoundment area for each processing facility.

Phase 2 Project adopts a hybrid of these two alternatives. It maximizes the use of the Doris TIA which can readily be expanded to accept additional tailings produced from the Madrid processing facility, thus eliminating the need for a dedicated TIA for Madrid. Tailings produced at Madrid will be pumped to the Doris TIA (distance of 6 km).

The physical distance separating the Boston site from Doris is over 55 km. Transportation of tailing generated at Boston to Doris would result in increased traffic on the all-weather road, and hence increased greenhouse gas emissions. Furthermore, the dry-stack tailings produced by the Boston processing plant eliminate the need for a tailings embankment. The tailings are dry-stacked on a prepared pad and do not require containment structures.

3.5.2.6 Power Generation and Distribution for the Hope Bay Belt

TMAC is developing a strategy for power generation and supply of the entire Hope Bay Belt. The long-term strategy includes potential integration of wind turbines for power generation and the construction of a power distribution grid for the entire Hope Bay Belt. Baseline wind information is currently being collected in order to assess the technical feasibility of this option. It is expected that wind turbines could eventually supply a portion of the power requirements of the Hope Bay Belt. However, to ensure safe and reliable power generation, diesel generators will remain an integral part of the power generation system, and stand-by diesel generation will be required at each Project site.

Phase 2 Project proposes to build stand-alone power generation facilities at Madrid North, Madrid South and Boston. The construction of these components fit within the overall power generation and distribution strategy envisioned for the Hope Bay Belt.

4. Existing Environment and Baseline Studies

4.1 ATMOSPHERIC ENVIRONMENT

Baseline conditions for atmospheric environment are presented in Volume 4.

4.1.1 Climate and Meteorology

Baseline information on climate is presented in Volume 4, Section 1. The climate in the Project area is characterized by extremes. The Project area experiences relatively low amounts of precipitation, but due to sub-zero temperatures for the majority of the year, also experiences high snow accumulation. Summer is a season of nearly perpetual sunlight, while winter is dominated by night, twilight and extreme cold. Due to the relative absence of obstructions to impede the wind (e.g., trees, buildings, mountains), wind speeds are generally high.

Site specific meteorological monitoring has been conducted in the Boston, Doris, and Roberts Bay areas for over 20 years. In addition, a micro-meteorology station (micro-met) was installed for seasonal operation at Doris Lake in 2009.

Long-term meteorological data are collected at Environment Canada – Meteorological Service of Canada (EC-MSC) meteorological stations. The closest EC-MSC meteorological stations which are currently operating, in order of proximity to the Project, are Cambridge A, Lupin A and Kugluktuk A meteorological stations. Climate normal data (arithmetic averages of climate elements over a prescribed 30-year interval) from these EC-MSC stations are presented in the EIS.

A recorded annual average air temperatures range from -11.4ºC to -8.3ºC at Doris and -11.5ºC to -8.1ºC at Boston. The mean monthly air temperatures for the Doris meteorological station ranged from -33.3ºC to 13.0ºC and at the Boston meteorological station mean monthly air temperatures ranged from -33.4ºC to 13.9ºC. Winters (October to May) have extremely cold mean monthly temperatures ranging from -33.4ºC to -3.1ºC with cool spring, summer and fall (June to September) with mean monthly temperatures ranging from -2.5ºC to 13.9ºC. The annual average air temperatures for the Project area were colder than climate normals at the Lupin A and Kugluktuk A EC-MSC stations in 2009, 2013, and 2014.

For minimum and maximum air temperatures, the observations at the Doris and Boston meteorological stations from 2009 to 2014 indicate warmer minimums and generally cooler maximums in comparison to the regional climate normals based on Cambridge A, Lupin A and Kugluktuk A EC-MSC stations.

Precipitation within the Project area was measured as rainfall during the summer period (June, July, August, and September), when temperatures are above freezing. During 2009 to 2014, summer monthly rainfall ranged from 1.3 mm (June 2010) to 41.7 mm (July 2014) for the Doris station. The Doris meteorological station summer total rainfall between June and September ranged from 47.8 mm (2012) to 97.8 mm (2011).

Values for climate normal total annual precipitation are 141.8 mm, 298.6 mm and 247.2 mm at the Cambridge A, Lupin A and Kugluktuk A meteorological stations, respectively. Summer climate normal precipitation amounts were 82.5 mm, 177.0 mm and 144.0 mm at the Cambridge A, Lupin A, and Kugluktuk A meteorological stations, respectively. Compared to climate normals, total precipitation during the summer months at the Project stations was generally similar to the Cambridge A station and lower in all years in comparison to the Lupin A and Kugluktuk A stations. Climate normal data (1981 to 2010) indicate that approximately 62% of the total precipitation fell as rain during the short summer (June through September), indicating that the winter is proportionately drier.

At the Doris meteorological station, the winds blow mainly from the west with a slight increase in easterly winds in the summer months. Wind speeds were in excess of 5 m/s for all seasons approximately 53% of the time. Broken down into summer (June to September) and winter (October to May), wind speeds in excess of 5 m/s were experienced 55% and 50% of the time, respectively. In the winter, the wind direction was from the west approximately 46% of the time. In the summer, wind direction was from the west to northwest approximately 34% of the time and from the east for approximately 33% of the time.

At the Boston meteorological station, during all seasons, the dominant wind is from the west to northwest quadrant, but the area also receives consistent winds from all other cardinal directions. Wind speeds were in excess of 5 m/s in all seasons over 50% of the time. Broken down into summer (June to September) and winter seasons (October to May), wind speeds in excess of 5 m/s were experienced 49% and 52% of the time, respectively. In the winter period the dominant wind direction was from the west to northwest quadrant approximately 45% of the time. The summer wind direction was predominantly also from the west to northwest quadrant approximately 38% of the time but the station also received consistent winds through the north, east and south quadrants.

At the Roberts Bay wind station, during all seasons, the dominant wind is from the west, but the area also receives consistent winds from the southeast quadrant. Wind speeds were in excess of 5 m/s in all seasons over 64% of the time. Broken down into summer (June to September) and winter seasons (October to May), wind speeds in excess of 5 m/s were experienced 66% and 63% of the time, respectively. In the winter period the dominant wind direction was from the west to approximately 40% of the time, with a sub-dominant from the southeast approximately 35% of the time. The summer wind direction was predominantly also from the east and west but the area also receives consistent winds from all other cardinal directions except from the south direction.

4.1.2 Air Quality

Baseline and existing air quality information for the Project area is presented in Volume 4, Section 2. Baseline conditions are defined as air quality conditions prior to any significant air emissions released by any Hope Bay Project activity and existing conditions are defined as air quality conditions prior to Phase 2 air emissions.

The Doris North Project Air Quality Monitoring Program includes sampling or monitoring of total suspended particulate matter (TSP), particulate matter with a diameter less than 10 µm (PM_{10}), particulate matter with a diameter less than 2.5 µm ($PM_{2.5}$), dust deposition (dustfall), sulphur dioxide (SO_2), nitrogen dioxide (NO_2), and ozone (O_3).

Sampling equipment and methods for air contaminants are described in TMAC's air quality monitoring program. Dustfall, TSP, PM_{10} and $PM_{2.5}$ were collected in each year of the 2009 to 2014 Air Quality Monitoring Program. On-site data collected in years 2013 and 2014 are used to represent the baseline ambient air quality conditions as the Doris project was in care and maintenance at the time. Dustfall was not monitored in 2013 or 2014 and the 2009 to 2014 dustfall monitoring results are used instead.

The median TSP concentration was 5.8 µg/m^3, with a range of values from 1.1 to 17.5 µg/m^3. The median PM_{10} concentration was 5.4 µg/m^3, with a range of values from 1.2 to 17.1 µg/m^3. The median $PM_{2.5}$ concentration was 3.1 µg/m^3, with a range of values from 1.2 to 13.3 µg/m^3.

The median ASTM method dustfall was 6.3 $mg/dm^2/30$ days, with a range of 1.5 to 98.1 $mg/dm^2/30$ days.

The median of monthly SO_2 concentrations was 0.3 $\mu g/m^3$, with a range of 0.1 to 3.7 $\mu g/m^3$. The median of monthly NO_2 concentrations was 1.1 $\mu g/m^3$, with a range of 0.1 to 7.0 $\mu g/m^3$. The median of monthly O_3 concentrations was 52.6 $\mu g/m^3$ with a range of 44.3 to 86.1 $\mu g/m^3$.

There are no Project site-specific background concentrations available for CO or VOCs. The 2015 annual average CO concentrations at monitoring stations in Yellowknife, Norman Wells and Fort Smith are used to represent baseline CO conditions. The median of these three annual values is 261 $\mu g/m^3$. There are no significant VOC emissions sources in the region and VOC baseline concentrations are expected to be negligible.

Existing air quality conditions, before Phase 2 air contaminant emissions, are characterized by the predicted air quality results for existing permitted activities in the *Hope Bay Phase 2: Air Quality Model Study* (Appendix V4-21).

The model study used a quantitative air quality model along with a variety of input data and parameters, including terrain, land use and meteorological datasets (both surface and upper air data) specific to the Hope Bay Project area, and the air emissions inventory specific to Doris operations and Madrid Advanced Exploration activities. The expected air emissions for these activities are calculated using the available Project Description information. The predicted ambient air quality results represent the worst-case scenarios as there are a number of conservative steps used in the modeling methodology.

The existing condition predictions results show that all ambient contaminants resulting from Approved Projects are expected to be highest within the PDA. Exceedances for NO_2 (1-hour, 24-hour and annual), TSP (24-hour), PM_{10} (24-hour), $PM_{2.5}$ (24-hour and annual) and dust deposition (monthly) were predicted to be close to the Doris area, confined within the air quality LSAs. All contaminants approached baseline conditions within the LSAs.

4.1.3 Noise and Vibration

Baseline information on background noise levels for the Project area are presented in Volume 4, Section 3. Noise monitoring was conducted on the Hope Bay Belt in 2007, 2008 (Golder Associates 2007, 2008, Annex B of Appendix V4-3A) and 2010 (Rescan 2010, Annex B of Appendix V4-3A) as part of the required studies for the Doris Project. Anthropogenic noise was present in the Doris Project area in all monitoring years due to activities associated with exploration and development. To describe baseline noise levels for Phase 2, only data unaffected by anthropogenic noise was referenced. This includes data reported in the 2007 Noise Baseline Report (Golder Associates 2007) and the 2010 Noise Compliance Report (Rescan 2010).

Eight monitoring events from a total of six monitoring locations were selected from the 2007 and 2010 Doris noise monitoring programs to determine representative baseline noise levels for the Doris and Phase 2 project area. Sources of natural noise included animals, waves, and frequent winds. Anthropogenic noise included occasional helicopter traffic, which has been removed from the baseline data. Across the monitoring locations, mean ambient L_{eq} noise levels ranged from 22.9 to 53.3 dBA; and background L_{90} noise levels ranged from 18.9 to 41.0 dBA. In some cases, the L_{eq} values observed within the Hope Bay Project area exceeded levels assumed to represent the baseline conditions of rural areas, which are approximately 35 dBA during the nighttime and around 45 dBA during the daytime. However, the 2007 and 2010 monitoring programs reported that wind was a major source of noise in the area, and is likely the cause of relatively high baseline L_{eq} levels.

Characterizing noise in terms of L_d, L_n, and L_{dn} (and maximum noise L_{max}) is important for assessing noise effects. The "Ld" (L_{eq} day) metric is the L_{eq} occurring between the hours of 7:00 am and 10:00 pm, while "Ln" (L_{eq} night) describes the L_{eq} occurring between 10:00 pm and 7:00 am. The "L_{dn}" metric is a 24-hour L_{eq} with a 10 dBA weighting applied to the evening hours to account for increased sensitivity to noise at night. L_{max} is the maximum value from the monitoring period.

Specific L_{eq} -based metrics such as L_d, L_n, and L_{dn} were not reported in the noise monitoring studies of 2007 and 2010. Hence a calculative process was adopted to determine these values.

The mean baseline L_d, L_n, L_{dn} and L_{max} values established for the Hope Bay area were:

- L_d value of 43 dBA;
- L_n value of 40 dBA;
- L_{dn} value of 50 dBA; and
- L_{max} value of 63 dBA.

The mean baseline L_d, L_n, and L_{dn} values do not exceed recommended noise level thresholds for the assessment of negative effects to humans and wildlife. The calculated baseline L_{max} value does exceed the threshold for human sleep disturbance, which is common for an existing noise environment such as that of the Hope Bay area.

4.2 TERRESTRIAL ENVIRONMENT

Baseline conditions for terrestrial environment are presented in Volume 4.

4.2.1 Geology

Baseline conditions for geology are presented in Volume 4, Section 4. Hope Bay lies in the northeast corner of the Slave structural province of the Canadian Shield, which is comprised primarily of sedimentary, volcanic and intrusive rocks and is host to a number of significant gold, base metals and diamond deposits. The Hope Bay Belt is a typical Archean greenstone belt, and extends over 80 km in length and is up to 20 km wide. The Belt is comprised of mafic to felsic meta-volcanics (mainly meta-basalts), with localized sedimentary rocks, and is bounded by Archean granite intrusions and gneisses. The greenstone package has been deformed during multiple events and is transected by major north-south trending shear zones that appear to exert a significant control on the occurrence of mineralization, similar to other Archean greenstone gold camps. Overall the metamorphic grade is lower- to mid-greenschist facies except near the contact with the marginal granitoids where the rocks are hornfelsed to a lower amphibolite-facies metamorphic grade.

The Madrid North deposit is located 6 km south of the Doris deposit, and includes mineralization in the Naartok, Rand, and Suluk zones. The bulk of these previously separate mineralized zones have now been connected and are viewed a single large mineralized system. These include a sequence of iron-titanium tholeiitic basalts, magnesium- tholeiitic basalts, komatiitic basaltics, synvolcanic to late gabbroic and ultramafic rocks.

Madrid South is comprised of the Patch 14 and Wolverine ore bodies. The geology in the Patch 14 area consists of north-south trending stratigraphy consisting of thick metavolcanic sequences of pillow basalt and minor interflow sediments. These sediments are not proximal to the mine plan.

The metavolcanic sequence is immediately west of a regional structure and is intruded by quartz-feldspar porphyry bodies and gabbroic dykes. Mineralized quartz veins are located at the contacts between porphyry intrusions and pillow basalts. The Wolverine deposit, located to the west of Patch 14 and the mine workings, has similar geological features to Patch 14; however, the Wolverine deposit is described as more of a vein system.

The geology around the Boston deposit is a bimodal assemblage of mafic and felsic volcanic rocks along with sedimentary rocks, all of which are complexly folded about a large-scale synformal-anticline. The core of the anticline is occupied by mafic volcanic rocks that host the Boston deposit and these in turn are overlain by sedimentary rocks. The fold is south plunging. The Boston deposit is located near the south end of the belt and consists of three gold-rich mineralized zones within a large iron-rich carbonate altered shear system. Gold is associated with sulphide mineralization within quartz veins and as a halo in the wall rock around the veins.

4.2.2 Geochemistry

Baseline conditions for Geochemistry are presented in Volume 4, Section 5. A comprehensive geochemical characterization program was conducted to assess the metal leaching and acid rock drainage (ML/ARD) potential of waste rock, ore and tailings from the Madrid North, Madrid South and Boston deposits and 23 proposed quarries between Roberts Bay and Boston. Technical reports detailing the characterization programs are presented in Appendices V3-4C, Geochemical Characterization of Waste Rock and Ore from the Madrid North Deposit; V3-4D, Geochemical Characterization of Waste Rock and Ore from the Madrid South Deposit; V3-4E, Geochemical Characterization of Waste Rock and Ore from the Boston Deposit; V3-3A, Geochemical Characterization of Phase 2 Quarries, and V3-4A, Geochemical Characterization of Tailings from the Madrid North, Madrid South and Boston Deposits.

Waste rock and ore from Madrid South, Madrid North and Boston have a low risk of ARD. The primary geochemical concern with respect to waste rock and ore is neutral pH metal leaching - specifically arsenic - which is possibly related to the trace occurrence of the sulphide mineral gersdorffite (NiAsS).

There are two distinct types of tailings that will be produced: flotation tailings and detoxified tailings. Flotation tailings are classified as non-potentially acid generating (non-PAG), with potential for leaching of arsenic under neutral pH conditions. Flotation tailings will be placed in tailings areas at Doris and Boston. The detoxified tailings are classified as PAG. Based on humidity cell testing, detoxified tailings are expected to remain neutral for 20 years. Under neutral pH conditions, there is potential for arsenic leaching from the detoxified tailings, and under acidic conditions, concentrations of other metals are expected to increase. Detoxified tailings will be co-disposed with waste rock as backfill underground at Doris and Madrid North. With the exception of Quarry W, Quarry Z and Quarry AD, rock from all quarries is suitable for use as construction rock on the basis of a low risk of ARD and low risk of metal leaching under neutral pH conditions.

4.2.3 Permafrost

Baseline information on permafrost, taliks, and ground ice within the Project area are presented in Volume 4, Section 6. Regionally the Project area is situated north of treeline within the zone of continuous permafrost (Brown et al. 2002). Ground ice is mapped as being low when compared to other areas of Canada where significant amounts of massive ground ice are present. Massive ice in the form of tabular ice bodies and ice wedges are mapped as sparse for the region, resulting in a low thaw settlement potential (Smith 2001). Smith and Burgess (2004) predict the region to be thermally sensitive to climate change, with low physical response resulting from thaw. At a local scale ground ice can be highly variable and site geotechnical investigations have been conducted to evaluate site-specific permafrost and ground ice conditions.

A total of 42 thermistor cables have been installed for the purpose of collecting baseline ground temperature measurements at the Project area. Thermistor cables installed in the Project area include shallow, mid-depth, and depth cables, including three Westbay multi-point deep monitoring wells. The average permafrost temperature measured at the Property is -7.6°C, with a range from -5.6°C to -9.8°C. Average active layer thickness is calculated to be 1.0 m over the period of record, with a range from 0.5 m to 1.4 m. By the year 2100, active layer thickness for areas with natural overburden clay is estimated to increase by 93 cm at the Project area, as determined using the long-term air temperature trends applied to numerical thermal conduction models. Average depth to the base of permafrost outside of the thermal influence of waterbodies is 529 mbgs.

Laboratory and in-situ testing of disturbed and undisturbed geotechnical samples collected during previous drilling campaigns confirm that onshore overburden soils are comprised mainly of marine clays, silty clay and clayey silt, with pockets of moraine till underlying these deposits. The overburden soil pore water typically has high salinity concentrations, often exceeding that of seawater due to inundation by seawater following deglaciation of the area. This has the effect of depressing the freezing point, as well as contributing to a high unfrozen water content. The marine silts and clays contain ground ice which on average ranges from 10 to 30% by volume, but occasionally may be as high as 50%. Till at the Project site typically contains low to moderate ice contents ranging from 5 to 25%.

Direct ground temperature measurements and thermal modeling results indicate that the Boston Mine will be encapsulated by permafrost and will not intercept an open talik or sub-permafrost areas. The Madrid North Mine will intercept unfrozen ground at Suluk and Naartok; Suluk will be mined in the open talik formed by Patch Lake, and Naartok will pierce through the base of permafrost at a depth of about 430 mbgs. The Madrid South Mine will intercept unfrozen ground at the edge of the open taliks formed by the Wolverine Lake and Patch Lake.

4.2.4 Landforms and Soils

Baseline conditions for landforms are presented in Volume 4, Section 7. The LSA is located on the Canadian Shield, in the Slave Geological Province. It extends over the Hope Bay volcanic belt surrounded by mostly granitic and sedimentary rocks. Coarse fragments found in the surficial deposits have predominantly volcanic lithology. Common upland surficial materials include glacial till and bedrock outcrops, while glaciomarine sediments and shallow peaty organic deposits develop in topographic depressions. Extensive areas of patterned ground, thermokarst, and ice wedge polygons are common in lowlands and permafrost is often encountered there at depths of 10 to 20 cm. Fluvial sediments are associated with meandering and braided streams. Glaciofluvial materials deposited over glacial till or bedrock form elongated eskers and kames. Several eskers, kames, a large, magmatic rock dyke and several boulder fields and belts occur in the LSA.

The LSA topography is gently rolling with generally low surface relief, long and narrow drainage basins oriented in a north-south direction and similarly oriented rock outcroppings. The north end of the LSA is characterized by lakes and ponds surrounded by ridges and rock outcrops. The topography of the central and southern section is subtler with large, level terraces and plains, numerous round thaw lakes and many wetlands.

Soils that have developed from morainal, organic, and glaciomarine materials dominate the LSA. In general, coarse morainal soils occupy higher elevation areas, whereas finer glaciomarine soils and peaty organic soils accumulate in valley bottoms and on plains. Post-glacial down-slope washing, however, has resulted in mixing of the surficial materials, particularly in the lower slope positions.

The LSA is underlain by continuous permafrost with sporadic occurrences of massive ground ice. Under such conditions, soil development generally occurs only close to the ground surface during the short frost-free period each year. Annual frost heaving of the soil upon freezing and thawing creates several phenomena, including cryoturbation and solifluction. The presence of shallow permafrost and cryoturbation affect both the pedogenic process and soil classification. The dominant soils in the LSA are classified as Static, Turbic, or Organic Cryosols and Distric Brunisols. Cryosols generally have permafrost within 20 to 60 cm of the surface and are imperfectly to very poorly drained. They are typically associated with finely textured marine sediments or organic deposits located in lower landscape positions. Brunisols are usually moderately well to rapidly drained and typically do not have permafrost within 100 cm of the surface. They are associated with coarser deposits and occur in higher elevated landscape positions.

Soil chemical analysis results indicate that soils in the LSA are mildly alkaline to strongly acidic. Mineral soils generally have low organic carbon content. Most metal concentrations in the LSA (except for chromium, copper and nickel) do not exceed the agricultural limits of Soil Quality Guidelines for the Protection of Environmental Health (CCME 2016).

4.2.5 Vegetation and Special Landscape Features

Baseline conditions for Vegetation and Special Landscape Features are presented in Volume 4, Section 8.2. Baseline field work and mapping was conducted between 1997 and 2014. It included field plots to characterize ecosystems, soils, and vegetation, rare plant and lichen species, and invasive plant species in the LSA. Vegetation and soil samples were also collected for analysis of metal concentrations.

The RSA was characterized using the West Kitikmeot/Slave Study (WKSS) region vegetation classification system. Eighteen unique ecosystems occur in the 490,404-ha RSA. The most common ecosystems are the Heath Tundra and Heath Bedrock which comprise 40% of the RSA, shallow water is the next most common class at 20%.

The LSA is 56,340 ha, and Terrestrial Ecosystem Mapping (TEM) was used to characterize ecosystems in the LSA. The most common ecosystem types are Eriophorum Tussock Meadows (28%), Betula-Ledum-Lichen (13%), and Wet Meadows (11%). Eriophorum Tussock Meadows are widespread community type characterized by deep tussocks of sheathed cotton-grass and a variety of dwarf shrubs (on drier tussock tops), herbs, and mosses. They are found in low lying plains with wet organic layers. Betula-Ledum-Lichen communities occur on dry to mesic sites on hillslopes of glacial till. They are dominated by a dense cover of low dwarf birch, Labrador tea and a variety of dwarf shrubs, sedges, herbs and lichens. Wet meadows are medium to rich nutrient plant communities found on plains and gentle lower slopes with constant water seepage and are dominated by dense cover of cotton-grass and sedges, scattered shrubs and lichens, and limited moss. The ecosystem types in the LSA are dominated by lowland types as indicated by the abundant lakes and rivers which account for 16% of the LSA.

During field work for ecosystem mapping and rare plant surveys, 871 plant species were identified. No invasive plant species were confirmed during the surveys. Lichens were the most frequent taxonomic class followed by vascular plants, mosses, and liverworts. Of the species identified, eight lichen species are categorized to be at risk (S1 or S1S2) and two lichen species may be at risk (S1S3). None of the rare plant species is identified in Schedule 1 of SARA.

Sample for metal concentrations in vegetation included 58 berry samples and 67 lichen samples collected from sites adjacent to proposed infrastructure and at nine reference sites where Project effects are not anticipated. Most of the tissue samples had concentrations below detection limits.

4.2.6 Terrestrial Wildlife and Wildlife Habitat

4.2.6.1 Caribou

Two caribou herds have the potential to interact with the Phase 2 Project. The range of the Dolphin and Union caribou herd overlaps the RSA during winter and the range of the Beverly herd (includes Beverly herd and Ahiak herd) caribou herd overlaps the RSA during summer.

Collar data collected by the governments of NU and NWT (using radio and GPS collars fit on female caribou) since 2001 for the Beverly herd and from 1999 to 2004 and 2015 to 2016 for the Dolphin and Union herd was used to map the distribution and movement of caribou herds on a seasonal basis and assess overlap with the Project. In addition, regional and local-scale data on caribou have been collected in the RSA since 1996 using aerial surveys, motion-triggered remote cameras, and incidental observations. Aerial surveys were conducted in from 1996 to 2011 using standard aerial census techniques for large mammals, and were timed to occur in the spring, calving, post-calving, summer/fall, and winter periods for caribou. An additional aerial survey was conducted in the spring of 2010 in the Coronation Gulf to record Dolphin and Union caribou crossing the sea ice. Up to 59 remote cameras were deployed in the RSA from 2012 to 2015, and incidental observations have been collected from 2006 onwards. This combined approach provided valuable data on the locations, and movements of caribou herds in relation to the Project.

The combination of collar data, aerial survey data, and camera data indicate that Beverly herd caribou are currently found in and around the RSA in the summer from mid-July to the end of August. Summer was the season when the collared caribou were most consistently present in the RSA, a trend corroborated by the data collected from remote cameras over time and recent incidental observations collected by site staff. The herd underwent a shift in their calving grounds sometime in the late 1990s and early 2000s from calving grounds near Beverly Lake to the southeast of the RSA to an area directly east of the RSA in the Queen Maud Gulf area. Aerial surveys results prior to 2002 indicated that Beverly caribou were in the RSA in relatively low densities during the calving and post-calving period but the number of caribou during these two periods dropped after 2002. These trends are likely attributable to the calving range shift. As the calving range shifted northward toward the Queen Maud Gulf area, some individuals were present in the RSA during calving and moved through the RSA on to their summering grounds but since the herd settled on the new calving ground in the eastern Queen Maud Gulf this use has also dropped off. Collar, camera, and incidental data support that the current calving and post-calving range for Beverly caribou does not overlap the RSA (due to the limited or no overlap of season ranges based on collar data and the paucity of detections of caribou by remote camera and site staff). Furthermore, these current data sources also indicate that RSA is not located within seasonal migration corridors for Beverly herd caribou to their calving grounds (spring migration) or to wintering grounds below the treeline and outside of the RSA (fall migration and the rut).

Dolphin and Union caribou occur in the RSA during winter and during the spring and fall migration periods when caribou are moving between the mainland and Victoria Island; collared caribou were consistently present in the RSA during these periods. Dolphin and Union caribou are generally dispersed in small groups, as evidenced by the low densities recorded on aerial surveys in terrestrial habitats during migration periods and winter period from 1996 to 2011 and small group sizes of caribou recorded by remote camera and site staff. During the caribou ice crossing survey, relatively few caribou were observed (18) but more tracks were detected (111). The majority of caribou tracks documented during the ice crossing surveys were oriented in a north or north-westerly direction, suggestive of caribou that pass from the northern edge of the Kent Peninsula towards Byron Bay on Victoria Island. Dolphin and Union caribou do not interact with the Project area during calving, post-calving, summer, fall or rut periods, when caribou from this herd are located on Victoria Island.

4.2.6.2 Muskox

The global range of muskox extends across most Arctic islands, northern Greenland, and most of the Canadian tundra, including the Kitikmeot region of Nunavut (Gunn 2003). Within the RSA, data has been collected on the distribution of muskox through aerial surveys and through the use of remote cameras (as described above for caribou).

In general, the muskox density in the RSA was low and variable across all aerial surveys conducted from 1996 to 2011. However, the distribution of muskox in the RSA varied between seasons. During the spring to autumn period, muskox were relatively evenly distributed in the RSA, while during the winter, muskox were primarily observed along the coast in the northern portion of the RSA and south of Boston property. Data collected through the remote camera program and incidental observations corroborate aerial survey trends, particularly in relation in the temporal variability of muskox distribution. Muskox were rarely recorded by remote camera (21 detections between 2012 and 2015); detections were recorded in both the summer and winter periods but rarely in the same year. Muskox were recorded in every year that incidental observations were collected but the number of observations collected by month varied greatly from year to year. Aerial survey, remote camera, and incidental data indicate that muskox are most frequently in variable sized herds throughout the year; over half of all observation data recorded across these three data sources were of groups greater than 1 individual.

4.2.6.3 Grizzly Bear

Barren-ground grizzly bears inhabit the northern edge of the grizzly bear range in North America. Arctic habitats have relatively low plant productivity and as a result, barren-ground grizzly bears use large home ranges and exist at low densities compared to other grizzly bear populations in more productive ecosystems. There is no official estimate on grizzly bear population sizes for the West Kitikmeot region of Nunavut where the Project is located; however, a rough estimate of 800 grizzly bears was determined for a 200,000 km2 portion of the northwestern mainland of Nunavut, which includes the RSA (which is 4,918 km^2) (Ross 2002).

Four types of baseline surveys have been conducted for grizzly bears in the RSA: population-estimation using DNA mark-recapture, den surveys, habitat plot surveys, and incidental observations. The DNA-based mark-recapture program was conducted in 2010 and 2011, den surveys in 2010 and 2014, and habitat plot surveys in 2005 through 2008. Incidental observations were collected from 2006 onwards.

In the DNA mark-recapture study, bears were identified from their DNA in the hairs and a population estimate calculated from the proportion of bears that return to the posts during the summer. Within the entire DNA study area (which for the most part was contained within the RSA), a total of 52 grizzly bears (27 males and 25 females) were identified over the two year program. Data collected through the remote camera program and through incidental observations indicate that grizzly bear use habitat throughout the RSA during the snow free months and provided relative dates for the hibernation period for bears in the RSA (late October through mid-May). The results of the habitat plot surveys, which were conducted in sedge wetland and riparian habitats (habitats that provide preferred forage for bears), suggested that neither habitat type was used more than the other (i.e., use was comparable between sedge wetland and riparian habitats) and provided evidence of the importance of these two habitats for the local grizzly bear population. No grizzly bear dens were recorded on den surveys; however, grizzly bear dens are often difficult to find as they can be shallowly dug into the tundra and show little evidence of their presence after the snow melts. Inuit TK indicates that grizzly bears in the Project area build their dens in slopes of river banks and around the coast.

4.2.6.4 Wolverine/Furbearers

Arctic furbearers in the Kitikmeot region include wolverines, wolves, red and Arctic foxes, and Arctic ground squirrels. Wolverines and grey wolves are two species representative of furbearers in the environmental assessment with wolves acting as a proxy for foxes (both canids). Wolverine populations in the central Arctic appear to be stable, though recent estimates are lacking (COSEWIC 2014). The total population size of wolverines in Nunavut is estimated at 2,000 to 2,500 individuals (COSEWIC 2014; Slough 2007). Wolf populations are stable or increasing within their Canadian range, except in northern Alberta and some parts of the NWT (Hayes 1995; Frame 2008). Wolf reproductive success and population size are largely regulated by the availability of caribou.

Four types of baseline surveys have been conducted for wolverine and furbearers in the RSA including population-estimation using DNA mark-recapture for wolverines in 2010 and 2011 (similar to that conducted for grizzly bear), carnivore den surveys (as described above for grizzly bear), snow track surveys for wolverine conduced in 2006 to 2008, and incidental observations collected since 2006.

In the DNA mark-recapture study, a total of 8 males and 3 females were detected over the two year program in the DNA study area (which was contained within the RSA). The low detection rates during the DNA study likely reflect low densities of wolverine in the RSA. Remote camera, snow track survey, and incidental observation data provide support for the overall low densities of wolverine in the RSA. Wolverines were rarely recorded by remote cameras (52 detections from 2012 to 2015), and there were generally low numbers of tracks recorded on snow track surveys (tracks/kilometre/day index < 0.2). Wolverines were infrequently recorded incidentally by site staff, although incidental observations appeared to be more commonly recorded between February and May relative to the summer months, likely due to their high visibility against the snow and longer time in search of food. No wolverine dens were recorded on den surveys, although a potential den was recorded incidentally near Roberts Lake in 2006.

The combination of remote camera, den survey, and incidental observation data indicate that grey wolves are present in the RSA throughout most of the year and that wolves do den in the RSA. Grey wolf detections by remote camera, across all years, were recorded in every month save for December through February and April. Similarly, incidental sightings of wolves were recorded in each year since 2006, and sightings were recorded in most months except November through January. Grey wolf dens were recorded through den surveys and incidental observations, including a den along the Koignuk River bank which had 8 pups recorded in 2007.

4.2.6.5 Raptors

Four species of cliff-nesting raptors have the potential to breed in the RSA: peregrine falcon gyrfalcon, rough-legged hawk, and golden eagle. Common ravens, which are considered to be functional cliff-nesting raptors, also have potential to breed in the RSA. In addition, three species of ground-nesting raptors breed within the RSA, including snowy owl, short-eared owl, and northern harrier.

Baseline data for raptors include aerial nest surveys conducted for cliff-nesting raptors from 2006 to 2015, and ground-based surveys for upland birds and ground-nesting raptors (as per described for upland breeding birds below). Aerial nest surveys were surveyed twice – in late May or early June to locate occupied nests, and again in late July through mid-August to determine nesting success and breeding productivity. In addition, incidental observations of raptors have been collected since 2006.

All four species of cliff nesting raptors and common raven were recorded on aerial nest surveys. The peregrine falcon was the most frequently detected cliff-nesting raptor species within the RSA, and based on the relative frequency with which it occupied nest sites, the peregrine falcon was likely the most abundant cliff-nesting raptor species in the wildlife RSA. The rough-legged hawk was also commonly detected in the RSA. All three ground-nesting species were recorded on surveys for ground-nesting raptors or through incidental observations, although breeding evidence was only recorded for short-eared owl. A short-eared owl nest was recorded incidentally during upland bird surveys conducted in the Boston area in 2010.

4.2.6.6 Waterbirds and Upland Birds

Migratory birds including waterbirds and upland breeding birds travel long distances to breed on the Arctic tundra during the short summer season. Migratory birds and their nests are protected under the Canadian *Migratory Birds Convention Act* (1994), the Canada *Wildlife Act* (1996), and the *Nunavut Wildlife Act (2003)*.

For waterbirds, aerial surveys to characterize species diversity were conducted between 2006 and 2015 in four survey blocks in the RSA. Survey blocks were located over Roberts Bay, Doris, Boston and approximately midway between Boston and Doris. Two surveys were conducted each year at each block; a pair survey during the northern migration/establishment of nesting territories in late June to early July, and a brood survey in late July to early August. The survey block in Boston was not surveyed after 2011. Separate targeted spring and fall staging surveys were conducted in 2014 at the Boston block, a modified Doris Block that included the Madrid development, as well as along the proposed Phase 2 road alignment between Madrid and Boston. Surveys for upland breeding birds were conducted from 2006 to 2015 using the methods established for the Program for Regional and international Shorebird Monitoring (PRISM) and point counts to characterize species diversity. In addition, incidental observations of waterbirds and upland breeding birds have been collected since 2006.

During waterbird aerial surveys, a total of 30 waterbird species were observed during the breeding and staging periods within the RSA. Three additional species (Brant goose, Thayer’s gull, and surf scoter) were detected incidentally in the RSA during other baseline studies. Six species listed as Sensitive by CESCC in Nunavut (CESCC 2010) were observed in the RSA during waterbird baseline studies, including the Arctic tern, glaucous gull, long-tailed duck, northern pintail, common eider and king eider.

During upland breeding bird surveys, a total of 26 upland bird species were detected. Three additional species were recorded incidentally in the RSA (American robin, Baird's sandpiper, and Harris’s sparrow). Nine species listed as Sensitive by CESCC in Nunavut (CESCC 2010) were observed in the RSA: American golden-plover, American pipit, American tree sparrow, Harris’s sparrow, hoary redpoll, least sandpiper, red-necked phalarope, semipalmated sandpiper, and white-crowned sparrow.

4.3 FRESHWATER ENVIRONMENT

Baseline conditions for freshwater environment are presented in Volume 5.

4.3.1 Surface Hydrology

Project hydrometric monitoring began in 1993 at several sites where streamflow and water levels were manually measured. Automated hydrometric monitoring began in 1996 and has continued to the present, although the size of the monitoring network has varied throughout this time. These include 17 streamflow monitoring stations and 11 lake elevation monitoring stations within the LSA. In addition, long-term streamflow data from 10 regional stations operated by Water Survey of Canada were available.

A water balance for the Project was developed to simulate baseline flows at 16 assessment nodes within the LSA using a long-term precipitation dataset that was generated for 2010 to 2099. The model was calibrated using observed streamflows between 2010 and 2015. The water balance was run using probabilistic simulations, with multiple realizations and variable hydrology. This approach allowed for simulating baseline flows under average hydrological conditions, as well as the 1-in-20-year dry and wet conditions (Appendix V3-2D).

The hydrologic regime of the Project is typical of high latitude regions of the continental Canadian Arctic and is strongly influenced by long cold winters, relatively low precipitation, and low relief topography generally with high watershed storage (i.e. lakes and wetlands). Extremely cold temperatures in the region, combined with permafrost ground conditions, result in a short period of runoff that typically occurs from June to October. The physiography of the region is dominated by vegetated tundra hillslopes with lakes and scattered wetlands. The presence of permafrost is hydrologically significant, as it has very low hydraulic conductivity, and thus acts as a barrier to deep groundwater recharge.

Hydrographs are characterized by a steep rising limb leading to a peak flow discharge that occurs during the spring, shortly after air temperature rises above freezing. During freshet, water that is stored in the winter snowpack melts and is released quickly, generating high flows that are typically the annual peak. Precipitation events in the late summer and early fall may lead to a second hydrograph peak, but this peak is generally lower magnitude than the freshet peak. In October, air temperature normally dips below freezing, precipitation begins to fall as snow, and streamflow ceases for the winter except in rivers with very large watersheds.

4.3.2 Groundwater

Baseline information on Groundwater is presented in Volume 5, Section 2. The hydrogeological understanding for the Project is based on information from geological and structural mapping and site specific field investigations completed in 2004, 2008, 2010 and 2011.

The system for the entire region is considered as a low flux, lake-dominated flow system. Regional flow is primarily controlled by the presence of unfrozen zones in open-talik beneath large lakes. The flow direction is controlled by lake levels. Away from lakes, the permafrost is widespread, deep, and considered to be essentially impermeable. At the local scale, the bedrock hydraulic conductivity (K) is fracture-controlled, comprised of a low bulk K background system intersected by distributed, relatively high K fractures and geologic structures. At the scale of the open-talik, the fractured rocks can be considered as a single unit, without distinction between lithologies, characterized by a relatively higher K at shallow depths (9×10^{-7} m/s), gradually decreasing with depth to less than 1×10^{-10} m/s as confining pressure increases. The K geomean of the fractured rock is 3×10^{-9} m/s and the bedrock storativity estimated at $3 \times 10^{-7\ m-1}$. While no structures have been identified to promote high K, the presence of such features cannot be ruled out. For the overburden, observations showed that a differentiation exists between K in the lake bed sediments and the shallow fractured rocks. The clay beds present at the bottom of the lake are characterized by a low K ($\leq 1 \times 10^{-8}$ m/s). A storativity value of $1 \times 10^{-4\ m-1}$ is assumed based on scientific literature.

The groundwater quality observed at the Project is consistent with the groundwater quality observed regionally across the Canadian Shield in environment characterized with continuous permafrost. Deep groundwater is connate, meaning old, or emplaced when sediments were originally deposited. This connate water is highly saline. The concentrations of calcium, chloride and sodium are high and show a general trend of increasing concentration with depth; concentrations on the scale of tens of grams per litre have been measured at depths of 500 mbgs beneath the continuous permafrost.

Other constituents can also have relatively high concentrations, but do not correlate with depth. When looking at the potential discharge of groundwater to the environment, the constituents of concern are dissolved ammonia, boron, cadmium, chloride, fluoride, iron, manganese, molybdenum, mercury, nickel, selenium, sulfate and zinc.

4.3.3 Limnology and Bathymetry

Physical limnology profiles were collected from 10 LSA lakes and 7 RSA lakes between 1993 and 2015. Lakes in the LSA and RSA were typically ice-covered from October into June, with an ice thickness of approximately 2 m in late winter. Overall, the winter water column structure was typical of ice-covered Arctic lakes. Water temperatures were coldest just below the ice, ranging from -0.3ºC to 2.0ºC, warming slightly with depth in deeper lakes (~1 to 3ºC), and reaching a maximum temperature of 3.3ºC near the water-sediment interface. During the open-water season, most lakes in the Phase 2 Project area were shallow enough to become fully mixed. In deeper lakes, the water column was sensitive to annual climatic fluctuations and had considerable variability in surface water temperatures and the degree of summer stratification. Water clarity in lakes was relatively low (mean Secchi depth of 1.6 m in LSA lakes), which was likely attributable to the re-suspension of fine sediments due to shallow lake depths, the well mixed nature of the lakes, and the location of some lakes in fine sediment surroundings. Light penetration levels were determined to be generally sufficient to support phytoplankton and periphyton photosynthesis throughout the water column and in the benthic environment in all but the deepest areas of some lakes.

Stream and river temperatures were collected from 12 streams in the LSA and 7 streams in the RSA from 1993 to 2015. Under-ice water temperatures measured along the Koignuk River in 2009 and 2010 ranged from 0°C to 0.9°C. Hydrometric monitoring in the Phase 2 area indicated that all monitored streams freeze solid in the winter, except the Koignuk River, which retained under-ice liquid water in isolated pools separated by frozen sections of the river. Stream water temperatures during the June freshet ranged from 0.1°C to 13.4°C, and increased to between 3.7°C and 21°C by July. Mean temperatures in the LSA streams were similar between July and August and cooled substantially into September.

Bathymetric surveys were conducted in 10 LSA lakes and 3 RSA lakes between 1993 and 2015. Lakes in the North Belt LSA are small to medium sized, with maximum depths ranging from 4.0 m (Wolverine) to 21.2 m (Windy). Surface areas of the sampled lakes range from 150,000 m^2 (Imniagut) to 5,674,000 m^2 (Patch) and volumes range from 367,500 m^3 (Imniagut) to 59,137,500 m^3 (Windy). The South Belt LSA is dominated by one large lake (Aimaokatalok Lake), which has surface area of over 2,550,000 m^2, a volume of over 137,000,000 m^3, and a maximum depth of 30 m (Rescan 1994). Stickleback and Trout lakes, are both shallow (maximum depth of 4.9 m and 6.1 m, respectively) and have surface areas of 995,000 m^2 and 552,000 m^2, respectively. Surveyed lakes in the RSA vary widely in size and depth, including the smallest of the sampled lakes (Little Roberts) to the largest (Reference B). Little Roberts is also among the shallowest of lakes (maximum depth of 4.8 m) and Roberts Lake is the deepest (maximum depth of 37.5 m).

4.3.4 Freshwater Water Quality

Water quality data from lakes, streams, and rivers in the Project area were collected from 1992 to 2000 and from 2003 to 2015. In general, the water of lakes and streams is typical of Arctic surface waters, with low concentrations of suspended material, nutrients, and most metals. Lakes and streams typically had near-neutral pH with soft to moderately hard water. During the open-water season, lakes tended to be fully mixed and well oxygenated. During the ice-covered season, dissolved oxygen levels in both Project area lakes occasionally dropped below the minimum CCME guideline for the protection of aquatic life in bottom waters. Oxygen depletion near the lake bottom is a common phenomenon in

Arctic lakes, and is a result of respiration and a lack of exchange with atmospheric oxygen during the long period of ice-cover. Concentrations of chloride and fluoride in lakes occasionally were greater than CCME guidelines for these anions. Concentrations of nitrate, nitrite, and ammonia in lakes, streams, and rivers were generally low, always were less than CCME guidelines. The trophic status of lakes, streams, and rivers in the Project area, based on total phosphorus concentrations, ranged from ultra-oligotrophic to hyper-eutrophic. Some metals, such as aluminum, chromium, copper, iron, lead, and selenium, were naturally elevated in Project area lakes and streams, and were higher than CCME guideline levels in some samples. Furthermore, less-frequent, naturally elevated conditions were observed for cadmium, mercury, and zinc.

4.3.5 Freshwater Sediment Quality

Freshwater sediment quality data were collected from lakes, streams, and rivers in the Project area in 1993, 1996, 1997, 2002, 2006, and 2007, and from 2009 to 2015. Lake sediments collected from the Project area consisted mainly of fine particles, with at least 70% of the sediments composed of silt- and clay-sized particles. Stream and river sediments were composed mainly of sand, but with greater variation in the relative contribution of silt-, clay-, and gravel-sized particles because of local conditions. The total organic carbon content of sediments was highly variable among lakes, streams, and rivers of the Project area. The organic content ranged from undetectable to 35% of the total sediment by weight, and this variation was positively correlated with the proportion of silt-sized particles. This correspondence between silt and organic matter is a naturally occurring result of deposition patterns and adsorption of organic material to fine sediments. Some metals, such as chromium, arsenic, and copper, were naturally elevated in the Project area freshwater sediments and concentrations of these metals were occasionally greater than CCME sediment quality guidelines. In general, lake sediments contained higher concentrations of metals than stream and river sediments, which was likely the result of the natural deposition of fine sediments in lake basins.

4.3.6 Freshwater Fish

Studies of freshwater fish collected data on fish habitat, inclusive of both physical characteristics and biological resources (phytoplankton, periphyton, zooplankton, and benthic invertebrates), and fish community. From 1993 to 2015, surveys were conducted in lakes, ponds, and streams of the North Belt LSA , South Belt LSA South, and the RSA (.

Lakes are the predominant form of fish habitat in the North Belt LSA and supply the greatest amount of perennial fish habitat. Fines (e.g., silt clay or mud) are the predominant substrate type, and are especially dominant in lakes in relatively close proximity to the ocean, and for turbid lakes such as Glenn and Doris. The LSA South Belt is dominated by Aimaokatalok Lake with Hydroacoustic surveys showing a dominance of fine substrates. Most ponds in the LSA have poor habitat quality and many are non-fish-bearing because of shallow depths, which mean they freeze to the bottom in winter, and ephemeral connections to larger waterbodies.

Streams in the North Belt LSA are typical of slow-moving streams flowing through tundra wetlands. Most are ephemeral and provide temporary habitat for fish during periods of relatively high flow (i.e., spring and early summer months). Outflow streams from lakes are larger and permanent. Channel and instream habitat characteristics were similar among these streams. They supply relatively high quality habitat, especially for small-bodied fish species such as Ninespine Stickleback.

In 2009 and 2010, detailed fish habitat assessments were conducted at numerous stream and pond sites adjacent to anticipated infrastructure footprints. Pools were the most common habitat type (36%), followed by glides (31%) and riffles (25%), while other habitat types and cascades made up a small portion of the total (5% and 3%, respectively) in streams. Streams were generally ephemeral and offered temporary habitat for fish during periods of relatively high flow.

Phytoplankton biomass and phytoplankton abundance were highly variable among lakes in the LSA and RSA. Lakes fell into one of two broad categories: (1) lakes with low phosphorus concentrations, low phytoplankton biomass and density, and communities dominated by diatoms, cryptophytes, chrysophytes, or chlorophytes (Glenn, Imniagut, P.O., Patch, Windy, and Wolverine in the LSA North; Aimaokatalok and Stickleback lakes in the LSA South; and Naiquunguut Lake and Reference lakes A, B, and D in the RSA); and (2) lakes with high phosphorus concentrations, high phytoplankton biomass and density, and communities dominated by cyanobacteria (Doris, Ogama, and Nakhaktok in the LSA North; Trout Lake in the LSA South; and Boston Reference, Little Roberts, and Pelvic lakes in the RSA).

Periphyton biomass and density in streams and rivers is highly variable. Diatoms were the dominant periphyton group in all streams and rivers, though cyanobacteria also made up a major fraction of the periphyton assemblage in some streams and rivers.

Zooplankton abundance in lakes is highly variable in the Project area. Lakes with relatively high mean and maximum zooplankton abundances (e.g., Nakhaktok, Doris, and Ogama lakes) were the same lakes that had the highest phytoplankton biomass and abundance, suggesting that zooplankton abundance was related to the abundance of their prey. The most commonly identified zooplankton taxa in the LSA were cyclopoid copepods and rotifers. Rotifers were the most common group in the RSA lakes.

Benthic invertebrate density is highly variable among lakes in the Project area. Benthic invertebrate abundance generally decreased with increasing sampling depth. Dipterans were the most common benthic taxon in most lakes. Benthic invertebrate density in streams and rivers ranged from 660 organisms/m^2 in Aimaokatalok River to 27,000 organisms/m^2 in Doris Outflow. Dipterans were also the predominantly measured benthic group in all streams.

A total of 14 fish species were found in the lakes, ponds and streams of the LSA and RSA. None of these species are currently considered threatened or endangered by COSEWIC or are listed through the *Species at Risk Act*. Ninespine Stickleback is the most common of the nine fish species found in lakes, being found in 63% of the 41 surveyed lakes. The other eight species in lakes are, in order of descending incidence across surveyed lakes, Lake Trout (46%), Lake Whitefish (33%), Cisco (33%), Arctic Char (24%), Least Cisco (19%), Arctic Grayling (7%), Broad Whitefish (7%), and Slimy Sculpin (7%). Ninespine Stickleback and Cisco were the only fish species found in ponds, with the former being most common, mainly due to the much smaller size of ponds and because they are less connected to other waterbodies than lakes and tend to be more ephemeral.

All fish species were found in streams and rivers, and includes the presence of brackish water species Arctic Flounder, Fourhorn Sculpin, Greenland Cod, and Starry Flounder captured in the Koignuk River near Roberts Bay. Ninespine Stickleback is also the most common species in streams and river, being found 70% of the 61 surveyed streams and rivers. The other 13 species in streams and rivers are, in order of descending incidence, Lake Trout (36%), Arctic Char (31%), Arctic Grayling 18%), Slimy Sculpin (13%), Lake Whitefish (11%), Cisco (11%), Least Cisco (8%), Burbot (5%), Broad Whitefish (3%), Arctic Flounder (3%), Fourhorn Sculpin (3%), Greenland Cod (2%), and Starry Flounder (2%).

Arctic Char, one of five freshwater fish VECs, is only found in lakes and streams with access to the sea, including Glenn Lake and in Glenn Outflow, in Doris Outflow below the barrier, and in the lower Koignuk River below the first barrier located 18.5 km from the mouth of the river. Arctic Char are not present in lakes and streams of LSA South nor are they present in any of the ponds surveyed in the LSA.

Lake Trout, the second freshwater fish VEC, is widely distributed throughout the LSA and RSA because of their lake-resident and anadromous life histories. In the LSA North, Lake Trout have been found in the Koignuk River and in seven lakes (Doris, Ogama, P.O., Patch, P.O. Connector, Windy, and Glenn) and their connecting streams. In the South Belt LSA, Lake Trout have been found in two lakes (Aimaokatalok and Trout) and in the streams connecting those lakes.

Arctic Grayling, the third freshwater fish VEC, has a more restricted distribution than Lake Trout. In the North Belt LSA, Arctic Grayling have been found only in the upper Koignuk River. In the South Belt LSA, they have been found in three lakes (Aimaokatalok, Trout, and Stickleback), in the streams that connect those lakes and in several small streams of the Boston area that are tributaries to Aimaokatalok Lake. Arctic Grayling have not been found in any ponds in the LSA.

Cisco, a member of the Cisco VEC, is distributed in a similar manner as Lake Whitefish. In the North Belt LSA North, Ciscos have been found in most of the larger lakes (Doris, Patch, Ogama, P.O., Windy, and Glenn). In the South Belt LSA South, Ciscos have been found in Aimaokatalok Lake. In the RSA, they have been found in lakes of the Roberts system and some interconnecting streams.

Least Cisco, the second member of the Cisco VEC, is found in a reduced sub-set of Cisco lakes and streams of the LSA and RSA. In the North Belt LSA, Least Ciscos were found in Doris, Patch, P.O., and Wolverine lakes, but not in their connecting streams. In the South Belt LSA, Least Ciscos were found only in Aimaokatalok Lake. They were not found in streams or ponds of the LSA. In the RSA, Ciscos were found in lakes of the Roberts system and some interconnecting streams.

Lake Whitefish, a member of the Whitefish VEC, is widely distributed in the LSA and RSA, largely overlapping the distribution of Lake Trout. In the North Belt LSA, Lake Whitefish have been found in seven lakes (Doris, Ogama, P.O., Patch, P.O. Connector, Windy, and Glenn). In the South Belt LSA South, Lake Whitefish have been found in Aimaokatalok Lake. They have not been found in any of the tributary streams to that lake or in small streams of the Boston area. In the RSA, Lake Whitefish have been found in lakes of the Roberts system and in the outflow streams of those lakes.

Broad Whitefish, the second member of the Whitefish VEC, has a restricted distribution. They were not found in lakes, streams, and ponds of the LSA. However, they were found in lakes and streams of the Roberts system in the RSA.

4.4 MARINE ENVIRONMENT

Baseline conditions for marine environment are presented in Volume 5.

4.4.1 Marine Physical Processes

Baseline information on ocean currents, circulation and physical water column structure have been collected in Roberts Bay and the surrounding marine region since 1996, with intensive spatiotemporal sampling occurring between 2009 and 2011. Historically, consolidated first-year ice covers Roberts Bay and its adjacent waters from October to June and measured ice thickness ranges from 1.5 to 2.0 m, although there has been significant temporal and spatial variation in the amount of ice present year-to-year around Melville Sound. During ice cover, the waters of Roberts Bay are isolated from wind stress and the exchange of waters between Roberts Bay and Melville Sound is minimal. The water column observed under-ice was a two-layer thermohaline structure with weak stratification in the water column, and a colder, fresher layer of 25 to 30 m thickness atop a more saline, warmer layer extending to the bottom. Under-ice currents were generally very weak with mean horizontal current velocities between 1 and 2 cm/s. Tidal ebb and flow currents were found across the bay, but they had very low velocities of around 0.1 cm/s.

After the ice cover breakup, wind forcing on Roberts Bay waters contributed to a significant increase in current velocity and variability, particularly near the surface. The water column formed a two-layered thermohaline structure with a warmer, fresher wind-mixed layer atop a colder more saline bottom layer. The stratification was much steeper than that found in the winter months, with the top layer starting relatively thin at 5 to 10 m thickness, but spreading to over 25 m depth in the fall. The current variability changed dramatically during the summer, with a ten-fold increase in water exchange rate estimated at Roberts Bay mouth. Mean horizontal current velocities in the ranged from 1 to 6 cm/s, but had recorded maximums near 30 cm/s during periods of large flow. The general circulation within Roberts Bay was assumed to be anticyclonic (clockwise) for both top and bottom layers. The combination of southern/easterly winds and freshwater inputs resulted in a positive-type two-layered estuarine circulation for roughly 70% of flow measurements, where the top layer flowed seaward and the deeper waters flowed into Roberts Bay from Melville Sound. For the other roughly 30% of the time, the general estuarine circulation was shown to reverse itself.

4.4.2 Marine Water Quality

Water quality sampling programs were conducted in the marine environment from 1996 to 1998 and from 2004 to 2015. The marine waters of the Project area are typical of pristine Arctic waters, with low concentrations of nutrients, suspended solids, and metals. However, sporadic high concentrations of total suspended solids and high turbidity were occasionally recorded, particular in shallow, near-shore areas most susceptible to sediment resuspension from wind and wave action. The concentration of nitrogen (ammonia, nitrate, and nitrite) and phosphorus (total phosphorus and orthophosphate) varied in the Project area. The variation in nutrient concentrations was observed both vertically within the water column and seasonally between winter and summer. During the open-water season, nitrate and orthophosphate concentrations in Roberts Bay were relatively more depleted at the surface than in the bottom waters, indicative of uptake by primary producers at the surface and remineralization at depth. Seasonal effects were more pronounced in measurements of dissolved oxygen. During the ice-covered season, dissolved oxygen concentrations in deep waters below the pycnocline declined to near or less than the CCME guideline of 8.0 mg/L in Roberts Bay, and were typically even lower in neighbouring Ida Bay when the presence of a sill at the mouth of the bay restricts the exchange of water with Melville Sound water. These seasonal trends in dissolved oxygen are further evidence for natural remineralization in the deeper layers of the marine water column. Concentrations of metals in the majority of marine samples from the Project area were below CCME guidelines. In Roberts Bay, concentrations of some metals including arsenic, chromium, and mercury were occasionally greater than CCME guidelines. Outside of Roberts Bay, cadmium and chromium concentrations were also greater than CCME guidelines in a small subset of samples.

4.4.3 Marine Sediment Quality

Marine sediment quality data were collected in Roberts Bay in 1997, 2002, and from 2009 to 2015. In the broader marine environment, sediment quality data were collected in Ida (Reference) Bay from 2009 to 2015, as well as data from Hope Bay in 1997. Roberts Bay sediments were composed mainly of sand in the shallow, nearshore regions of the bay, with substantially greater proportions of fine material in the deeper waters. Ida Bay sediments tended to be finer than Roberts Bay sediments, which may be the result of the different deep-water circulation in Ida Bay. Sediment metal concentrations were generally less than the CCME Interim Sediment Quality Guidelines (ISQG) and Probable Effects Levels (PEL). Arsenic, chromium, and copper concentrations were greater than CCME ISQGs in samples collected from deep sites within Roberts Bay. Copper concentrations were also greater than the CCME ISQG in samples collected from shallow sites in Roberts Bay. In the deep waters of Ida Bay, copper concentrations approached the CCME ISQG for copper, and occasionally exceeded this guideline.

Arsenic concentrations in deep sediments from Ida Bay were also naturally elevated, and were sometimes greater than the ISQG and PEL.

4.4.4 Marine Fish

Studies of marine fish were conducted from 1993 to 2015 and included physical habitat, biological resources (phytoplankton, zooplankton, and benthic invertebrates), and fish community. Most surveys were conducted in Roberts Bay where Hope Bay Project activities have been focused, with some surveys in Hope and Ida bays.

Shoreline and intertidal substrates of Roberts Bay consist mainly of bedrock in the northwest and south portions. Gravel and sand are present in bays and at stream outlets. The eastern portion of the bay is dominated by boulder, gravel, and sand substrate. Aquatic vegetation is absent. Habitat quality was rated fair to good in the northern areas and good to excellent in the southern region on the basis of cover provided for fish and invertebrates and potential for supporting communities of invertebrates. In 2010, hydroacoustic and underwater video surveys showed that substrates in the subtidal zone of the western shoreline consist primarily of mud.

Phytoplankton biomass and diversity was generally low and seasonally variable in Roberts, Hope and Ida bays. This was most likely driven by low light levels during the under-ice season and nitrogen-limitation during the open-water season. Communities in Roberts Bay in 2009 and 2010 were dominated by the chrysophyte (golden algae) *Dinobryon balticum* and the large diatom *Leptocylindrus danicus*.

Zooplankton density in Roberts Bay ranged from 8,400 to 16,500 organisms/m^3, with a mean abundance of 12,900 organisms/m^3. The lowest abundance was observed in eastern Roberts Bay where the inlet receives flow from Little Roberts Creek, and the greatest in western Roberts Bay near the Glenn Creek outflow. Roberts Bay zooplankton communities were dominated by calanoid copepods (*Acartia longiremis* and *Centropages abdominalis)* and the cladoceran *Evadne nordmanni*.

Benthic invertebrate density and diversity varied widely among sampling site in Roberts Bay. Both were lowest at shallow near-shore sites dominated by sand and influenced by freshwater inputs. Density ranged from 29 to 41,000 organisms/m^2, with a mean density of 10,500 organisms/m^2. Communities were dominated by free-swimming polychaetes (*Nephtys* spp. and *Bipalponephtys neotena*) and sedentary polychaetes (*Pectinaria granulata* and *Leitoscoloplos* spp.), as well as the clam *Macoma balthica*, which dominated near-shore environments.

A total of 23 fish species from 12 families were captured in marine waters from 2002 to 2010. Only 14 of those 23 species were found in Ida Bay. None of those fish species are designated as threatened or endangered by COSEWIC or listed on the *Species at Risk Act*.

A total of 8,683 fish were captured in Roberts Bay. Saffron Cod made up 50.85% of that number, followed by Capelin (30.73%), Arctic Flounder (5.07%), Pacific Herring (3.55%), Fourhorn Sculpin (2.78%), Arctic Char (1.90%), unidentified Sculpins (1.89%), and Greenland Cod (1.47%). The remaining 15 species each made up between 0.01% (unidentified Snailfish) and 0.60% (Lake Trout).

Six of the 23 fish species (Arctic Char, Lake Trout, Cisco, Lake Whitefish, Least Cisco, and Rainbow Smelt) found in Roberts Bay are anadromous. A seventh species (Ninespine Stickleback) is known to have anadromous and marine life history variants. Four of the remaining 16 fish species (Arctic Flounder, Fourhorn Sculpin, Greenland Cod, and Starry Flounder) are marine but were caught in brackish water habitat (Koignuk River and Glenn Outflow). The remaining 12 species are exclusively marine in their habitat preferences.

4.4.5 Marine Wildlife

4.4.5.1 Marine Mammals

Marine mammals that have the potential to occur in the marine RSA include ringed seal, bearded seal, beluga whale, narwhal, bowhead whale, walrus, and polar bear. For the purpose of the environmental assessment, ringed seal is considered the representative species for marine mammals as it is more abundant relative to the bearded seal in the assessment area. Ringed seals were also identified as the most important marine mammal species to the local Inuit as they are hunted for food and their fur used for boot soles, kayaks and tents{Banci, 2015 #171}.

Two types of baseline data were collected for marine mammals, including an aerial survey of the sea ice in the marine RSA in spring, 2010, and a vessel-based survey of the open water habitat along a single transect through the marine RSA in the fall of 2010. The spring aerial survey was conducted concurrently with the Dolphin and Union caribou ice crossing survey within the marine RSA.

The density of seals recorded on the spring aerial survey was 0.43/km^2; 0.30/km^2 for ringed seal and 0.07/km^2 for bearded seal. Seals and breathing holes were more frequently observed in upper Bathurst Inlet and in the Coronation Gulf in comparison to areas within Melville Sound. Spring seal surveys indicated that the majority of habitat within the marine wildlife RSA was suitable as moulting habitat for ringed and bearded seals. Few marine mammals were recorded on the vessel-based survey in the fall of 2010; one ringed seal was recorded at the entrance of Roberts Bay and another was recorded midway through Melville Sound. A bearded seal and an unknown seal were observed at the entrance of Melville Sound. These results indicate that ringed seals continue to use the marine LSA and RSA during the open water period, likely for foraging.

4.4.5.2 Marine Birds

For the purposes of this assessment, “marine birds” or “seabirds and seaducks” is used as a collective term to describe all migratory bird species that may use marine areas during any time of the year. As such, seabirds and seaducks encompass a very diverse group of avian species, from eider ducks and scoters that have a strong association with marine habitats through the breeding, staging, and migration periods, to geese, dabbling ducks, and other diving ducks that may only use marine habitats during the staging and migration periods.

Three types of baseline surveys have been conducted for marine birds in the marine RSA: aerial surveys in marine habitat in Hope Bay, Roberts Bay and Reference Bay from 2006 and 2015, a vessel-based survey in the fall of 2010 (in conjunction with the fall marine mammal survey), and ground-based searches for nesting marine birds on small islands in Hope Bay, Roberts Bay and Reference Bay in the summer of 2006, 2009, and 2010. Aerial surveys were conducted twice in a year; a pair survey during the northern migration/establishment of nesting territories in late June to early July, and a brood survey in late July to early August.

A total of 17 marine bird species were observed across all aerial surveys conducted in the marine RSA, including four species listed as sensitive in Nunavut (king and common eider, glaucous gull, and long-tailed duck. Generally few species were recorded on the vessel-based survey, although two additional species not recorded on aerial surveys, common murre and Thayer’s gull, were recorded. The results of ground-based nest searches indicated that some of the small islands Hope Bay, Roberts Bay and Reference Bay are used for nesting by common eider, red-breasted merganser, and herring gull although generally few nests of these species were recorded in a given survey year.

4.5 HUMAN ENVIRONMENT

4.5.1 Paleontology

Paleontological resources in Nunavut are managed under the Nunavut Archaeological and Paleontological Sites Regulations (NAPSR, SOR/2001-220) established pursuant to Section 51 of the *Nunavut Act*. The characterization of baseline conditions are inferred from the geology of the Project area and the general literature from the region. The rocks within the Project area are composed of the Hope Bay volcanic belt and surrounding Archean granitoid and gneissic rocks (Hebel 1999). No fossils are reported associated with the rocks of the Hope Bay volcanic belt and fossils from the Archean are limited to single-celled organisms that thrived in low-energy shallow marine environments, which are not expressed in the rock types in the Phase 2 Project area.

4.5.2 Archaeology

Archaeological sites are protected by the Nunavut Archaeological and Palaeontological Site Regulations. Permits are required to alter archaeological sites in Nunavut and permit applications for any proposed impacts will be sent by the Government of Nunavut to local communities for review and comment prior to issuance.

Overall, this region appears to have been well used seasonally throughout the known period of human occupation of approximately the past 3500 years. Representations of all cultural phases known in the central Arctic have been found in the Hope Bay Belt. The earliest archaeological sites, probably relating to the Pre-Dorset culture, have been found some distance inland, as have several sites suspected, on the basis of structural elements, to be from the early Thule period. These early sites, particularly those exhibiting evidence of stone tool making, are more frequent in the southern half of the study area, predominantly around Aimaokatalok. The several Taltheilei sites have also been recorded along the arms of Aimaokatalok. The sites along the Roberts Bay shoreline generally appear to be more recent, with a number of them containing historic artifacts. Historic period sites are also found around Aimaokatalok, indicating that location's ongoing resource importance. Traps are more frequent in the north half of the study area, particularly near Roberts Bay, suggesting later fur trade period use.

A total of 301 sites have been recorded within the Hope Bay LSA. Out of the identified sites there are 254 known sites within the LSA that could be vulnerable to direct or indirect effects. The Phase 2 PDA contains 48 sites that may be subject to potential direct impacts due to construction activities. Of these sites, 14 are on the edge of the PDA and may be avoidable during detailed design. It is concluded on the basis of this impact analysis that 34 of the recorded sites are potentially subject to direct impacts.

4.5.3 Socio-economic

There has been strong population growth in the Kitikmeot communities over the past 30 years. The Kitikmeot Region has a median age of 23.0 years, which is lower than Nunavut's median age of 24.1 years and much younger than the Canadian median age of 40.6 years (Statistics Canada 2012a). In 2011, approximately 81% of Cambridge Bay residents self-identified as Indigenous, primarily Inuit; this proportion was higher in all the other Kitikmeot communities, with 91% or more identifying as Indigenous. Within the Kitikmeot communities, there is a notable difference in family structure as compared to the general Canadian population. This difference is seen in the lower proportion of married couples in the Kitikmeot region (48.3%) as compared to Canada (80.1%). In 2011, the majority of Taloyoak and Kugaaruk residents reported an Inuit language as their mother tongue, while in Gjoa

Haven and the western Kitikmeot communities, the majority of residents reported English as their mother tongue.

Formal education levels and high school completion rates are low in the Kitikmeot communities when compared to Canadian averages. Current economic conditions have led to a disconnect between education and employment, leaving some residents to prefer an early transition to wage-labour, where possible, rather than continue education. Over time, the number of high school graduates has varied but has generally increased over time, a trend that is expected to continue.

The Kitikmeot communities have high rates of unemployment. In 2011, the potential labour force in the region was approximately 3,925 people with an active labour force of 2,410 people, indicating a 61.4% participation rate (Statistics Canada 2012b). In Kitikmeot communities, unemployment rates are also higher, at approximately 25%, than the Nunavut average of 18% as well as the national average of 8%. The exception is Cambridge Bay with an unemployment rate of about 14% (18%; Statistics Canada 2007, 2011).

As evidenced by typical health indicators, such as infant mortality and life expectancy, the health status of Kitikmeot residents requires further improvement to be on par with that of the general Canadian population. Despite the relatively small populations, there are a wide range of health services and programs available in Kitikmeot communities. High suicide rates are a concern. This has been attributed to recent rapid social change, resulting in a loss of self-reliance and a sense of discontinuity (GN et al. 2010).

Nunavut's GDP experienced an overall increase of approximately 25% between 2010 and 2014. Overall, GDP growth in Canada's three territories was highest in Nunavut over this time period (Statistics Canada 2015). Nunavut imports almost three times as much as it exports, with virtually all exports and imports coming from or ending in other Canadian provinces (Nunavut Bureau of Statistics 2014). Cambridge Bay has a more diversified economy than the other Kitikmeot communities, and continues to expand into the private sector. The traditional subsistence economy continues to be important to livelihoods in the Kitikmeot Region and is based in Inuit culture. Harvesting activities underpin the social fabric of communities and perpetuate traditional forms of social relationships and networks among Inuit.

Communities in the Kitikmeot are preparing for mining and other future developments anticipated to support local economies and provide much needed employment and business opportunities. The measures taken to prepare for development may vary by community but are likely to focus on education and training and establishing means through which projects proponents can enhance the ability of local communities to benefit from mining development within the region.

4.5.4 Land Use

There are two main types of land title and tenure within Nunavut: IOL and Crown lands. The Hope Bay Project is located on IOL. The Nunavut Planning Commission (NPC) has developed a draft Nunavut Land Use Plan (NLUP) for all Nunavut lands outside of municipal boundaries. The draft NLUP provides guidance for resource use and development and contains goals, objectives, and policies for land use planning. Land use designations include Protected Areas, Special Management Areas and Mixed Use Areas (NPC 2016). The Project is located within a Special Management Area with high mineral potential.

Nunavut is being explored for uranium, diamonds, gold and precious metals, base metals, iron, coal, and gemstones. Within the Kitikmeot region there are no operating mines, but three advanced exploration projects (including TMAC's Doris Project, which is under construction, and production is anticipated to begin in 2017) and 14 active mineral exploration projects.

There are both local and commercial land uses in the vicinity of the Phase 2 Project. Commercial land use consists primarily of commercial food harvesting, sport hunting, guide outfitting and lodges, and tourism (e.g., nature tourism, recreation and cruise ships). One ecolodge offers tourism activities (e.g., hiking, wildlife observation, photography) within the region, although activities tend to be limited to the Elu Inlet area. Sport hunting and harvesting occurs, and active harvesters have indicated that they primarily target furbearers. Muskox, caribou, wolf, and wolverine are among the species people in the Kitikmeot region rely upon, with caribou being the most harvested terrestrial mammal. There is one exploratory fishing licence near Kingaok that has not advanced to a commercial licence.

Local land uses consist of hunting, trapping, fishing, camping, and travelling; these activities are guided by respect between Inuit and the environment. Land and resource use is an important part of Inuit culture and livelihoods in the Kitikmeot region, with harvests being used for food, clothing, and arts and crafts. Harvested game is use for personal consumption and shared throughout the community. In the vicinity of the Phase 2 Project, active land users are mainly residents of Omingmaktok, Kingaok, and Cambridge Bay. Caribou, muskox, wolverine, grey wolf, and fox are the most commonly harvested species; seals are not generally harvested in this area. Aimaokatalok and Roberts Lake, near the Phase 2 Project, are fishing areas used to harvest whitefish, char, cod, sculpins, flatfish and Arctic Char. Two seasonally-used camps and two cabins are located in the vicinity. There are commonly used travel routes throughout the area, which are primarily used during harvesting activities. Placenames, an important feature of Inuit oral land use knowledge, have been identified within the region.

4.5.5 Human Health and Environmental Risk Assessment

Human health and environmental risk assessments involve comprehensive and systematic processes designed to identify, analyze, and evaluate the effects of the Phase 2 Project on environmental and human health. Baseline studies reviewed the existing levels of contaminants and noise in the local and regional study areas of the Project to establish a benchmark for evaluating the potential future effects of the Project and to characterize pre-disturbance conditions for the purpose of reclamation activities.

The existing conditions human health risk assessment (HHRA) integrated the results of the environmental media baseline studies, human receptor characteristics, traditional knowledge, and regulatory-recommended toxicity reference values (TRVs). As part of the existing conditions human health and environmental risk assessments, data were reviewed for air quality; water quality and sediment quality (freshwater and marine); fish and aquatic habitat (freshwater and marine); terrestrial and marine wildlife; soil and vegetation; country foods; and noise.

The assessment evaluated potential human health risks associated with the summed exposure to contaminants of potential concern (COPCs) from several exposure pathways (i.e., inhalation, ingestion of soil, dermal contact with soil, ingestion of drinking water, and ingestion of country foods).

For toddlers, hazard quotients (HQs) were greater than the threshold of 0.2 for aluminum, arsenic, chromium, lead, methylmercury, nickel, selenium, and thallium. For adult land users, HQs were greater than 0.2 for arsenic, chromium, methylmercury, and thallium. For off-duty workers, all HQs were below 0.2. This suggests that there could be risk to the health of toddler and adult land users due to non-carcinogens; however, it is highly probable that risk is overestimated.

For carcinogenic COPCs via the inhalation route (arsenic, cadmium, chromium, and nickel), no risk to human health for land users or off-duty workers under existing conditions was noted. For arsenic, which is considered carcinogenic through ingestion, there were no potential risks identified for off-duty workers as the incremental lifetime cancer risk (ILCR; 8.95×10^{-7}) was below the threshold of 1.0×10^{-5}. However, potential risks to the health of adult land users were identified because the ILCR was elevated (1.04×10^{-4}) due to the consumption of Arctic Char; this is likely an overestimate of the risk since conservative assumptions were made in the assessment.

There are uncertainties in this assessment and it is considered to be conservative since it assumes that all of the inhaled air, ingested drinking water, and incidentally ingested soil were from within the LSA for three months of the year for land users and six months of the year for off-duty workers. It was also assumed that all of the country foods consumed by an individual land user were from within the boundaries of the human health LSA for the entire year. There are currently no known permanent, full-time residents within the human health LSA. Furthermore, the 95th percentile metal concentrations in environmental media were used in the exposure calculations as were summed ingestion rates of country food items. Therefore, the existing conditions HHRA is likely to substantially overestimate risk to people (including Inuit) who may periodically or transiently use the human health LSA for various purposes (e.g., hunting, gathering, fishing, etc.) and for off-duty workers on the Phase 2 Project site.

The existing conditions environmental risk assessment (ERA) integrated the results of the environmental media baseline studies, ecological receptor characteristics, and TRVs. The quality of the different environmental media was conservatively representative of existing conditions at the Phase 2 Project site. This study evaluated potential risks to the health of ecological receptors associated with the summed exposure to COPCs from several exposure pathways (i.e., exposure to water and sediment for aquatic life receptors, and ingestion of soil, drinking water, and diet items for terrestrial receptors).

The existing conditions ERA identified the following baseline COPCs that were considered to pose a risk (i.e., HQ greater than 1) to some ecological receptors using or foraging in the freshwater, marine, or terrestrial environments of the terrestrial or aquatic LSAs:

- aluminum for muskox, wolverine, grizzly bear, Arctic ground squirrel, Arctic shrew, northern red-backed vole, American tree sparrow, least sandpiper, yellow warbler, and ringed seal; and
- methylmercury for red-breasted merganser and least sandpiper.

This suggests that there could be risk to the health of ecological receptors due to the COPCs identified above, although it is likely that the risk has been overestimated and adverse effects may not occur. For all other ecological receptors (e.g., terrestrial plant and invertebrate ecological receptors), there is negligible potential risk to health from existing conditions.

There are uncertainties in this assessment; however, this assessment was conducted in a manner that used multiple conservative assumptions, thus, the existing conditions ERA is likely to substantially overestimate risk to ecological receptors.

The risk to human and ecological health from existing conditions is due to naturally-occurring or existing conditions within the respective LSAs since the Phase 2 Project has not been developed or approved for development at this time. It is noted that there has been development of other projects in the area (e.g., Doris), so the existing conditions may not be fully representative of naturally occurring conditions. Nevertheless, this existing conditions HHRA and ERA provides the foundation for assessing the incremental changes on the health of humans and ecological receptors due to Phase 2 Project-related effects. The same data, approaches, and assumptions used in the existing conditions HHRA and ERA were also used in the models for predicting environmental quality during the Phase 2 Project (so that all predictions include existing conditions plus Phase 2 Project), which enables direct comparison of existing conditions and predicted environmental quality to determine incremental changes due to the Phase 2 Project.

5. Mitigation and Adaptive Management

Multiple mitigation measures are incorporated into the Phase 2 Project design to ensure that potentially adverse effects on these VECs and VSECs are either avoided, eliminated, or, reduced. The main types of mitigation are:

1. A commitment to compliance with all applicable regulation and current Canadian design standard for major structures;
2. Mitigations by design which focus on optimizing layouts, point source of emissions for specific environmental concerns, and tailors the design to eliminate, reduce or mitigate potential negative effects (e.g., application of best achievable control technologies); and
3. Management plans which outline corporate policies and procedures that will be implemented to ensure compliance with authorizations and standards (Section 10 and Volume 8 provides a description of TMAC's environmental management practices).

In addition, mitigation has been developed to enhance the positive socio-economic benefits for the Phase 2 Project. In particular, the IIBA sets out principles and methods to, among other purposes, maximize Inuit training, employment and business opportunities arising from the operation of the Project, and provide a mechanism through which effective communication and cooperation can take place.

Combined, these mitigation measures meet or exceed the expectations of the Code of Practice for Metal Mines (EC 2009). Monitoring and follow-up enable the Company to assess the performance of these mitigations measures and when necessary change or adjust mitigations methods or procedure on the basis of monitoring information through adaptive management. It is recognized through the review process that additional mitigation may be identified.

For each of the VECs and VSECs, the assessment section of the EIS identifies specific mitigation measures and describes how these mitigation or management measures eliminate or reduce potential negative interactions with the Project. The measures included in Volumes 4 through 7 (*Volume 4: Atmospheric and Terrestrial Environment*; *Volume 5*: *Freshwater and Marine Environment*; *Volume 6: Human Environment*; and *Volume 7: Accidents and Malfunctions, and Effects of the Environment on the Project*) have been demonstrated to work in other similar situations in the Arctic. The mitigation identified for each VEC/VSEC potentially impacted by the Project is summarized below in Section 6 (Tables 6.1-3 to 6.1-5).

6. Effects Assessment

6.1 METHODOLOGY OVERVIEW

This section describes the methodologies used to identify and assess the potential Project-related environmental and socio-economic effects of the Phase 2 Project in a manner consistent with the requirements of Section 12.5.2 of the Nunavut Agreement and the Nunavut Impact Review Board (NIRB) Guidelines for the Preparation of an Environmental Impact Statement (EIS guidelines; NIRB 2012a) for the Phase 2 Project.

4. To provide a comprehensive understanding of the potential effects for the Project, the Phase 2 components and activities are assessed on their own as well as in the context the Approved Projects (Doris and exploration) within the Hope Bay Greenstone Belt. The effects assessment process is summarized as follows:Identify potential interactions between the Phase 2 Project and the VECs or VSECs;
5. Identify the resulting potential effects of those interactions;
6. Identify mitigation or management measures to eliminate or reduce the potential effects;
7. Identify residual effects (potential effects that would remain after mitigation and management measures have been applied) for Phase 2 in isolation;
8. Identify residual effects of Phase 2 in combination with the residual effects of Approved Projects; and
9. Determine the significance of combined residual effects.

6.1.1 Scope of the Assessment and Selection of VECs/VSECs

The scope of the EIS is determined as part of the NIRB process. NIRB consulted with the public and interested parties in the Kitikmeot Region and Yellowknife in October of 2012 (as well as ongoing information and correspondence) to determine the scope of the EIS. A "Public Scoping Meetings Summary Report" was issued by NIRB in November of 2012 (NIRB 2012b), and the "Final Scope List for the NIRB's Assessment of the Phase 2 Hope Bay Belt Project" can be found as Appendix B in the EIS guidelines (NIRB 2012b).

Valued Ecosystem Components and VSECs are, respectively, those components of the natural and human environment identified as important through TK and/or considered to be of scientific, ecological, economic, social, cultural, or heritage importance. VECs and VSECs may be identified on the basis of public or scientific concerns regarding their value and their potential to be affected by a human activity. The value of a component not only relates to its role in the ecosystem, but also to the value placed on it by humans. Consideration of certain components may also be a legislated requirement, or known to be a concern because of previous project experience.

Table 6.1-1 presents the information used in the scoping process to determine the final VEC/VSECs for the EIS. It should be noted that all proposed VECs/VSECs from the EIS guidelines (NIRB) are included in supporting the assessment sections, regardless of whether they were selected as VECs/VSECs or Subjects of Note (i.e., issues that emerged during scoping that are associated with lower potential consequences than VECs/VSECs, but are still considered and addressed in the EIS). An effects assessment was conducted for all selected VECs/VSECs, while Subjects of Note have all of the information required by the EIS guidelines.

Table 6.1-1. Valued Ecosystem Component and Valued Socio-economic Component Scoping Process Information from Final Guidelines (NIRB 2012)

Subject Area	Potential VEC/VSEC Identified from EIS Guidelines (NIRB)
Atmospheric Environment	Air quality Climate and meteorology Noise and vibration
Terrestrial Environment	Terrestrial ecology Landforms and soils Permafrost and ground stability Geological Features (Geology and Geochemistry)
Freshwater Environment	Hydrological features/Water quantity Hydrogeology Groundwater quality Surface water quality Sediment quality Aquatic ecology Aquatic biota: representative fish as defined in the *Fisheries Act*, benthic invertebrates, other aquatic organisms Habitat including fish habitat as defined in the *Fisheries Act* Commercial, recreational and Aboriginal fisheries as defined in the *Fisheries Act*
Terrestrial Environment	Vegetation
Terrestrial Wildlife and Wildlife Habitat	Muskox Wolverine Polar Bears Brown Bears (brown and grizzly) Wolves Less conspicuous species that may be maximally exposed to contaminants Raptors Birds and their habitat Wildlife migration routes and crossings
Marine Environment	Marine ecology Marine water quality Marine sediment quality Marine biota including fish and species at risk Marine habitat Commercial, recreational and Aboriginal fisheries as defined in the *Fisheries Act*
Marine Wildlife	Marine mammals Marine species at risk

Subject Area	Potential VEC/VSEC Identified from EIS Guidelines (NIRB)
Socio-Economic Environment	Economic development and opportunities Employment Education and training Contracting and business opportunities Population demographics
Traditional Activity and Knowledge	Land use and mobility Food security Language Cultural and community harvesting
Land Use	Non-traditional land use and resource use
Heritage Resources	Archaeology Palaeontology Cultural resources
Health and Well-being	Individual and community wellness Family and community cohesion Potential indirect effects of project on frequency and types of crime incidents Health and safety including employee and public safety
Community Infrastructure	Community infrastructure and public service, including housing

6.1.2 Assessment Boundaries

For the Project-related effect assessment, distinct spatial boundaries are defined for each VEC and VSEC. These boundaries are described in detail in Volumes 4 to 7 (Volume 4: Atmospheric and Terrestrial Environments; Volume 5: Freshwater and Marine Environments; Volume 6: Human Environment; and Volume 7: Accidents and Malfunctions, and Effects of the Environment on the Project), along with a rationale describing how the boundaries were delineated.

The following general spatial boundaries are used in the EIS:

- **Project Development Area (PDA) -** The PDA is the area which has the potential for infrastructure to be developed as part of the Phase 2 Project. The PDA includes buffers around the footprints of structures. These buffers allow for refinement in the final placement of a structure through detailed design and necessary in-field modifications during construction phase.
- **Local Study Area (LSA)** - The LSA includes the Project footprint area plus additional area depending on the VEC/VSEC. The definition of the LSA provided in the glossary of the Project EIS guidelines is as follows: *That area where there exists the reasonable potential for immediate effects due to project activities, ongoing normal activities, or to possible abnormal operating conditions* (NIRB 2102a).
- **Regional Study Area (RSA)** – The RSA includes the LSA plus additional area depending on the VEC/VSEC. The definition of the RSA provided in the glossary of the Project EIS guidelines is as follows: *The area within which there is the potential for indirect or cumulative biophysical and socio-economic effects* (NIRB 2102a).

Maps of the specific LSAs and RSAs for each VEC and VSEC, including additional information for each study area specific to each VEC and VSEC, are provided in Volumes 4 through 7.

Temporal boundaries for the effects assessment were developed to integrate a series of the components and activities of four sites over the life of mine (LOM). Construction and operation activities on some sites are required to precede construction and operation on other sites. Similarly, closure and post-closure activities on some sites will start prior to the finish of operations on other sites. The planned Phase 2 Project timeline is presented in Volume 3 (Project Description).

For the purposes of the effects assessment, distinct phases of the Project are defined as Construction, Operation, Reclamation and Closure, and the Post-closure phase. It is understood that construction, operation and closure activities will, in fact, overlap among sites.

The assessment also considers a Temporary Closure phase should there be a suspension of Phase 2 Project activities during periods when Phase 2 becomes uneconomical due to market conditions. During this phase, the Phase 2 Project would be under care and maintenance. This could occur in any year of Construction or Operation with an indeterminate length (one to two year duration would be typical).

The temporal boundaries for each VEC and VESC were defined in relation to planned activities over the lifetime of the Project within which a reasonable expectation of interaction with environmental or socio-economic components can be predicted. These were adjusted as appropriate to reflect seasonal variations or life-cycle requirements of biological receptors, or forecasted trends in socio-economic receptors.

6.1.3 Identification of Potential Interactions with Project and VECs/VSECs

The assessment identifies the potential interactions between the Project and the VECs and VSECs. The Project Description (Volume 3) describes the Project activities and components. An interactions matrix is provided in Volume 2, which was completed based on TK, scientific reports, regulatory direction, professional judgement and experience with similar projects in Nunavut and the Northwest Territories. In addition, TMAC held a workshop with Elders and harvesters to identify and describe potential effects of the Project on caribou.

6.1.4 Characterization of Potential Effects

The assessment characterizes the potential effects that would result from the interactions. For each potential effect on a VEC or VSEC, the nature of that effect is characterized using the attributes that will later be used to describe the significance of any residual effects, such as direction, magnitude, equity (VSECs only), duration, frequency, geographic extent, reversibility, and probability. A discussion of the confidence (certainty) in the characterization of attributes is also included.

Prediction of effects is an objective exercise to determine what could potentially happen as a result of the Phase 2 Project's interaction with the VECs/VSECs. Methods to characterize and predict potential effects include quantitative, semi-quantitative and qualitative techniques. Some VECs/VSECs apply predictive modelling to characterize and forecast aspects of the interactions.

It is important to note that the prediction of effect takes into account any embedded controls and mitigations (i.e., physical or procedural controls that are already planned as part of the Project design). Section 5 summarizes the mitigation measures incorporated in the Phase 2 Project. These are further detailed within each effects assessment section (Volumes 4 to 7).

6.1.5 Characterization of Residual Effects

Project residual effects are the effects that are remaining after mitigation and management measures are taken into consideration. If mitigation eliminates a potential effect, then no additional analysis is undertaken. However, if the proposed mitigation measure(s) are not sufficient to eliminate a potential effect, a residual effect is identified. In order to determine their significance, each potential residual effect is characterized by a number of attributes defined in Section 7.14: Significance Determination of the EIS guidelines for the Hope Bay Project (NIRB 2012b).

Table 6.1-2 provides the criteria and characterizations for determining the significance of a residual effect. Only VECs or VSECs with negative/adverse residual effects (i.e. direction or nature of impact is negative/adverse) are characterized and carried forward for significance determination.

Table 6.1-2. Criteria for Residual Effects for Biophysical and Socio-Economic Attributes

Attribute	Characterization	Criteria
Direction	Positive	Beneficial
	Variable	Both beneficial and undesirable
	Negative	Undesirable
Magnitude	Negligible	No change on the exposed indicator/VEC
	Low	Differing from the average value for the existing environment to a small degree, but within the range of natural variation and well below a guideline or threshold value
	Moderate	Differing from the average value for the existing environment and approaching the limits of natural variation, but below or equal to a guideline or threshold value
	High	Differing from the existing environment and exceeding guideline or threshold values so that there will be a detectable change beyond the range of natural variation (i.e., change of state from the existing conditions)
Equity (VSECs)	Equitable	Even distribution of potential residual effects across different social groups or segments of society
	Neutral	Potential residual effects are unevenly distributed but do not pertain to any particular social group or segment of society
	Inequitable	Uneven distribution of potential residual effects occurring to particular social groups or segments of society, including vulnerable groups
Duration	Short	Up to 4 years (Construction phase)
	Medium	Greater than 4 years and up to 17 years (4 years Construction phase, 10 years Operation phase, 3 years Reclamation and Closure phase)
	Long	Beyond the life of the Project
Frequency	Infrequent	Occurring only occasionally
	Intermittent	Occurring during specific points or under specific conditions during the Project
	Continuous	Continuously occurring throughout the Project life
Geographic Extent	Project Development Area (PDA)	Confined to the PDA
	Local Study Area (LSA)	Beyond the PDA and within the LSA
	Regional Study Area (RSA)	Beyond the LSA and within the RSA
	Beyond Regional	Beyond the RSA

Attribute	Characterization	Criteria
Reversibility	Reversible	Effect reverses within an acceptable time frame with no intervention
	Reversible with effort	Active intervention (effort) is required to bring the effect to an acceptable level
	Irreversible	Effect will not be reversed

6.1.6 Determining the Significance of Residual Effects

Section 7.4 of NIRB's EIS guidelines provided guidance, attributes, and criteria for the determination of significance for residual effects. Also, the Canadian Environmental Assessment Agency's *Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects* (CEA Agency 1992) also guided the evaluation of significance for identified residual effects. The significance of residual effects is based on comparing the predicted state of the environment with and without the Project, including a judgment as to the importance of the changes identified.

The overall significance of an effect is derived from scientific and TK information, and the experience and professional judgment of the environmental practitioners who prepare the assessment, considering the rankings of the contributing attributes of significance. Using the applied attributes and criteria (Table 6.1-2), clear decision rules for the determination of significance are defined for each VEC/VSEC and potential effect, as appropriate. The definitions consider all combinations of attributes and criteria ratings that would result in a significant negative residual effect.

The knowledge or analysis that supports the prediction of a potential residual effect—in particular with respect to limitations in overall understanding of the environment and/or the ability to foresee future events or conditions—determines the confidence in the determination of significance. In general, the lower the confidence, the more conservative the approach to prediction of significance must be. The level of confidence in the prediction of a significant or non-significant potential residual effect qualifies the determination, based on the quality of the data and analysis and their extrapolation to the predicted residual effects.

Significant residual effects identified in the project-related effects assessment are carried forward to assess the potential for cumulative interactions with the residual effects of other projects or human activities.

If a VEC or VSEC had a residual effect with the potential to interact with projects and activities outside of the Nunavut Settlement Area (NSA), a transboundary assessment was included for that VEC/VSEC in Volumes 4 to 6. The transboundary discussion includes identifying the potential jurisdictional interaction, along with the rational for inclusion in the transboundary analyses.

6.2 PROJECT-RELATED RESIDUAL EFFECTS ON VECS AND VSECS

Tables 6.1-3, 6.1-4 and 6.1-5 lists the VEC/VSECs evaluated in the assessment, the key indicators used to evaluate potential effects against, the potential effects assessed, key mitigation and management measures that TMAC uses with the existing Doris Project plus additional measures committed to for the Phase 2 Project, those potential effects identified as residual effects and their significance rating. Note that where no residual effect is identified, the potential effect is not significant by default. It is anticipated that these commitments will be evaluated and revised during the permitting process based on party input and agreements which may have been reached.

Table 6.1-3. Summary of Atmospheric and Terrestrial Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Atmospheric Environment	Ambient Air Quality	Changes to ambient air quality	• A portion of the TIA will be subaqueous to help reduce fugitive dust emissions • Stacks with sufficient height to help reduce ground level air contaminates • Road and infrastructure optimization to reduce transportation and haul distances • Employee training and instruction relating to process control and air emissions • Waste recycling program to reduce incinerated waste • Emission control systems used on equipment, where applicable • Fuel efficient and low emission equipment use, where applicable • Regular equipment servicing and preventative maintenance • Dust suppressants applied to roads, stockpiles, TIA and TMA where needed • Road speed limit of 50 km/hr • Contour stockpiles and install engineering dust controls, where needed • Adaptive management through air quality monitoring • Stack testing and reporting, when applicable • Ongoing dust deposition and airborne particulate monitoring and reporting	Changes to ambient air quality	Not significant
	Noise and Vibration	Effect on Humans Effect on Wildlife	• Ensure equipment is fitted with appropriate mufflers and silencers; • Use enclosures, berms, acoustic screening and shrouding where stationary sources requiring control (noise reduction at the source) are identified. • Ensure equipment is well maintained. • House stationary high noise emitting sources in buildings. This will target fixed milling, power generation, processing, and material handling (i.e. crushing) infrastructure	Effect on Humans Effect on Wildlife	Not Significant (see Terrestrial Wildlife VECs)

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			• Haul road designed to optimise the haulage route to avoid receptors, where feasible, and to minimise the distance travelled to reduce the overall noise generation		
Vegetation and Special Landscape Features	Vegetation	Loss of vegetation	• Minimize footprint of facilities • Avoidance of sensitive areas and rare plants during Project design • Minimize disturbance of vegetation, permafrost and soils outside of Project footprints	Loss of vegetation	Not significant
		Alteration of vegetation	• Limit dust production - dust suppressants on roads • Speed limits to reduce dust generation • Vehicles restricted to site roads and quarry footprints and ice roads • Minimize soil degradation (i.e., erosion) by establishing and implementing erosion control • Progressive reclaim unused disturbed areas where possible • Monitor water quality to meet discharge requirements • Adequate fill depths to ensure preservation of permafrost	None Predicted	-
	Special landscape features	Loss of special landscape features	• Avoidance of rare of sensitive areas and rare plants during Project design • Minimize disturbance of vegetation, permafrost and soils outside of Project footprints	Loss of special landscape features	Not significant
		Alteration of special landscape features	• Limit dust production - dust suppressants on roads • Speed limits to reduce dust generation • Vehicles restricted to site roads and quarry footprints and ice roads • Minimize soil degradation (i.e., erosion) by establishing and implementing erosion control • Progressive reclamation of unused disturbed areas where possible • Monitor water quality to meet discharge requirements • Adequate fill depths to ensure preservation of permafrost	None Predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Terrestrial Wildlife and Wildlife Habitat	Dolphin and Union (Island) herd	Habitat loss Disturbance Disruption of Movement Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if caribou present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.	Habitat loss Disturbance	Not significant
	Beverly/Ahiak herd	Habitat loss Disturbance Disruption of Movement Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if caribou present • Speed limits to minimize the chance of collisions with wildlife. TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife.	Habitat loss Disturbance	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			• Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.		
	Muskox	Habitat loss Disturbance Disruption of Movement Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if muskox present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so.	Habitat loss Disturbance	Not significant
	Grizzly Bear	Habitat loss Disturbance Disruption of Movement Attraction to the Project Direct Mortality Increased Access and Harvest	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Surveys prior to blasts to limit disturbance if bears	Habitat loss Attraction to the Project	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		Changes in Environmental Media Quality	present • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m elevation except when landing or taking off where safe to do so. • Waste management, camp hygiene along with employee education will limit the attractiveness of the Project for bears.		
	Furbearers (Wolverine	Habitat loss Disturbance Disruption of Movement Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Limit dust production - dust suppressants on roads • Maintaining equipment to limit noise production • Speed limits to minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR that could be graded to facilitate crossing for wildlife. • Snow management on roads. • Helicopters to avoid caribou by at least 300 m vertically and 600 m horizontally where safe to do so. • Fixed-wing aircraft to maintain a minimum of 610 m	Habitat loss Attraction to the Project	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			elevation except when landing or taking off where safe to do so. Waste management, camp hygiene along with employee education will limit the attractiveness of the Project for furbearers		
	Raptors	Habitat loss Disturbance Attraction to the Project Direct Mortality Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Clearing and construction at sensitive locations for ground-nesting raptors to occur outside of the sensitive time periods (breeding period) or to be accompanied by nest survey during sensitive periods; • Avoidance of known nests or nesting areas, where possible	Habitat loss Disturbance	Not significant
	Waterbirds	Habitat loss Disturbance Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Conduct ground clearing outside of sensitive nesting periods for waterbirds or conduct pre clearing surveys for waterbirds if construction cannot be scheduled outside of sensitive periods policies that prohibit hunting on site, littering, and feeding wildlife; • Speed limits, giving wildlife the right of way, and dust control on roads; • Avoidance of areas of large concentrations of foraging or moulting birds • Avoidance of known nests or nesting areas	Habitat loss Disturbance	Not significant
	Upland Birds	Habitat loss Disturbance Attraction to the Project Direct Mortality Increased Access and Harvest Changes in Environmental Media Quality	• Employee awareness / environmental induction program • Minimize footprint of facilities • Conducting ground clearing outside of sensitive nesting periods for upland birds or conduct pre clearing surveys for upland breeding birds if construction cannot be scheduled outside of sensitive periods. • Ensure that waste management facilities and	Habitat loss Disturbance	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			Project buildings are wildlife-proof • policies that prohibit hunting on site, littering, and feeding wildlife; • Speed limits, giving wildlife the right of way, and dust control on roads; • Avoidance of known nests or nesting areas		

Table 6.1-4. Summary of Freshwater and Marine Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Surface hydrology	Surface water quantity	Alteration of Streamflow at Doris Watershed Alteration of Streamflow at Windy Watershed Alteration of Streamflow at Aimaokatalok Watershed	• Using existing infrastructure, and minimizing footprint and contact water • Recycling and reusing contact water • Following permit conditions for water withdrawals • Contact water storage facilities designed for high flows • Incorporation of climate change in design flows • Implementation of erosion control measures • Adherence regulatory requirements for culvert maintenance and in-water work • Monitoring ponds and the TIA • Using groundwater to reduce fresh water consumption	Alteration of streamflow in Doris Watershed Alteration of streamflow in Windy Watershed Alteration of streamflow in Aimaokatalok Watershed	Not significant
Freshwater Water Quality	Surface water quality	Site Preparation, Construction, and Decommissioning Site and Mine Contact Water Water Use Quarries and Borrow Pits Explosives Fuels, Oils, and PAH Treated Sewage Discharge Dust Deposition	• Use existing infrastructure for Doris Project and minimize footprint of Phase 2 infrastructure • Build on competent bedrock and use geochemically stable rock for roads, pads, and structures • Recycle site and mine water • Adhere to Federal and Territorial standards for emissions, in-water works, explosives, and receiving water criteria • Follow BMPs outlined in site management plans, including the Phase 2 Aquatic Effects Monitoring Plan (AEMP) • Treat sewage and mine water as appropriate and	Site Preparation, Construction, and Decommissioning Site and Mine Contact Water Explosives	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			discharge to tundra or waterbodies as required by regulations and permits • Implement sediment and erosion control measures to reduce over-land water flow and direct water to management structures • Store fuels and petroleum in secondary containment systems with appropriate spill contingencies in place • Regular inspections of management structures and adherence to site surveillance plans as directed by Water Licences.		
Freshwater Sediment Quality	Sediment quality	Site Preparation, Construction, and Decommissioning Site and Mine Contact Water Quarries and Borrow Pits Explosives Fuels, Oils, and PAH Treated Sewage Discharge Dust Deposition	• Same as Freshwater Water Quality	Site Preparation, Construction, and Decommissioning Site and Mine Contact Water	Not Significant
Freshwater Fish	Fish habitat	Habitat loss or alteration	• DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat • Restricted Activity Timing Windows • Management plans including Environmental Protection Plan • Infrastructure sited to avoid fish-bearing habitat where possible • Infrastructure design minimizes footprint and avoids critical freshwater fish habitat • Designing crossing structures to maintain fish passage at water crossings along all-weather roads • Limiting water withdrawal by recycling water, limiting groundwater inflows, and returning compliant effluent to waterbodies from which they were withdrawn • Offsetting as deemed necessary and approved by DFO	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
	Fish community: Arctic Grayling	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
	Fish community: Lake Trout	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
	Fish community: Arctic Char (freshwater life history)	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish • Noise and vibration thresholds for blasting activities	None predicted	-
		Changes in freshwater water quality and/or sediment quality	• See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	
	Fish community: Cisco/ Whitefish (freshwater life histories)	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Restricted Activity Timing Windows • Screening water intakes and discharge pipes to avoid entrainment or impingement of fish	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		Changes in freshwater water quality and/or sediment quality	• Noise and vibration thresholds for blasting activities • See Freshwater Water Quality and Freshwater Sediment Quality	None predicted	-
Marine Water Quality	Marine water quality	Shipping Site Preparation, Construction, and Decommissioning Site Contact Water Fuels, Oils, and PAH Discharge Dust Deposition	• Use existing infrastructure for Doris Project and minimize footprint of Phase 2 infrastructure • Build on competent bedrock and use geochemically stable rock for roads, pads, and structures • Discharge TIA to Roberts Bay mainly during open-water season where feasible • Discharge buoyant TIA and groundwater to Roberts Bay • Adhere to Federal and Territorial standards for emissions, in-water works, explosives, and receiving water criteria • Follow BMPs outlined in site management plans • Implement sediment and erosion control measures to reduce over-land water flow and direct water to management structures • Use silt curtains as appropriate to reduce turbidity from in-water works • Monitor marine environment through Metal Mining Effluent Regulations and Environmental Effects Monitoring therein. • Follow mitigation, management, monitoring procedures as outlined in Fisheries Authorizations and permits. • Store fuels and petroleum in secondary containment systems with appropriate spill contingencies in place • Regular inspections of management structures.	Shipping Site Preparation, Construction, and Decommissioning Site Contact Water Discharge	Not Significant
Marine Sediment Quality	Marine sediment quality	Shipping Site Preparation, Construction, and Decommissioning Site Contact Water Fuels, Oils, and PAH	• Same as Marine Water Quality	Shipping Site Preparation, Construction, and Decommissioning	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		Discharge Dust Deposition			
Marine Fish	Fish Habitat	Habitat loss or alteration	• DFO's measures to avoid causing harm to fish and fish habitat • Infrastructure design minimizes footprint area and avoids critical marine fish habitat • Restricted Activity Timing Windows • Management plans including Environmental Protection Plan • Offsetting as deemed necessary and approved by DFO	None predicted	-
		Changes to marine water quality and marine sediment quality	• Use of vibratory hammer during dock construction • Minimize vessel speeds in Roberts Bay • See Marine Water Quality and Marine Sediment Quality	None predicted	-
	Fish community: Arctic Char (anadromous life history)	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Blasting and noise thresholds and associated monitoring • Use of turbidity curtains during in-water works • Site management plans including Environmental Protection Plan	None predicted	-
		Changes to marine water quality and marine sediment quality	• See Marine Water Quality and Marine Sediment Quality	None predicted	-
	Fish community: Saffron Cod	Direct mortality and population abundance	• DFO's measures to avoid causing harm to fish and fish habitat • Blasting and noise thresholds and associated monitoring • Use of turbidity curtains during in-water works • Site management plans including Environmental Protection Plan	None predicted	-
		Change in marine water quality and marine sediment quality	• See Marine Water Quality and Marine Sediment Quality		

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Marine Wildlife	Ringed seal	Habitat loss	• Infrastructure design minimized footprint in marine habitat and avoided marine mammal haul-outs • Open-water season shipping only (no winter shipping)	None predicted	-
		Disturbance	• Marine Mammal Observer Program in 200 m safety zone • Stop pile driving if marine mammals inside safety zone • Use of vibratory pile driving instead of impact pile driving where possible • Acoustic monitoring of pile driving activity • Establish underwater noise thresholds for piling activities with additional measures triggered if thresholds exceeded • Establish Soft Start Procedures for pile driving	None predicted	-
		Direct mortality	• Speed limit on the Roberts Bay facility in case ringed seals haul out • Wastes managed to avoid introduction to marine environment • BMPs to manage fuels, hazardous materials, and respond to spills	None predicted	-
	Marine birds	Habitat loss	• Infrastructure design minimized footprint in marine habitat	None predicted	-
		Disturbance	• Vessels will avoid the large marine bird colony on Prince Leopold Island by 25 km, vessel safety permitting • Vessels will avoid known bird colonies by at least 500 m, vessel safety permitting • Vessels will monitor for large groups of marine birds and avoid, vessel safety permitting	None predicted	-
		Direct mortality	• Ships will avoid the large marine bird colony on Prince Leopold Island by 25 km, vessel safety permitting • Ships will avoid other marine bird colonies by 500 m • Airstrips monitored prior to take-off and landings • Speed limit will be set on Project roads.	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			• Wildlife given the right-of-way on all roads • Best management practices will be used to manage fuels, hazardous materials to prevent spills, and to contain and clean up any spills that may occur in the marine environment		

Table 6.1-5. Summary of Human Environment Residual Effects

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
Archaeology	Archaeological sites	loss of recorded archaeological sites	• Detailed recording of surface site content • Consideration of avoidance during project design • Consideration of protection strategies • Periodic monitoring of specific sites • Orientation of field personnel • Implementation of operational procedures	Effect on recorded archaeological sites	Not Significant
		loss of unrecorded archaeological sites	• Thorough surveys before disturbance • Research of TK and other data bases of past cultural information • Surveillance during short term disturbance activities in high archaeological potential areas • Orientation of field personnel • Implementation of operational procedures	Effect on unrecorded archaeological sites	Not Significant
		Effect on cultural information content of sites	• Research of TK and other data bases of past cultural information • Orientation of field personnel • Careful recovery of cultural information from sites that cannot be avoided • Preservation of collected data in museum	Gain of cultural information content of sites	Not Significant
Socio-economics	Economic Development	Changes to economic growth	• Monetary contributions to Inuit associations as defined by the new Framework Agreement and IIBA with the KIA	None predicted	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
	Business Opportunities	Changes to local business growth	• IIBA with provisions for promotion of Inuit content in procurement, including requirement to engage Kitikmeot Qualified Businesses and establishment, under certain conditions, of a Business Development Fund • TMAC Liaison to help maximize Kitikmeot Qualified Business procurement by identifying businesses interested in procurement opportunities • Provide assistance, feedback, information and lead time to contractors from the Kitikmeot communities on bids and bidding policies • Require and monitor local content plans on major bids • Provide annual business opportunities forecast Not Significant • Promote awareness of procurement opportunities within the Kitikmeot Region	None predicted	Not Significant
	Employment	Changes to employment opportunities and income Changes to labour force capacity Competition for local labour	• IIBA with provisions for annual Inuit employment targets, first opportunity to resident Kitikmeot Inuit for employment, followed by non-resident Inuit • build cultural awareness and enforce harassment policies • promote awareness of employment opportunities within Kitikmeot communities • develop and implement a Human Resource Strategy • develop and implement a Workforce Transition Plan for Closure	Changes to employment opportunities and income Competition for local labour	Not Significant
	Education and Training	Changes to the demand for education and training programs Changes in perceptions of education and employment	• IIBA with provisions for annual and long-term Inuit training targets, and establishment and administration of a Training and Education Fund • collaborate with the KIA, government and training organizations • development of a Human Resource Strategy that addresses training and education • Career Development Plans for Inuit employees • Community Information and Career Awareness Sessions in the Kitikmeot	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
	Migration, Housing, and Infrastructure and Services	In-migration to the Kitikmeot Region Changes to the demand for housing Changes to the demand for local services	• Multiple points of hire and transportation for Inuit employees, who are residents of Kitikmeot communities, to and from the point of hire and the Project site • Ongoing engagement with communities as defined by the Community Involvement Plan	None predicted	-
	Community Health and Well-being	Changes to family stability Changes to family spending Changes to food security and cost of living	• IIBA with provisions for Employee and Family Assistance Program (EFAP); serving country foods on site; maintaining a drug and alcohol policy which includes "zero tolerance"; providing on-site access to communications facilities to allow communication between Inuit employees and their spouses and families; and providing country food kitchens and cultural activities at the Project as determined by the Implementation Committee • TMAC Liaison to identify employee counselling needs as appropriate; develop on-going consultation with Inuit employees to identify their needs, issues and concerns; and assist in identifying and developing wellness initiatives	Changes to family stability Changes to family spending	Not significant
Land Use	Commercial Land and Resource Use	Change in access to land and resources Change in harvesting success/ harvesting practice Change in experience of nature	• Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • Speed limits which will minimize the chance of collisions with wildlife. • TMAC has a no hunting policy for all personnel while working on site. • Confine the areas where noise-generating activities occur to avoid disturbance where possible • Construct roads without continuous berms to allow for the easy passage of people and wildlife • Implementation of the Inuit Impact Benefits Agreement (IIBA) with the KIA, which includes, amongst other provision, access to Project facilities and roads • Allowing land users to safely cross project areas • Establishment of an Inuit Environmental Advisory Committee • Implementation of a Community Involvement Plan	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			that includes mechanisms for engagement with community members.		
	Traditional Activities and Knowledge	Change in access to land and resources Change in harvesting success/ harvesting practice Change in experience of nature	• Plan footprint to avoid sensitive wildlife areas • Minimize footprint of facilities • TMAC has a no hunting policy for all personnel while working on site. • Confine the areas where noise-generating activities occur where possible. • Construct roads without continuous berms to allow for the easy passage of people and wildlife • Implementation of the Inuit Impact Benefits Agreement (IIBA) with the KIA, which includes, amongst other provision, access to Project facilities and roads • Allowing land users to safely cross project areas Establishment of an Inuit Environmental Advisory Committee • Implementation of a Community Involvement Plan that includes mechanisms for engagement with community members.	Change in harvesting practice	Not significant

7. Cumulative and Transboundary Effects

7.1 METHODOLOGY OVERVIEW FOR CUMULATIVE EFFECTS ASSESSMENT

The potential for cumulative effects arises when the potential residual effects of the Phase 2 Project affect (i.e., overlap and interact with) the same VEC or VSEC that is affected by the residual effects of other past, existing or reasonably foreseeable projects or activities.

Similar to the Project-related effects assessment methodology described in Section 6.1, the Cumulative Effects Assessment (CEA) is comprised of the following activities and generally follows the methodology as described in the Cumulative Effects Assessment Practitioners' Guide (Hegmann et al. 1999):

1. Identify the potential for Phase 2 and Hope Bay Project-related residual effects to interact with residual effects from other human activities and projects within specified assessment boundaries. Key potential residual effects associated with past, existing, and reasonably foreseeable future projects were identified using publicly available information or, where data was unavailable, professional judgment was used (based on previous experience in similar geographical locations) to approximate expected environmental conditions.
2. Identify and predict potential cumulative effects that may occur and implementing additional mitigation measures to minimize the potential for cumulative effects.
3. Identify cumulative residual effects after the implementation of mitigation measures.
4. Determine the significance of any cumulative residual effects.

The following periods were identified and evaluated as part of the CEA:

- **Past:** These are historical, closed projects and activities occurring within the outer geographical limit of possible interaction with Phase 2 Project. The year 2001 was selected as the past temporal boundary, representing a time when rigorous baseline studies and activities first occurred in the CEA study areas. Baseline studies captured the effects of past activities.
- **Existing:** These are projects and activities undergoing construction or operating concurrently with the Phase 2 Project and occurring within the outer geographical limit of possible interaction with the Project.
- **Reasonably Foreseeable Future:** These are projects formally accepted into a regulatory approvals process and occur within the outer geographical limit of possible interaction with the Phase 2 Project. The boundaries are VEC/VSEC specific and based on the predicted length of time it would take for the VEC/VSEC to recover to baseline conditions, if possible. The CEA of each VEC/VSEC in Volumes 4 to 7 specifies the temporal boundaries applied.

Cumulative residual effects for the future case with the Project are described using the same criteria applied in the Project-related effects assessment methodology (Section 6.1.3): direction, magnitude, equity (socio-economic), duration, frequency, geographic extent, reversibility, probability of occurrence, and confidence in the analyses and conclusions. Using the same approach as the Project-related effect assessment, the cumulative residual effect is characterized as either significant or not significant. The evaluation of significance will be completed by comparing cumulative effects against thresholds, standards, trends or objectives relevant to the VEC/VSEC and as defined in each of their respective assessment sections.

7.2 METHODOLOGY OVERVIEW FOR TRANSBOUNDARY EFFECTS ASSESSMENT

NIRB's EIS guidelines define transboundary effects as those effects linked directly to the activities of the Phase 2 Project inside the NSA, which occur across provincial, territorial, international boundaries or may occur outside of the NSA (NIRB 2012a). Although Phase 2 and the Hope Bay Project is located entirely within the NSA, transboundary effects can occur when animals move across jurisdictional boundaries or when project activities themselves, or their zone of influence, cross-jurisdictional boundaries.

Transboundary effects for Phase 2 and the Hope Bay Project consider all VECs and VSECs identified for the Project-related effects assessment, with specific consideration given to the potential for transboundary impacts associated with marine shipping on marine mammals, migratory birds and seabirds, and their habitat, as well as the large migration range of land mammals such as caribou. Any residual effects that have the potential to occur outside of the NSA were also considers and included in the evaluation of transboundary impacts, if relevant.

The following systematic process was used to determine which VECs and VSECs would be included in the transboundary effects assessment:

- Identify any potential residual adverse effects of Phase 2 and the Hope Bay Project on a VEC/VSEC, after mitigation measures are applied, that may result in transboundary effects.
- Determine whether the residual effects of Phase 2 and the Hope Bay Project may operate cumulatively in a transboundary context with the environmental effects of projects or activities located in other jurisdictions. Assess whether the Project will interact cumulatively in a meaningful way (i.e., is "likely" to heighten effects).
- Describe mitigation measures, where feasible, that may be applied where measurable effects are described

If a VEC or VSEC had a residual effect with the potential to interact with projects and activities outside of the NSA, a transboundary assessment section was included for that VEC/VSEC in Volumes 4 to 6. The transboundary discussion includes identifying the potential jurisdictional interaction, along with the rational for inclusion in the transboundary analyses.

7.3 ATMOSPHERIC ENVIRONMENT

7.3.1 Climate and Meteorology

The Project's effect on climate and meteorology will be through contribution to global atmospheric GHG pool. The assessment (Volume 4) compares estimate peak Project emissions to territorial, national, and international GHG emissions and is thus cumulative in nature. As such, no additional cumulative effects assessment is required.

GHGs emitted by the Project will contribute to global GHG levels, which in turn will influence on global climate change trends.

7.3.2 Air Quality

Cumulative

The assessment considered present and foreseeable projects that may interact in terms of impacts on ambient air quality. Past projects were not considered as past projects are assumed to not emit air contaminants.

All residual Hope Bay Project ambient air quality exceedances are anticipated to be confined to the air quality LSAs with contaminants approaching baseline values within the air quality RSA. Contaminants will continue to approach baseline values with distance away from the Hope Bay Project as contaminants become more and more diluted due to atmospheric mixing. All present or future regional projects are outside of the air quality LSA and RSA. Therefore, it is expected that air contaminants from the Hope Bay Project will have attenuated to baseline levels well before interacting with another project and will not have a measurable cumulative ambient air quality effect.

Based on the types of present and foreseeable future projects identified and their distances away from the Hope Bay Project, none of the other projects are expected to emit enough air contaminants to have measurable cumulative ambient air quality effects with the Hope Bay Project. Therefore, there are no anticipated potential cumulative effects on ambient air quality.

Transboundary

All residual Hope Bay Project ambient air quality exceedances are anticipated to be confined to the air quality LSAs with air contaminants approaching baseline values within the air quality RSA. Contaminants will continue to approach baseline values with distance away from the Hope Bay Project as the contaminants become more and more diluted due to atmospheric mixing. The closest territorial boundary is far outside the air quality LSAs and RSA. Therefore, it is expected that air contaminants from the Hope Bay Project will have attenuated to baseline levels well before interacting with the closest boundary.

Shipping vessels and aircraft that travel to and from the Project generate air contaminant emissions along their travel path, including inside and outside of the NSA, depending on travel route. Air contaminant emissions from shipping and aircraft are predicted to not cause any exceedances within the LSA. It is therefore expected that emissions from moving shipping vessels and aircraft outside of the LSA will also not cause any ambient air quality exceedances and air contaminants will attenuate to baseline levels relatively close to emission points. Therefore, there are no anticipated transboundary effects on ambient air quality.

7.4 TERRESTRIAL ENVIRONMENT

The Project effects assessment for terrestrial vegetation and wildlife effects assessment evaluated potential effects of the Project on vegetation and wildlife VECs and identified residual effects for some VECs. These residual effects were carried forward to a cumulative effects assessment. Potential effects from past, present and likely future industrial projects were identified within a cumulative effects assessment boundary, which was the RSA for most VECs and larger areas for VECs with large home ranges. The cumulative effects assessment area for caribou included other industrial projects and a cumulative effects assessment was carried out for this VEC.

7.4.1 Caribou

After the application of mitigation and management measures, two residual effects were identified and carried forward into the cumulative effects assessment for caribou: habitat loss and disturbance. Past, present, and likely future industrial projects were identified in the seasonal ranges where the herds interact with the Project; Dolphin and Union herd (winter) and Beverly/Ahiak (summer) and in the annual herd range. Overall, the potential effects of all industrial projects on these caribou herds was concluded to be Not Significant.

7.4.1.1 Habitat Loss

The cumulative residual effect of habitat loss for both the Dolphin and Union and Beverly/Ahiak caribou herds was concluded to be Not Significant. Overall, habitat loss represents approximately 0.02% of the good quality habitat available to these herds in their seasonal ranges. The magnitude of the effect is considered to be negligible for both the Dolphin and Union and Beverly/Ahiak caribou herds. The proportions of the seasonal and annual herd ranges that will be impacted are small, and unlikely to result in measurable herd-level population changes. The effect will endure beyond the life of the Project because even with reclamation activities the footprint areas will not return to baseline habitat conditions. The habitat loss will largely occur during construction and be localized and contained close to the Project footprint.

7.4.1.2 Disturbance

The cumulative residual effects of disturbance due to noise and dust for both the Dolphin and Union and Beverly/Ahiak herds was concluded to be Not Significant. Potential effects due to disturbance were evaluated for a likely zone of influence identified from monitoring studies and the scientific literature. The magnitude of the effects was considered low because the zone of influence area of all projects combined occupies 0.4 to 1.2% of the seasonal range and approximately 0.4% of the annual herd range of these herds. The effects of noise disturbance begins with construction and ends with closure of each project.

7.5 FRESHWATER ENVIRONMENT

The Project effects assessment for the freshwater environment evaluated potential effects of the Project on freshwater VECs and identified residual effects for the surface hydrology, water quality, and sediment quality VECs.

All residual effects were assessed as moderate or less in magnitude and all effects were assessed to occur within the freshwater LSA; therefore, the freshwater residual effects will not interact with past, present and likely future industrial projects and will not occur outside of the NSA. There are no anticipated cumulative or transboundary effects to the freshwater environment resulting from the Phase 2 Project.

7.6 MARINE ENVIRONMENT

The Project effects assessment for the marine environment evaluated potential effects of the Project on marine VECs and identified residual effects for the water and sediment quality VECs.

All residual effects were assessed as moderate or less in magnitude and all effects were assessed to occur within the marine LSA (Roberts Bay); therefore, the marine residual effects will not interact with past, present and likely future industrial projects and will not occur outside of the NSA. There are no anticipated cumulative or transboundary effects to the marine environment resulting from the Phase 2 Project.

7.7 HUMAN ENVIRONMENT

Considering the socio-economic, cultural heritage, and health management and mitigation measures described in the respective sections of the EIS, eight residual effects are identified, including effects on the VSECs Archaeological Sites, Employment, Community Health and Well-being, and Traditional Activities and Knowledge. These residual effects have been characterized and determined to be Not Significant. The residual effects are also considered in terms of how they may contribute to cumulative or transboundary impacts, as described below.

7.7.1 Archaeological Sites

Cumulative Effects

The assessment considered past, present and foreseeable mining and exploration projects that may interact in terms of archaeological site assemblages, including: Jericho mine (currently in care and maintenance), Back River mine (estimated start date 2019), and the Bathurst Inlet Port and Road, Hackett River mine, and Izok Corridor mine (all in pre-application stage).

The residual effects of the Project (Phase 2 and the Approved Projects) on archaeological sites have the potential to cumulatively interact in terms of reducing the number of sites in the broader region. While the Phase 2 Project may affect approximately 2.6% of the recorded sites in the Kitikmeot region, the cumulative effect of the identified projects on the recorded archaeological resource in the Kitikmeot region amounts to the potential loss of approximately 12% of the recorded sites.

It is important to consider that Project development involves a process of adjusting the locations of specific components and a concerted effort to avoid archaeological sites. Therefore, the number of sites actually affected is expected to be substantially lower than the number of potentially affected sites that are identified. It is standard practice on development projects in Nunavut to consider avoidance as the first measure for mitigation of potential effects on archaeological sites. In doing so, all projects will act collectively to reduce the overall adverse effects.

It is also standard practice to have an archaeologist carefully record and gather cultural information from sites that cannot be avoided. In this manner, although some sites may be lost, the cultural values are preserved. As such, the potential loss of sites is not a total loss assuming that the cultural information within these sites is preserved. Finally, there are undoubtedly numerous unrecorded archaeological sites throughout the Kitikmeot region; therefore the percentage of total archaeological resources that may be affected is in reality expected to be considerably less.

Considering the above points, no residual cumulative effects on Archaeological Sites are identified.

Transboundary Effects

No potential transboundary effects are identified. The Inuit who lived in the Kitikmeot region did not venture a significant distance south of the current Kitikmeot boundaries (i.e., the Nunavut border). Furthermore, the site inventories are held separately by each Territory and, therefore, the overall effects are restricted to that Territory. Consequently, there are no transboundary effects.

7.7.2 Employment

Cumulative Effects

Cumulative effects for the Employment VSEC considered potential residual adverse effects associated with labour competition, and the loss of employment and income at mine closure. There may be cumulative effect of loss of employment and income if closure dates of major industrial projects coincide. In addition, Project-related competition for labour may interact with labour competition induced by other industrial activities competing for local labour.

At present, no present or future projects have coinciding closure dates with that of the Phase 2 Project. However, given a high level of uncertainty about project schedules, it is possible that one or more of the reasonably foreseeable projects have closure dates around the time of closure of the Project, and in which case there may be a cumulative interaction. A potential residual adverse cumulative effect is conservatively predicted in regard to the change in employment opportunities and income at closure. The residual cumulative effect is expected to be limited to the RSA and moderate in magnitude, although the magnitude will depend on the occurrence of coinciding closure dates. The probability is rated as unlikely as currently no other present or reasonably foreseeable projects or developments have coinciding closure dates with those of the Phase 2 Project. Confidence is medium and the residual effect is determined to be Not Significant.

The Hope Bay Project has the potential to result in an adverse cumulative residual effect on competition for local labour a result of its demand for labour, and the demand of other projects and developments in the Kitikmeot Region. This effect is expected as a result of direct, indirect and induced employment opportunities throughout the Construction and Operation phases of the Project. The potential projects that may cumulative increase competition for labour include, in particular, the Back River Project which will require many of the same skillsets and draw from the same communities within the Kitikmeot Region. There is a moderate probability that the cumulative effect will occur. Overall, the cumulative effect of competition for local labour is determined to be Not Significant.

Transboundary Effects

The negative effect of changes to employment opportunities and income at mine closure is expected to be primarily limited to the Kitikmeot region. Workers from other areas of Canada are expected to come from a diversity of areas including larger population centres where there are more work opportunities. In addition, fly-in/fly-out mine workers are typically experienced with and expect to transition to work on other projects based on the opportunities available in the industry across Canada. A potential residual adverse transboundary effect of the Project (Phase 2 and the Hope Bay Project) on is not predicted.

The adverse residual effect of increased competition for local labour due is predicted to be limited to the Kitikmeot region. This effect is not expected to reach into Yellowknife as a relatively modest number of workers are expected to come from that community. A potential residual adverse transboundary effect of is not predicted.

7.7.3 Community Health and Well-being

Cumulative Effects

Potential cumulative effects on Community Health and Well-being are identified in relation to changes in family stability (due to the worker rotation schedule and social stressors this can have on a family) and family spending (including potential for unproductive spending associated with increased income).

An adverse cumulative effect on family stability may occur because other mine developments in the region operate using a similar model and the timing of the Hope Bay Project may coincide with activities of other projects and developments that are also employ workers from the Kitikmeot Region. Project potentially having cumulative interactions include the operating diamond mines in the Northwest Territories and the planned Back River Project, each of which also operate on a fly-in/fly-out rotation schedule. Although interactions will depend on the overlap of project schedules, 'changes to family stability' is conservatively predicted to result in an adverse residual cumulative. This effect is both positive and negative in direction, and reversible, and may affect a number of additional households throughout the RSA. Further, the effect is only applicable for families who receive the corresponding benefits of employment from the projects considered. The significance of the residual adverse cumulative effect is Not Significant.

A number of positive impacts are associated with employment and the income it provides, including productive spending in the areas of education, housing, and consumer goods and services. However, there is also potential for an increase in unproductive spending among some workers and their family members, including increases in gambling and alcohol and drug use. Additional employment and income in the RSA communities can exacerbate these adverse effects. The potential projects that can cumulatively interact with Phase 2 and the Hope Bay Project include, in particular, CHARS and the Back River Project. A residual cumulative effect on family spending is predicted and will be both positive and adverse in direction, with adverse aspects dependent on individual choices and behaviours. The negative effect is considered to be low magnitude because, despite additional projects bringing additional employment and income to the Kitikmeot communities, negative spending choices are still expected to affect a relatively small number of households. The adverse cumulative effect 'changes to family spending' is determined to be Not Significant.

Transboundary Effects

A residual adverse effect of changes to family stability is predicted for the Hope Bay Project, primarily due to the fly-in/fly-out worker rotation schedule and the social stressors that this can add to the family. A residual adverse effect of changes to family spending results in both positive and negative outcomes, and is highly dependent on the spending choices made by individuals and the success of mitigation. Both of these effects are expected to be primarily limited to the Kitikmeot communities because of the focus on hiring in the region and the existing socio-economic conditions and challenges; transboundary effects are not predicted.

7.7.4 Traditional Activities and Knowledge

Cumulative Effects

The assessment identifies a potential for local land users to avoid fishing at Aimaokatalok as a result of the Phase 2 Project, resulting in a residual effect to harvest practice. No residual effect is anticipated for overall fishing success. Frequented fishing areas were evaluated in terms of spatial relationship to past, current and reasonably foreseeable future projects and activities. One project was identified to have a potential interaction: the Roberts Bay/Ida Bay silver mine, which closed in 1975 and has been abandoned since the mid-1990s.

Baseline information indicates that there is continued use of Inuit seasonal camps at Ida Bay and Roberts Lake, and consultation with land users identified no concerns in regard to impacts of the Roberts Bay/Ida Bay project on fishing activities. Ongoing water quality monitoring at the site continues, and remediation work has been completed. No potential cumulative effects on land use activities, including fishing, are anticipated.

Transboundary Effects

A potential transboundary effect on traditional land use is identified in regard to hunting caribou, specifically in regard to harvesting success/harvesting practice. Assessment of the Caribou VEC (Terrestrial Environment) concluded that cumulative effects to caribou, due to a change in the abundance or distribution of wildlife, are Not Significant. No transboundary effects were predicted. As no transboundary effects for caribou population or distribution are expected, it is unlikely that harvesters outside the Kitikmeot region will experience a change in harvesting activities. Thus, no transboundary effect on Traditional Activity and Knowledge is predicted.

8. Accidents and Malfunctions

Accidents and malfunctions may occur during any phase of the Phase 2 Project. The primary environmental concern resulting from accidents and malfunctions is the possibility for spills, release of chemicals, reagents, petroleum products or process materials onto the land or water (freshwater and marine). Fire presents another risk resulting from vehicle accidents, damage to electrical systems or accidental explosions. Lastly, explosives are kept onsite and have the potential for an accidental blast.

Management of risks and contingency planning are integral to TMAC's approach. A comprehensive evaluation of the potential risks is essential in order to meet regulations, as well as TMAC's health, safety, and environmental objectives. While there exists the possibility of accidents and malfunctions, TMAC's objective is to minimize the likelihood of such incidents and the associated consequences that might affect people and the environment.

Management systems that incorporate effective adaptive management practices are designed to mitigate risks and limit consequences. These strategies include personnel training, education, regular inspections, monitoring and maintenance of equipment, and learning from incidents to improve performance. An outline of the environmental and safety management systems for the Hope Bay Project is presented in Volume 8.

The approach for an assessment of accidents and malfunctions involves:

- defining the risk assessment and potential residual effects methodologies;
- identification of accidents and malfunctions;
- assessment of the risk;
- assessment of potential environmental effects[1];
- implementation of additional controls, if required; and
- monitoring and reporting.

Risk combines the concepts of likelihood (the expected frequency), and the consequences (the expected severity) of a failure mode. For the Phase 2 Project, risk will be evaluated after the application of controls and preventative measures. Likelihood is the chance that an accident or and malfunction will occur. Likelihood categories range from *almost certain* to *rare* (Table 8-1).

Consequence is the degree of severity of an accident or malfunction. Consequence categories range from *critical* to *insignificant* (Table 8-2).

[1] For *very low* and *low* risk accidents and malfunctions there will be no assessment of potential environmental effects.

Table 8-1. Criteria for Likelihood of Accidents and Malfunctions

Likelihood	Frequency
Almost certain	High frequency of occurrence - occurs more than once per year
Likely	Event does occur, has a history, occurs once every 1 to 10 years
Possible	Occurs once every 10 to 100 years
Unlikely	Occurs once every 100 to 1,000 years
Rare	Occurs once in greater than 1,000 years

Table 8-2. Criteria for Consequence of Accidents and Malfunctions

Consequence	Criteria
Critical	Major uncontrolled event or inefficiency with uncertain remediation: • very serious environmental impacts with impairment on ecosystems; and • long-term, widespread effects on environment.
Major	Event or inefficiency that can be addressed but with great effort: • serious environmental impacts with impairment of ecosystems; • relatively widespread, long-term effects; and • regulatory approval withdrawn for a few months.
Moderate	Event or inefficiency that might need physical attention and certainly engineering review: • some impairment on ecosystem function; • potential for displacement of species; • moderate short-term widespread effects; and • regulatory orders with considerable cost implications.
Minor	Incident or inefficiency that might require engineering review and is easily and predictably remediated: • minor effects on biological or physical environment; • minor short-term damage to small areas; and • minimal local community concern with no lasting damage to relations.
Insignificant	Minor incident or inefficiency of little or no consequence: • no lasting impacts to environment; • negligible interactions or very low effects on biological or physical environment; • limited effect to minimal area impacted; and • no community concerns.

Risk Matrix

Risk level is derived from the associations of likelihood and consequence. Using a procedure known as “binning”, each combination of likelihood and consequence assigns risk management categories within a risk matrix. The risk category is based on ordering of the 25 possible combinations of likelihood and consequence into five risk management categories: *very low*, *low*, *moderate*, *high*, and *extreme* (Table 8-3). The greater the likelihood and/or consequence, the higher the risk category.

Potential accidents and malfunctions considered in this assessment are identified in Table 8-4. Accidents and malfunctions have been categorized by life of mine (LOM) phases (Construction, Operation, Reclamation and Closure and Post-Closure) and by location (Roberts Bay, Doris, Madrid North, Madrid South, Boston, all weather road [AWR], winter ice road [WIR], and Boston Airstrip).

Table 8-3. Risk Matrix

Environmental Consequence	Likelihood				
	Rare	Unlikely	Possible	Likely	Almost Certain
Critical	Moderate	Moderate	High	Extreme	Extreme
Major	Low	Moderate	Moderate	High	Extreme
Moderate	Low	Moderate	Moderate	Moderate	High
Minor	Very Low	Low	Moderate	Moderate	Moderate
Insignificant	Very Low	Very Low	Low	Low	Moderate

Of the 18 potential accidents and malfunctions identified, risk analysis indicated that seven are *very low* environmental risk and six are *low* environmental risk. Five potential accidents and malfunctions are of *moderate* risk to the environment. No environmentally-related potential accidents and malfunctions were considered *high* or *extreme* risk. Table 8-4 summarizes the results of the risk analysis for all accidents and malfunctions evaluated. Regardless of the level of risk associated with an accident and malfunction, the *Emergency Response Plan* is applicable to all accidents and malfunctions (Volume 8;)(TMAC 2014).

Table 8-4. Summary of Risk Assessments of Accidents and Malfunctions

Accidents and Malfunctions	Location[1]	Project Phase[2]	Likelihood	Environmental Consequence	Risk Rating
Failure of cyanide destruction process	D	O	Unlikely	Insignificant	Very Low
Ground support failure in underground mine	MN, MS, B	O	Rare	Insignificant	Very Low
Underground equipment fire	MN, MS, B	O	Rare	Insignificant	Very Low
Underground mine flooding	MN, MS, B	O	Unlikely	Insignificant	Very Low
Waste rock dump and ore stockpile instability	MN, MS, B	O	Unlikely	Insignificant	Very Low
Winter ice road collapse over water crossing	WIR	C	Unlikely	Insignificant	Very Low
Primary power outage	RB, MN, MS, B, BA	C, O, RC	Unlikely	Insignificant	Very Low
Aircraft incidents	D, BA	C, O, RC	Unlikely	Minor	Low
Failure of waste water treatment plant	D, B	C, O, RC	Unlikely	Minor	Low
Freight loss during ship-to-shore transfer	RB	C, O, RC	Unlikely	Minor	Low
Contact Water Pond failure	D, MN, MS, B	C, O, RC	Unlikely	Minor	Low
Surface fire	RB, D, MN, MS, B, BA	C, O, RC	Unlikely	Minor	Low
Vehicle incidents	D, MN, MS, B, BA	C, O, RC	Possible	Insignificant	Low
Fuel spill during ship-to-shore transfer	RB	C, O, RC	Unlikely	Major	Moderate
All-weather road embankment failure and/or collapse of a water crossing	AWR	C, O, RC	Unlikely	Moderate	Moderate
Explosives accidents	D, MN, MS, B	C, O, RC	Unlikely	Moderate	Moderate

Accidents and Malfunctions	Location[1]	Project Phase[2]	Likelihood	Environmental Consequence	Risk Rating
Pipeline leak or rupture	D, MN, MS, B	O	Possible	Moderate	Moderate
Terrestrial/Freshwater spill of fuels, other hydrocarbons, and hazardous materials	D, MN, MS, B, AWR, WIR, BA	C, O, RC	Possible	Moderate	Moderate

[1] Roberts Bay (RB), Doris North (D), Madrid North (MN), Madrid South (MS), Boston (B), all weather road (AWR), winter ice road (WIR), and Boston Airstrip (BA)
[2] Construction (C), Operation (O), Reclamation and Closure (RC), and Post-closure (PC)

For Project components and activities that have the potential for similar accidents and malfunctions as the existing Doris Project, the determination of significance for VECs from the Doris Project Final EIS are referenced. The nature of these accidents and malfunctions has not materially changed for the Phase 2 Project. For VECs considered for the Phase 2 assessment, the residual effects of accidents and malfunctions are characterized using the criteria in Table 8-5 and the significance of these residual effects is determined as defined in Section 6.1.6.

The significance determination for residual effects of accidents and malfunctions is presented below and a summary presented in Table 8-5.

Table 8-5. Summary of Residual Effects Assessment of Accidents and Malfunctions

Accident / Malfunction	Valued Ecosystem Component (VEC)	Doris Project FEIS Section (if available) and Significance of Residual Effects	Phase 2 EIS Significance of Residual Effects	Comments
Fuel spill during ship-to-shore transfer	marine water quality	Section 11.2.6, Table 11.7; Section 11.3.5 Minor (not significant) to major (significant)		
	marine aquatic and fish habitat		Significant	
	marine fish and fish habitat (arctic char, saffron cod)	Section 12.2.4; Table 12.2; Section 12.3.5 Section 13.2.5; Table 13.2; Section 13.3.5 Minor (not significant) to major (significant)		Saffron cod was not a VEC in the Doris North Project FEIS; however, the assessment of the potential residual effects is extended to Saffron cod due to the similarities in potential effects and mitigation measures.
	seabirds	Section 20.3.4; Section 20.2.4.5; Table 20.7; Section 20.3.4 Negligible (not significant)		Doris North Project FEIS had a waterfowl VEC which included seaducks.
	marine mammals		Not significant	
All-weather road embankment failure and/or collapse of a	surface water quantity		Not significant	
	surface water quality		Not significant	

Accident / Malfunction	Valued Ecosystem Component (VEC)	Doris Project FEIS Section (if available) and Significance of Residual Effects	Phase 2 EIS Significance of Residual Effects	Comments
Water crossing	sediment quality		Not significant	
	aquatic and fish habitat		Not significant	
	freshwater fish (arctic char, lake trout, arctic grayling)		Not significant	
Explosives accident	air quality	Section 10.3.5; Table 10.14 Minor (not significant) to negligible (not significant)		
	noise and vibration	Section 10.3.5; Table 10.14 Minor (not significant) to negligible (not significant)		
Pipeline leakage or rupture	surface water quality		Not significant	
	sediment quality		Not significant	
	aquatic and fish habitat		Not significant	
	freshwater fish (arctic char, lake trout, arctic grayling)		Not significant	
Terrestrial/Freshwater spill of fuels, other hydrocarbons, and hazardous materials	air quality	Section 10.3.5; Table 10.14 Minor (not significant) to negligible (not significant)		
	surface water quality		Not significant	
	sediment quality		Not significant	
	aquatic and fish habitat		Not significant	
	freshwater fish		Not significant	
	soils		Not significant	
	vegetation		Not significant	

Accident / Malfunction	Valued Ecosystem Component (VEC)	Doris Project FEIS Section (if available) and Significance of Residual Effects	Phase 2 EIS Significance of Residual Effects	Comments
Terrestrial/Freshwater spill of fuels, other hydrocarbons, and hazardous material *(cont'd)*	terrestrial wildlife (caribou, musk ox, grizzly bears)	Section 16.2.4.4; Table 16.7; Section 16.3.5 Section 18.2.3; Section 18.2.5.4; Table 18.5; Section 18.3.5 Not Significant (negligible)		Muskox was not a VEC in the Doris North Project FEIS; however, the assessment of the potential effects is extended to muskox due to the similarities in potential effects and mitigation measures.

9. Effects of the Environment on the Project

Severe extreme weather events (storms, extreme rainfall or snowfall, extreme low temperatures) and geo-hazards (seismicity, ground and slope instabilities) have the potential to affect Phase 2 Project infrastructure and in turn represent concerns for human safety and the environment. Furthermore, climate change over the life of mine (LOM) has the potential to affect the Project.

The EIS addresses the effects of the environment that could potentially affect the design, Construction, Operation, Reclamation and Closure, and Post-closure phases of the Project. Some of the design considerations for the Project are described in Volume 3, Section 2. Others are referenced throughout the EIS in either specific sections on the potential environment effect (e.g., Geology, Volume 4, Section 4) or baseline or engineering reports (e.g., Geotechnical Design Parameters and Overburden Summary Report, Appendix V3-2E).

The design of Phase 2 Project components and the planning of activities have considered the effects of the environment. Geotechnical assessments have been carried out and continued investigations and studies will occur during detailed design to help identify areas of concern related to permafrost and potential geo-hazards that could impact Project infrastructure. Potential impacts include changes in the active layer, drainage patterns (resulting from subsidence), increased sediment loadings, and mass wasting on sensitive slopes. In general, the location of infrastructure has been optimized (i.e., siting on bedrock, where possible or designing infrastructure pads) to avoid potential problem areas to the maximum extent possible. If problem areas cannot be avoided, infrastructure will be constructed with conservatively designed permafrost protection measures and thermal barriers. Engineering design is based on currently available data and conservative design factors. Detailed design may employ additional thermal models or stability analyses for the Project.

10. Management Plans

10.1 ENVIRONMENTAL MANAGEMENT SYSTEM

TMAC's *Commitment to Ethical Business Conduct* (Appendix V8-1A) describes their standards of conduct related to the environment. These essentially comprise ongoing and independent auditing of their environmental performance, continually evaluating the design and implementation of their environmental management systems, benchmarking against industry best practice, and making the resources available for TMAC personnel to meet their environmental management obligations. In support of the standards of conduct, TMAC has a Safety, Health and Environmental Affairs Committee in place that is mandated insofar environmental responsibilities are concerned with assessing environmental risks to the corporation, reviewing and amending environmental policies, standards, accountabilities and programs as needed, maintaining surveillance on the corporation's policy and legislative compliance status, and responding to specific environmental matters as directed.

An EMS serves as the high-level framework to support, direct and verify the proper implementation of the specific component EMPs listed in Section 9 of the Nunavut Impact Review Board (NIRB) EIS guidelines (NIRB 2012b). TMAC's EMS, as reflected in the commitments and mandate described in the previous paragraph, enables the implementation of the EMPs in a structured way that takes into account the regulatory requirements pertaining to mining activities. TMAC recognizes that the success of the system depends on multiple levels and functions within the corporation, and particularly the executive management level, being committed to the EMS. Sound environmental management integrated throughout the company is recognized as a corporate priority by TMAC.

10.2 ENVIRONMENTAL MANAGEMENT PLANS

Specific environmental management plans (EMPs) are already in place for the previous phases of development of the Hope Bay Belt. TMAC does not expect the core content of these management plans to change significantly over the life of the Project. However, plans will be updated regularly on the basis of:

- changes in regulations affecting the Project;
- roles and responsibilities adapt to the evolving organizational structure on-site and off-site;
- monitoring requirements, objectives and thresholds will be adapted on the basis of annual review of monitoring information collected in previous time period (adaptive management);
- changes in reporting requirements as directed by the licensing authority.

The list of EMPs and their applicability throughout the Life of the Project are presented in Table 10.2-1.

Table 10.2-1. List of Environmental Management Plans for the Hope Bay Project

NIRB Guidelines Section	Environmental Management Plan	Existing Management Plans	Comment	Expected Revision
Environmental Management System (EMS)				
	Environmental Management System		Environmental Management System is provided with the submission of the Draft EIS.	January 2017
	Environmental Protection		An Environmental Protection Plan will be developed to align with the Project EMS and existing Project Standard Operating Procedures prior to construction.	Prior to Construction of the Phase 2 Project
Biophysical Management Plans				
	Risk Management and Emergency Response	Surface Emergency Response Plan, TMAC Resources, January 1, 2016. Underground Emergency Reponses Plan, TMAC, September 2016 Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP) TMAC Resources, 2016.	These plans will be updated to include Phase 2.	Update as required
	Fuel Management	Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP) TMAC Resources, 2016. Hope Bay Project Spill Contingency Plan, TMAC Resources, April 2016.	TMAC has an approved OPPP/OPEP. This Plan is a requirement with Transport Canada and will be revised as necessary following the Phase 2	Next shipping season - 2017
	Spill Contingency	Hope Bay Project Spill Contingency Plan, TMAC Resources, April 2016. Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP) TMAC Resources, 2016.	TMAC has an approved Hope Bay Project Spill Contingency Plan. This Plan is subject to annual review and will be revised as necessary following the Phase 2 permitting process.	FEIS Submission

NIRB Guidelines Section	Environmental Management Plan	Existing Management Plans	Comment	Expected Revision
4.4	Site Water Monitoring and Management	1. Doris Project Domestic Waste Water Treatment Management Plan. TMAC Resources, April 2016 2. Hope Bay Project Groundwater Management Plan. TMAC Resources, August 2016 3. Water Management Plan: Madrid Advanced Exploration Program, North and South Bulk Samples. SRK December 2014 4. Water Management Plan, Hope Bay Project, Nunavut, TMAC Resources August 2016 & Sept 2016 Addendum 5. Water and Ore/Waste Rock Management Plan. SRK 2009 and June 2010 Addendum 6. Sewage Treatment Plan Operation and Maintenance Plan. FSC 2010. 7. Hope Bay Project Doris Tailings Impoundment Area Operations Maintenance, and Surveillance Manual August 2016	Site Water Management for the Project includes: • TIA water, • Domestic wastewater treatment, • ground water, • surface water. These plans will be updated for Phase 2 as needed.	Water Licensing Process
4.5	Ore Storage and Waste Rock Management	Waste Rock and Ore Management Plan, Hope Bay Project, Nunavut, TMAC Aug 2016 & Sept 2016 Addendum	The existing waste rock and ore management will be updated for Phase 2.	Water Licensing Process
4.6	Tailings Management	Hope Bay Project Doris Tailings Impoundment Area Operations Maintenance, and Surveillance Manual August 2016	The Tailings Management Plan will be updated to address components of Phase 2.	Water Licensing Process
4.7	Waste Management	Interim Non-hazardous Waste Management Plan. HBML 2012. Doris North Landfarm Management and Monitoring Plan (TMAC). SRK 2014. Landfill Management Plan Doris North Project. Miramar Hope Bay Ltd. April 2007	Waste Management for the Hope Bay Project is handled under the NWB approved Waste Management Plans. These plans will be updated to address components of Phase 2.	Water Licensing Process
4.8	Hazardous Materials Management	Hope Bay Project Spill Contingency Plan, TMAC Resources, April 2016. Hope Bay Project Hazardous Waste Management Plan. TMAC Resources Sept 2016	Hazardous substance management is currently addressed under the Spill Contingency Plan and the Hazardous Waste Management Plan. These plans will be updated for Phase 2.	Water Licensing Process

NIRB Guidelines Section	Environmental Management Plan	Existing Management Plans	Comment	Expected Revision
	Incineration Management	Incinerator Management Plan, Hope Bay, Nunavut. TMAC Resources, April 2016.	This Management Plan will be updated to include components of Phase 2.	Water Licensing Process
	Roads Management		Road management is addressed under various management plans.	Stand-alone plan not applicable
	Shipping Management		Shipping is regulated by the *Canada Shipping Act* and the *Arctic Waters Pollution Prevention Act*. TMAC will address constraint on shipping season in its procurement contracts with shipping companies.	Stand-alone plan not applicable
	Borrow Pits and Quarry Management	Hope Bay Quarry Management & Monitoring Plan TMAC Resources, SRK Dec 2014	The existing plan will be updated as required for Phase 2.	Prior to construction
	Air Quality Monitoring and Management	Air Quality Management Plan, Hope Bay Project, Nunavut TMAC Resources Sept 2016	This plan will be updated to address components of Phase 2.	FEIS Submission
	Noise Abatement Plan	Hope Bay Mining Ltd. Noise Abatement Plan, October 2012	This plan will be updated to address components of Phase 2.	FEIS Submission
	Aquatic Effects Management	Hope Bay Project Doris Aquatic Effects Monitoring Plan. TMAC Resources Sept 2016	The AEMP will be revised and updated for the Water Licence amendment application.	Water Licensing Process
	Wildlife Mitigation and Monitoring Plan	Doris North Project Wildlife Mitigation and Monitoring Plan TMAC Resources March 2016.	This plan will be updated to include components of Phase 2.	FEIS Submission
4.20	Conceptual Offsetting Plan	20100916 NU-02-0117.3 SEP10 Updates to No Net Loss Plan for Tail Lake 20100916 NU-02-0117.3 SEP10 Updates to No Net Loss Plan for Tail Outflow	To be determined.	To be addressed with DFO at the Licensing phase.
Socio-economic Management Plans				
4.21	Business Development		Addressed in the IIBA	
4.22	Occupational Health and Safety	Health, Safety and Loss Prevention Management Plan, Hope Bay Mining. September 2013.	The plan is updated as required and will be updated for Phase 2.	Prior to Construction
4.23	Community Involvement	Hope Bay Project Community Involvement Plan. November 2016.		2016
4.24	Cultural and Heritage Resources Protection	Hope Bay Heritage Resource Protection Plan TMAC Resources 2016		2016

NIRB Guidelines Section	Environmental Management Plan	Existing Management Plans	Comment	Expected Revision
4.25	Human Resources	Hope Bay Project Human Resources Plan. TMAC Resources Sept 2016.		2016

10.3 FOLLOW UP AND ADAPTIVE MANAGEMENT

The Environmental Management System and its associated management plans provides the mechanism by which TMAC will monitor and report on the performance of the proposed mitigations to avoid, reduce, or eliminate adverse residual effects of Phase 2 Project. Where practicable, the management plans for VECs and VSECs include indicators and thresholds that are used to assess and evaluate performance of the proposed mitigation measures. The plans are reviewed and updated as required to incorporate adaptive changes or additional mitigation measures based on information and feedback collected by the monitoring programs.

As per the requirements of the Project Certificate, and, the terms and conditions of the amended Type A Water Licence for Phase 2 Project, TMAC will report monitoring results on a monthly or annually basis. These annual reports can be consulted on the NIRB public registry and the NWB public registry.

11. Conclusions

TMAC has documented its environmental assessment of the Hope Bay Phase 2 Project in this EIS. The process of designing and assessing the Project was iterative, and was supported by TK, community input and perspectives, scientific experts, specialists, and consultants in various fields. Potential environmental and social effects resulting from the Project were identified and assessed following the guidelines issued by the NIRB for the preparation of an EIS (December 2012).

The Project is focused on the development and mining of the Madrid and Boston gold deposits. The first phase of TMAC's development of the Hope Bay Greenstone Belt is underway – the Doris site is built and underground mine development and advancing to production has been progressing as hoped. The Doris Project operates under Project Certificate 003 and Type A Water Licence 2AM-DOH1323, Amendment 1. Production of gold will occur in early 2017. The existing facilities at the Doris site and Roberts Bay will remain a central part of belt-wide development for the foreseeable future and would be utilized as required for the development and operations of the Madrid and Boston deposits.

The methodologies used to identify and assess the potential Project-related environmental and socio-economic effects of the Phase 2 Project are consistent with the requirements of Section 12.5.2 of the Nunavut Agreement and the NIRB's EIS guidelines for the Phase 2 Project. VECs and VSECs for the Phase 2 Project were scoped through a process of public consultation, regulatory engagement, review of TK, and recommendations included in the EIS guidelines (NIRB); candidate VECs and VSECs were also considered in terms of their potential interaction with the Phase 2 Project. Through the EIS, and the environmental assessment process, TMAC describes the Phase 2 Project in relation to the surrounding environment and proposed activities. Potential effects to VECs and VSECs are predicted and mitigation and management plans are described.

TMAC's EMS is the framework that enables the proper implementation of the EMPs. TMAC's commitment to environmental management is integrated through all levels of company. Overall, the EMS and associated EMPs provide the means by which TMAC will monitor, evaluate, and report on the performance of mitigation measures to manage potential negative effects and enhance socio-economic benefits. TMAC already has in place EMPs for the previous phases of development of the Hope Bay Belt, and does not expect the core content of these plans to change significantly over the life of the Project. However, plans will be updated to respond to changes in regulations and reporting requirements, evolving organizational structure, monitoring information (i.e., adaptive management) and review of Phase 2 during the NIRB and NWB processes. TMAC's EIS concludes that the Phase 2 Project is not likely to cause significant negative impacts to the environment, socio-economic conditions, or communities.

TMAC has designed the Project to minimize effects to the environment. The company is committed to developing the Phase 2 Project in a sustainable manner that is respectful of local communities and the environment. Through careful design, mitigation and management, the Project is anticipated to have no significant environmental effects, while providing economic benefits to local communities, the region, and Nunavut as a whole.

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