Volume 1:
Main Volume

MADRID-BOSTON PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

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Structure of the Final Environmental Impact Statement

The final 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 V1-9 and a complete EIS Table of Contents is presented in Annex V1-3. 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 Methodology – 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: Environmental Management System – presents TMAC's environmental management system and related management plans that will be established for Madrid-Boston Project.

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ᓇᓗᓇᐃᔭᐃᓂᖅ

<u>ᐱᓕᕆᐊᕐᓴᒧᑦ ᓇᓗᓇᐃᔭᐃᓂᖅ</u>

Hᐋᐸ ᖃᖏᖅᓯᐊ ᒍᕆᓐᔅᑑᓐ ᐱᐅᑦ (Hope Bay Greenstone Belt) (ᐱᖁᑎᒋᔭᐅᔪᑦ) TMAC ᐃᑲᔫᑎᔅᓵᒃᑯᑦ ("TMAC" "ᐊᑐᓕᖅᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᔪᑦ") ᐊᐅᓚᑎᑦᑎᔾᔫᑦ ᐊᒻᒪᓗ ᐊᑕᐅᓯᐅᔪᑦ ᑐᑦᓭᖅᓯᒪᔪᑦ ᕿᓂᕐᓂᕐᒧᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᔭᕋᓐᓂᐊᕐᓂᕐᒧᑦ. TMAC-ᑯᑦ ᐱᓯᒪᑦᑎᑎᓲᑦ ᐅᔭᓐᓂᐊᖅᑕᐅᔪᒪᔪᓂᒃ ᓇᐸᐸᖅᓯᕗᕕᐅᕗᕕᒃ, ᐊᑐᖅᑐᐊᖅᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᐅᔭᕋᐅᔭᓐᓂᕐᒧᑦ ᐊᓐᒋᕈᑎᓂᒃ ᐱᕙᓪᓕᐊᓗᑎᒃ ᐃᒻᒪᖄ 20 x 80 km ᓇᒻᒥᓂᕆᔭᐅᔪᕙᔅᓴᓂᒃ. ᑖᒃᑯᐊ ᐅᔭᕋᓐᓂᐊᕐᕖᑦ ᐊᑕᐅᓯᐅᔫᒃᑯᑦ ᐱᕙᓪᓕᐊᓰᑦ Hᐋᐸ ᑲᖏᖅᓯᐊ ᒍᕆᓐᔅᑑᒧᑦ ᐱᐅᑦᒧᑦ, ᐱᔾᔪᑎᓪᓗᐊᖅᑕᐅᓪᓗᑎᒃ ᑲᓐᓄᖅᑲᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᑐᐊᕆᔅ (Doris) ᒪᑦᕆᑦ ᑐᓄᕗᐊ (Madrid North) ᐊᒻᒪᓗ ᐹᔅᑕᓐ (Boston) ᓇᔪᕐᕕᖏᓐᓂ. Hᐋᐸ ᖃᖏᖅᓯᐊ ᒍᕆᓐ ᔅᑑᓐ ᐊᒥᓱᓄᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᖅ ᐱᕙᓪᓕᐊᕐᓇᓯᒋᔭᐅᔫᓐᓇᖅᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐃᓱᒪᒋᔭᐅᔫᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᓄᑦ ᓄᓇᖁᑕᐅᔪᑦ ᑲᔪᓯᓗᑎᒃ ᓂᕈᐊᖅᑕᐅᓯᒪᓗᓂ, ᐱᔪᓐᓇᖃᕐᕕᒋᔭᐅᓗᓂ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᓴᓇᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᒥᓲᒃᑯᑦ-ᐅᑭᐅᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ.

ᒫᑦᑲᓪ–ᐹᔅᑕᓐ ("ᐱᓕᕆᐊᕐᓴᖅ") ᑕᐅᑦᑐᒃᑯᑦ ᐅᔭᕋᓐᓂᐊᕐᓂᕐᒧᑦ ᒪᑦᑲᑦ ᑐᓄᕗᐊᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓂᖓᓂ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐅᔭᕋᓐᓂᐊᕐᕕᖏᑦ ᐃᓕᓚᐅᔪᑦ ᐊᑐᖅᑕᐅᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᑐᐊᕆᔅ ᐱᓕᕆᐊᕐᓴᙵᓄᑦ ᓄᓇᓖᑦ ᐊᑐᖅᑖᒃᑕᖏᑦ ᐊᐅᓚᔪᓐᓇᖅᑯᓪᓗᒍ ᐊᑕᐅᓯᙳᕐᓗᑎᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ Hᐋᐸ ᖃᖏᖅᓯᐊ ᒍᕆᓐᔅᑑᓐ ᐱᐅᑦᒧᑦ. ᐱᓕᕆᐊᕐᓴᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑕᐃᒪᐅᑎᑦᑎᔪᑦ ᖃᑯᑎᒃᑯᑦ ᐃᓱᐊᓈᕐᕕᒃᓴᒧᑦ ᐱᕙᓪᓕᐊᓗᓂ ᐊᑲᐅᔪᒥ-ᓴᖅᑭᑕᐅᓯᒪᔫᒃᑯᑦ Hᐋᐸ ᐲ ᑲᓐᓄᖅᑲᓂᒃ ᐃᓕᕗᕕᐅᔪᓂᒃ ᐊᑯᓂᐅᔫᒃᑯᑦ ᐅᔭᕋᓐᓂᐊᕐᕕᐅᓗᓂ ᑲᓇᑕᐅᐸ ᐅᑭᐅᖅᑕᖅᑐᙵᓂ ᐱᔅᑎᕋᐅᑎᖅᑲᖅᑐᓂᒃ ᑲᔪᓯᔫᒃᑯᑦ ᑮᓇᐅᔭᓕᓇᐅᕐᓂᓇᔭᐅᔫᒃᑯᑦ ᑐᙵᓂᖅᑲᑦᑎᐊᕐᓂᖅ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ. ᐱᕙᓪᓕᐊᓂᖅ ᐸᕐᓇᐅᑎᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑭᑐᔫᑎᓂᒃ ᑮᓇᐅᔭᒧᑦ ᐱᕈᖅᑎᑦᑎᓇᓯᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓴᓇᓪᓗᑎᒃ ᓂᐅᕕᖅᑕᐅᓯᒫᓂᒃᑐᓂᒃ ᐱᓯᒪᑦᑎᒋᐊᖅᑐᑎᒃ ᑮᓇᐅᔭᐃᑦ ᑕᐃᒪᐅᓪᓗᐊᓂᕐᒧᑦ ᑲᔪᓯᔪᓐᓇᕐᓂᕐᒧᑦ ᕿᓂᕐᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ.

<u>ᐋᖅᑭᒃᓯᒪᓂᖓ</u>

ᐱᓕᕆᐊᕐᓴᖅ ᓇᔪᕐᕕᖓ ᑐᒃᑐᕐᕕᐅᐸ ᑲᖏᐊᓂ, ᐅᖓᓯᓂᖅᑲᖅᑐᖅ 150km ᑭᓚᒦᑕᓂᒃ ᐃᖃᓗᑦᑑᑦᑎᐊ ᐱᖓᓐᓇᖓᓂ ᕿᑎᕐᒥᐅᑦ ᓄᓇᕗᒻᒥ ᐊᒻᒪ 700km ᑭᓚᒦᑕᓂᒃ ᔭᓗᓇᐃᕝ (Yellowknife) ᑲᓇᖕᓇᖓᓂ (ᓇᓗᓇᐃᒃᑯᑕᖅ 1). ᖃᓂᓐᓂᖅᐹᙳᔪᑦ ᓄᓇᓕᔭᐅᔪᑦ ᐅᒥᖕᒪᑑᖅ, ᐅᖓᓯᓐᓂᖓ 60km ᑭᓚᒦᑕᓂᒃ ᐱᖓᓐᓇᖓᓂ ᐊᒻᒪᓗ ᑭᖓᐅᖅ ᓇᔪᕐᕕᖓ 130km ᑭᓚᒦᑐᓂᒃ ᐱᖓᓐᓇᖓᓂᑦ. ᐅᒥᖕᒪᑑᖅ ᐊᒻᒪᓗ ᑭᖓᐅᖅ ᐃᑦᑕᕐᓂᑕᐅᔪᑦ; ᐃᓄᒥᓂᖏᑦ ᐃᖃᓗᑦᑑᑦᑐᐊᕐᒧᑦ ᐅᕝᕙᓘᓐᓃ ᐊᓯᖏᓐᓄᑦ ᓄᓇᓄᑦ ᓅᓚᐅᖅᑐᑦ, ᐊᒻᒪᓗ ᓄᓇᓕᔭᐅᔪᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᓱᓕ ᐊᑐᖅᑕᐅᕗᕕᔅᓴᐅᓕᖑᖓᑕ.

ᑐᓄᕗᐊᐸ ᓇᔪᕐᕕᒃ Hᐋᐸ ᑲᖏᖅᓯᐊ ᐱᐅᑦ ᐃᓚᒋᔭᖅᑲᖅᑐᑦ ᐊᒥᓱᑲᓪᓚᖓᓂᒃ ᐃᒪᕗᕕᐅᔪᓂᒃ ᑯᕕᓲᖑᔪᓂᒃ ᕋᐳᑦ ᑲᖏᖅᓯᐊᖓᓄᑦ, ᐊᒻᒪᓗ ᑯᐃᒡᓄᐸ ᑰᖓᓄᑦ ᑰᒃᐸᓪᓄᓂ Hᐋᐸ ᑲᖏᖅᓯᐊ ᐲᒧᑦ ᕋᐳᑦ ᑲᖏᑦᓯᐊᑕ ᐱᖓᓐᓇᖓᓄᑦ. ᐃᒪᕗᕕᐅᔪᑦ ᓯᕿᓐᓂᖓᓃᑦᑐᑦ ᐱᐅᑦᒥᑦ ᑯᕕᕗᕕᐅᕙᒃᑐᑦ ᖁᑦᑎᓐᓂᖓᒍᑦ ᑯᐃᒡᓄᐸ ᑰᖓᓄᑦ. ᓇᔪᕐᕕᐅᔪᓕᒫᖅ ᐅᒥᖕᒪᑑᒦᑦᑐᑦ ᑯᕕᕗᕕᐅᔪᑦ.

ᓴᕿᔮᖅᑐᖅ 1

ᐱᓕᕆᐊᖑᔪᖅ ᐃᓂᖓ

EIS-ᑯᑦ

TMAC-ᑯᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᓭᖅ ᓂᕈᐊᖅᑕᐅᓯᒪᔪᑦ ᑲᔪᓯᓂᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᑐᓕᕐᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓕᔭᐅᓚᐅᖅᑐᑦ 2011-ᖑᑎᓪᓗᒍ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓄᑦ. ᒪᐃ 2012-ᖑᑎᓪᓗᒍ, ᐊᑐᓕᕐᑯᔭᐅᔪᑦ ᓴᖅᑭᑎᑕᐅᓂᖏᑦ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᓐᓄᑦ (NIRB) ᑭᒃᑐᐃᓐᓇᕐᓄᑦ ᖃᐅᔨᓭᕐᑯᓪᓗᒋᑦ ᒪᓕᓪᓗᒍ ᐃᓚᖓ 5 ᒪᓕᒐᕐᓭᐅᔾᒃᑯᑦ 12 ᓄᓇᕗᒻᒥ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂ. ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐸᕐᓇᒃᐸᓪᓕᐊᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᕙᓚᖅᓯᒪᔪᓂᒃ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᓐᓂᑦ ᑎᓯᐱᕆ 2012-ᖑᑎᓪᓗᒍ. ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᒃᑯᖏᑦ ᒫᓐᓇᐅᔾᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᑎᑎᕋᖅᑕᐅᕙᓚᖅᓯᒪᔪᑦ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᓂᒃᑳᓂᒃ ᐃᓚᖓ 2-ᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ TMAC-ᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᖅᑐᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᓚᐅᖅᑐᓂᒃ ᒪᐃ 2012-ᖑᑎᓪᓗᒍ. EIS-ᑯᑦ ᐃᓚᒋᔭᐅᔪᑦ ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᒃ ᓴᖅᑭᑎᑕᐅᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᕐᓭᒧᑦ ᒪᓕᓪᓗᒍ ᓄᓇᕗᒻᒥ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂᒃ.

TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᔪᑦ EIS-ᒧᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔾᒃᑯᒃ ᐃᓕᖅᑯᓯᐅᔾᒃᑯᑦ ᖃᐅᔨᒪᓂᖏᓐᓄᑦ, ᓄᓇᓕᒻᒧᑦ ᐅᖃᐅᓯᕆᔭᖏᓐᓂᑦ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖏᑎᒍᑦ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓱᓇᒃᑯᑖᓂᒃ ᖃᐅᔨᒪᔾᔪᓄᑦ, ᐊᔪᖏᑎᐅᔪᓂᒃ, ᐊᒻᒪᓗ ᐅᖃᐅᔾᔪᐃᔾᔨᓕᕆᔪᓂᒃ ᐊᔾᔨᒌᖖᒋᑦᑐᒃᑯᑦ ᐃᑲᔪᖅᑐᐃᔪᓂᑦ. EIS-ᑯᑦ, ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᖅ, TMAC-ᑯᑦ ᐅᖃᐅᓯᖃᖅᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᓭᖓᓄᑦ ᐃᓚᒋᓂᖓᒍᑦ ᐊᕙᑎᒧᑦ ᐊᒻᒪᓗ ᐊᑐᓕᕐᑯᔭᐅᔪᓂᒃ ᓴᖅᑭᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᒻᒪᓗ ᓱᕋᖅᑕᐃᓕᒪᓂᖓᓄᑦ ᐱᕐᑯᑎᒥᓂᕐᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ. ᓇᒥᑐᐃᓐᓇᖅ ᓴᓗᒪᙱᑦᑐᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ ᕿᒪᒃᑕᐅᓂᕐᑯᓂᒃ ᓱᕋᖅᑕᐅᑦᑕᐃᓕᒪᔾᒃᑯᑦ ᐱᕐᑯᑎᒥᓂᕐᓂᑦ ᖃᐅᔨᓴᑕᐅᕐᓂᒃᓯᒪᓕᖅᑎᓪᓗᒋᑦ) ᓱᕋᖕᓂᖏᑦ ᐅᕙᓘᓐᓃᑦ "ᐊᖏᔾᒃᑯᑦ" ᐱᕙᓪᓕᐊᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓴᖅᑭᓯᒪᓂᑎᒍᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔾᔪᐊᒃᑯᑦ ᐅᖃᐅᓯᖏᑎᒍᑦ. ᐃᑲᔫᑏᑦ ᑐᑭᓯᐊᔾᔪᑏᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓵᖑᓂᕋᐃᒍᑏᑦ ᐅᖃᐅᓯᐅᔪᑦ EIS-ᒥ.

ᑐᒃᓯᕋᖅᑕᐅᔪᑦ

TMAC-ᑯᑦ ᑲᓇᑕᒥ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᖓᑦ ᐊᓪᓚᕝᕕᖅᑲᖅᑐᑎᒃ ᐱᓕᕆᐊᕐᓭᐅᔪᒥ ᓇᔪᕐᕕᖓᓂ, ᐃᖃᓗᒃᑑᑦᑎᐊᒥ, ᔭᓗᓇᐃᒥ (Yellowknife) ᐊᒻᒪᓗ ᑐᕌᓐᑐᒥ (Toronto). TMAC-ᑯᑦ ᓂᐅᕕᓚᐅᖅᑐᑦ Hᐆᑉ ᖃᖏᖅᓱᐊ ᓇᒻᒥᓂᖓᓂᒃ ᓂᐅᒪᑦ (Newmont) ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓂᑦ ᒪᔨ 2013-ᖑᑎᓪᓗᒍ. ᓂᐅᕕᖅᑕᐅᓯᒪᓕᖅᑎᓪᓗᒍ TMAC-ᑯᑦ ᑲᔪᓯᓚᐅᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑐᐊᕆᔅ ᐱᓕᕆᐊᕐᓭᖓᓄᑦ (ᐃᓚᖓ 1 Hᐆᑉ ᑲᖏᓱᐊᓂ ᐱᓕᕆᐊᕐᓭᖅ) ᐊᒻᒪᓗ ᕿᓂᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᐅᑦ. TMAC-ᑯᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐋᖅᑭᒃᓯᒪᑦᑎᐊᖅᑐᑎᒃ ᕿᓂᕐᓂᕐᒧᑦ, ᐱᔪᓐᓇᐅᑎᓂᒃ, ᓴᓇᓂᖅ, ᐊᒻᒪᓗ ᒪᑐᒍᓐᓇᖅᑐᒃᑯᑦ ᑐᓴᐅᒪᔭᐅᓪᓗᓂ ᐊᒻᒪᓗ ᓯᕗᓂᒧᑦ ᑲᓐᓄᖃᐅᑎᓂᒃ ᐃᓕᕝᕕᐅᕙᒃᑐᒃᑯᑦ Hᐆᑉ ᑲᖏᖅᓱᐊᑉ ᐱᓕᕆᐊᕐᓭᖓᓄᑦ. ᓇᒻᒥᓂᕆᔭᐅᔪᖅ ᐊᐅᓚᑦᑎᔨ, ᑎᑎᕋᐅᔭᖅᑏᑦ ᐊᒻᒪᓗ ᐊᕙᑎᓕᕆᔩᑦ ᖃᐅᔨᒪᑦᑎᐊᖅᑐᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓕᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑲᔪᓯᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑲᔪᖅᑎᓰᒃᑐᓂᒃ ᓄᓇᖃᖅᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᐅᔪᓂᒃ ᖃᐅᔨᒪᖃᑎᖓᐅᑐᓂᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ.

ᕿᑎᕐᒥᐅᓂ ᐃᑲᔪᑎᖏᑦ

ᓱᓇᑐᐃᓐᓇᑦ ᐱᓕᕆᐊᓭᐃᑦ ᐊᖏᓂᖏᑦ ᐊᒻᒪᓗ ᐱᒻᒪᕆᐅᓂᖏᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ Hᐆᑉ ᖃᖏᖅᓱᐊ ᐱᐅᑦ ᐱᐊᓂᒃᑕᐅᓂᖅ ᐊᔪᖅᑐᖅ ᐃᑲᔪᖅᑕᐅᙳᐊᕆᓐᓂᒃᑯᑦ. ᐊᒥᓱᑦ ᐃᑲᔪᖅᑎᒌᑦ ᐱᕐᑯᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ TMAC-ᑯᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᐱᕙᓪᓕᐊᓯᒪᓕᖅᑎᓪᓗᒋᑦ ᑐᕌᖅᑕᖏᓐᓄᑦ ᐃᑉᐱᒋᑦᑎᐊᖅᑐᓂᒃ ᐃᑲᔪᖅᑎᒌᒃᑐᓂᑦ ᒪᕿᒃᑯᑦ ᐊᖏᔾᒃᑯᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᖏᓐᓂᑦ: ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ (NTI) ᐊᒻᒪᓗ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ (KIA). ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᐃᑲᔪᖅᑏᑦ ᑲᒪᔨᐅᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐊᐅᓚᔨᐅᓪᓗᑎᒃ ᐃᓄᐃᑦ ᐱᔭᕆᐊᖃᖅᑕᖏᓐᓂᒃ ᐋᖅᑭᒃᓯᒪᔾᒃᑯᑦ ᓄᓇᕗᑦ ᓄᓇᑖᕐᓂᒃᑯᑦ ᐊᖏᕈᑎᐊᓂ. ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᓄᓇᐅᑉ ᐊᑎᖓᓂᒃ ᐱᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᐱᔪᓐᓇᐅᑎᓂᒃ ᐃᓄᐃᑦ-ᓇᒻᒥᓂᕆᔭᖏᓐᓂᒃ ᓄᓇᖏᓐᓂᒃ (IOL) ᓄᓇᕗᒻᒥ, ᐃᓚᒋᓪᓗᒍ ᓄᓇᐅᑉ ᐱᔪᓐᓇᐅᑎᖏᑦ Hᐆᑉ ᑲᖏᖅᓱᐊ ᓇᒻᒥᓂᕆᔭᐅᔪᓗᒃᑖᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᓂᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᓂᒃ

ᓂᕈᐊᖅᑕᐅᓯᒪᔾᒃᑯᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᓂᒃ. ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᐅᓚᑎᑦᑎᓲᑦ ᓄᓇᐅᑉ ᐱᔪᓐᓇᐅᑎᖕᒋᓐᓂᒃ 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 ᐱᓕᕆᕝᕕᖕᖅᑐᓂᒃ ᐊᑐᖅᑐᐊᕐᓂᕐᒧᑦ. ᑕᒪᒃᑮᒃ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐱᓕᕆᐊᔅᓴᖅᑲᖅᑐᑦ ᐃᓄᐃᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᓯᒪᔾᒃᑯᑦ, ᐃᓚᒋᓪᓗᒍ TMAC-ᑯᑦ, ᐱᓯᒪᑦᑎᒋᐊᕐᓗᒍ ᐊᑐᖅᑐᒃᓴᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖕᒋ ᐊᖏᕈᑎᖕᒋᑦ ᐊᒻᒪᓗ ᐊᓯᖕᒋᑦ, ᓯᕗᓂᒃᓴᒧᑦ ᐊᖏᕈᑎᐅᔪᓂᒃ, ᑐᓂᓯᓂᐊᖅᑐᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐃᓅᖅᑲᑎᒌᓐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᐅᖃᑦᑕᕐᓂᕐᒧᑦ ᐃᑲᔫᑎᓂᒃ ᓄᓇᕗᒻᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᑲᓇᑕᒧᑦ ᐊᑲᐅᔾᒃᑯᑦ ᐃᑲᔪᖅᑎᒌᑦᑎᐊᕐᓂᒃᑯᑦ ᓄᓇᒧᑦ ᑲᔪᓯᓂᕐᒧᑦ ᒥᐊᓂᕆᑦᑎᐊᕐᓂᒃᑯᑦ.

ᐱᓕᕆᐊᓴᖅ

ᐅᔭᕆᖓᓂᐊᕐᕖᐅᑉ ᐸᕐᓇᐅᑎᖓ

ᐱᕙᓪᓕᐊᓂᖅ

TMAC-ᑯᑦ ᐱᐊᓂᑦᑎᐊᕐᓂᐊᖅᑐᑦ ᑲᔪᓯᓂᒃᑯᑦ ᐅᔭᕆᖓᓂᐊᕐᕖᐅᑉ ᐊᐅᓚᓂᖓᓂᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓴᖓᓂᒃ ᐅᔭᕆᖓᓂᐊᕐᕖᒃᑯᑦ ᑐᐊᕆᔅᒥ (ᐊᖏᖅᑕᐅᓯᒪᔪᖅ ᐊᒻᒪᓗ ᐊᐅᓚᑐᐃᓐᓇᖅᑐᖅ ᐃᓚᖓ 1 Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓴᖓ), ᒪᓕᓪᓗᒍ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᐅᔾᒃᑯᑦ ᐆᒪᕐᑯᑎᖕᒋᒃᑯᑦ ᐅᔭᕆᖓᓂᐊᕐᕖᖓᑦ ᒪᑦᑕᑦ ᑐᓄᕕᐊᓂ ᐊᒻᒪᓗ ᓯᕿᓐᓂᖓᓂ ᐊᒻᒪᓗ ᐹᓚᓐᒥ ᐃᓕᕝᕕᐅᔪᓂᒃ. ᐋᖅᑭᒃᑕᐅᓯᒪᔾᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ ᓴᓇᓂᒃᑯᑦ, ᐊᐅᓚᓂᒃᑯᑦ, ᐅᑎᑦᖅᑎᑦᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᒪᑐᓂᒃᑯᑦ, ᐊᒻᒪᓗ ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐋᖅᑭᒃᓯᒪᓂᖕᒋᑎᒍᑦ.

ᐃᓚᖓ 1 (ᑐᐊᕆᔅ) ᐱᓕᕆᐊᓴᖅ ᓴᖅᑭᑎᑦᑎᓯᒪᔪᑦ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ ᐊᒻᒪᓗ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ ᐃᓚᒋᓗᒋᑦ ᓯᓂᒃᑕᕐᕖᑦ (ᐃᓄᖅᑭᕈᓐᓇᖅᑐᑦ 280-ᓂᒃ); ᐊᐅᓚᔾᒃᑯᑦ ᓄᓇᐅᑉ ᐊᑖᓂ ᐅᔭᕆᖓᓂᐊᕐᕕᒃ ᓴᕕᒐᐅᔭᔅᓴᓂᒃ ᐊᒻᒪᓗ ᐅᔭᕋᓂᒃ ᐊᑐᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᓂᒃ ᓇᔪᕐᕕᓂᒃ, ᐅᑭᐅᒧᑦ ᒥᑦᑕᕐᕕᒃ, ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᓇᔪᕐᕕᖓᓂᒃ (TIA), ᐱᔪᓐᓇᖅᑎᑕᐅᔪᑦ 25 ᒥᓕᐊᓐᓂᒃ ᓃᑕᓂᒃ ᐅᖅᓴᕐᕕᔅᓴᖅ ᑐᖅᑯᖅᑕᐅᓯᒪᔪᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᒡᓗᕐᔪᐊᖅ, ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓗᒃᑖᒃᑯᑦ ᓴᓇᓯᒪᔪᑦ ᐱᕐᑯᔭᐅᓯᒪᔾᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ ᐅᔭᕆᖓᓂᐊᕐᕕᒻᒥ ᐊᐅᓚᓂᖓᓄᑦ.

ᒫᑦᓇ–ᐹᔅᑕᓐ ᓴᓇᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᒌᕐᑲᕐᑲᑦᑕᕐᓂᐊᖅᑐᑦ ᐃᓚᖓ 1 ᐊᐅᓚᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ. ᕿᑎᓐᓂᖓ ᒪᑦᓇᑦ ᓇᔪᕐᕕᖓ ᑐᐊᕆᔅᒧᑦ ᓇᔪᕐᕕᖓᓄᑦ, ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᒡᓗᕐᔪᐊᖅ, ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᓇᔪᕐᕕᖓ ᑐᑭᖓ ᐱᓕᕆᐊᓴᒧᑦ ᐊᑐᕈᓐᓇᖅᑐᑦ ᐊᑐᐃᓐᓇᐅᔪᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᑐᐊᕆᒥᑦ. ᑕᒪᓐᓇ ᒥᑭᓐᓂᖅᐸᒃᑯᑦ ᐊᑮᑦᑐᖅᑲᖅᑎᑦᑎᔾᓇᖅᑐᖅ, ᒥᑭᓐᓂᖅᐸᒃᑯᑦ ᐃᓄᖅᑲᖅᕕᐅᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐸᒃᑯᑦ ᐊᑯᓂᐅᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᑦᓇᑦᒥ ᐃᓕᔭᐅᕙᒃᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᑲᔪᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖓᓂᒃ. ᐊᖏᖅᑕᐅᓯᒪᔾᒃᑯᑦ ᓴᓇᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᐅᔪᑦ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ ᐊᒻᒪᓗ ᑐᐊᕆᔅᒥ ᓇᔪᕐᕕᖕᒋᑦ ᐊᖏᔪᒥᒃ ᐃᓂᖅᑲᖅᑐᑦ ᐃᑲᔪᕆᐊᕐᓗᒍ ᐱᓕᕆᐊᓴᒧᑦ ᓴᓇᓂᖅ ᒫᑦᓇᑦ–ᐹᔅᑕᓐ.

ᐱᓕᕆᐊᓴᖅ ᐃᓚᒋᔭᖅᑲᖅᑐᖅ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐸᕐᓇᐅᑕᐅᓯᒪᔪᑦ ᖃᓄᐃᑉᐸᓪᓕᐊᓐᓂᑦ ᑲᔪᓯᓐᖓ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᑦᓇᑦᒧᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐᒧᑦ ᓇᔪᕐᕕᖕᒋᑦ ᐅᑯᐊᖑᕗᑦ:

- ᐱᕙᓪᓕᐊᓂᖅ ᐅᔭᕆᖓᓂᐊᕐᓗᓂ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐅᑭᐅᖓ 1 (2019) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 13 (2031), ᐅᔭᕆᖓᓂᐊᖅᑕᐅᕙᒃᑐᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᕆᔅᒥ ᐊᒻᒪᓗ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕖᑦ;

- ᐱᕙᓪᓕᐊᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᓂᕐᒧᑦ ᐹᓴᑦᓇᒥ ᐅᑭᐅᖓ 4 (2019) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 14 (2032), ᐃᓚᐃᓐᓇᑎᒍᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᕙᒃᑐᓂᒃ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ ᐅᑭᐅᖓᓂ 4 ᐊᒻᒪᓗ 6, ᐊᒻᒪᓗ ᐹᓴᑦᓇᒥ ᓴᓇᕝᕕᖓ ᐅᑭᐅᖓ 6-ᒥ.
- ᐱᕙᓪᓕᐊᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᓂᕐᒧᑦ ᒪᑦᕆᑦ ᓯᕿᓐᓂᐊᓂ ᐅᑭᐅᖓ 11 (2029) ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐅᑭᐅᖓ 14 (2032), ᐅᔭᕋᖕᓂᐊᕐᕕᐅᕙᒃᑐᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔭᕆᐊᓕᖕᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑐᐊᕆᔅᒥ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᒪᑦᕆᑦ ᑐᓄᕕᐊᓂ ᓇᔪᕐᕕᐅᔪᓂᒃ.

ᓴᓇᓂᖅ, ᐊᐅᓚᓂᖅ ᐊᒻᒪᓗ ᒪᑐᓂᐊᓕᖅᑎᓪᓗᒍ ᐱᓕᕆᐊᕆᔭᐅᔪᑦ ᐃᓚᒋᔭᐅᔪᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓄᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐸᕐᓇᐅᑎᔅᓴᓄᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᒃᑯᑦ ᑭᓯᐊᓂ ᓈᒻᒪᓈᕈᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᑲᔫᑎᒋᔭᐅᓗᑎᒃ FEIS−ᒧᑦ.

ᐱᓕᕆᐊᔅᓱᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓅᕐᑲᑎᒌᖕᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ. ᒫᓐᓇᒧᑦ, ᓇᒻᒥᓂᕆᔭᐅᔪᖅ ᐱᓯᒪᔪᑦ ᐱᔪᒪᑦᑎᐊᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐋᖅᑮᑕᐅᓂᐊᖅᑐᒧᑦ Hᐆᑉ ᑲᖏᖅᓯᐊᑕ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ, ᓇᓗᓇᐃᖅᓯᒪᔪᒃᑯᑦ ᐱᔪᒪᑦᑕᐃᓕᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓯᕋᒃᓯᒪᔪᓂᒃ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᕙᓪᓕᕐᓂᕐᒧᑦ. ᐃᓅᔪᓂᒃ-ᐊᐅᓚᔪᑦ, ᐃᓅᕐᑲᑎᒌᒃᑯᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᖅ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᕐᑯᑎᐅᔪᓂᒃ, ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᑐᓴᐅᒪᑎᑦᑎᓂᖅ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᐋᖅᑮᕙᓪᓕᐊᓪᓗᑎᒃ Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐊᒻᒪᓗ ᒫᑦᕆᑦ−ᐹᓴᑦᓇ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ. ᓇᒥᑐᐃᓐᓇᖅ ᑐᑭᓯᐊᑦᑎᐊᕐᓇᙱᑦᑐᓂᒃ, ᐅᕝᕙᓘᓐᓃᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᓂᒃ ᐃᓚᒌᒃᑐᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᙱᑉᐸᑕ, TMAC-ᑯᑦ ᓇᐅᑦᑎᖅᑐᖅᓯᒪᔪᑦ ᐱᕙᓪᓕᐋᔪᑎᓂᒃ ᓇᓗᓇᐃᑦᑎᐊᕐᓗᒍ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᕐᑯᒥᑎᑦᑎᓂᕐᒧᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ.

ᑎᑎᕋᖅᓯᒪᔪᑦ ᒫᑦᕆᑦ−ᐹᓴᑦᓇ ᐱᓕᕆᐊᔅᓴᖓ ᐋᖅᑭᒃᓯᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐸᕐᓇᐅᑎᖏᓐᓄᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐅᓂᒃᑲᐅᓰᑦ ᐊᑖᓂ.

- TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐱᓕᕆᕝᕕᐅᓗᓂ **ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ** ᐊᒻᒪᓗ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑐᓂᓯᓗᑎᒃ ᐊᑲᐅᔪᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᓅᓯᕐᒧᑦ ᐊᒻᒪᓗ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᒃᑯᑦ ᐱᓕᕆᕝᕕᐅᓗᓂ.
- **ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᓂᖅ** (ᐃᓚᒋᓗᒍ *ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᑦ*[IQ]) ᐃᓱᒪᒋᔭᐅᖃᑕᐅᔪᑦ, ᐃᓚᒋᓪᓗᒋᑦ ᐊᐅᓪᓚᕐᓂᖅ ᐊᖅᑯᑎᖏᓐᓂᒃ, ᓂᕐᔪᑎᓂᒃ ᐊᐅᓪᓚᕐᓂᖏᓐᓂᒃ, ᓇᔪᕐᕕᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑏᒃ ᐱᒻᒪᕆᐅᓂᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ.
- **ᐃᓅᕐᑲᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᖏᑦ** ᐃᑲᔫᑏᑦ ᐱᕚᓪᓕᖅᑕᐅᓯᒪᓂᐊᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᖅᑖᖅᑎᑦᑎᓂᒃᑯᑦ (ᐊᒻᒪᓗ ᐃᓕᓴᐃᓂᖅ, ᐱᕕᔅᓴᖓᒍᑦ) ᕿᑎᕐᒥᐅᑕᓄᑦ. ᐃᖅᑲᓇᐃᔮᔅᓴᖅ ᐊᒻᒪᓗ ᓇᒻᒥᓂᖃᕐᓂᖅ ᐃᑲᔫᑏᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ (IIBA) ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ TMAC-ᑯᓐᓄᑦ ᐊᒻᒪᓗ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓄᑦ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᑦᑲᖅᓯᓐᓇᕆᐊᓕᒃ ᐃᓅᕐᑲᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᖏᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᑲᐅᙱᓕᐅᕈᓂᒃ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖓᓄᑦ ᐱᓕᕆᕝᕕᖓᓄᑦ ᐃᓕᓐᓂᐊᕈᑎᓄᑦ ᐆᑦᑑᑎᒋᓗᒍ ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ ᐃᑲᔫᑎᓂᒃ ᐱᓕᕆᐊᔅᓴᖓᒍᑦ.
- TMAC-ᑯᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪᓗ ᑐᑭᓯᐋᔪᑎᓂᒃ ᑲᑎᖅᓯᐃᓪᓗᑎᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ ᖃᓄᐃᓕᐅᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᓕᕆᐊᔅᓴᖓᓂ (ᐃᓚᒋᓗᒍ ᕿᓂᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ) ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ

ᒪᓕᒋᐊᓕᖕᓂᒃ ᓇᓂᓯᓐᓂᕈᒥᒃ ᓄᓖᓂᒃ ᐃᑦᑕᕐᓂᑕᓂᒃ ᓇᔪᕐᕕᖕᒋᓐᓂᒃ. ᓇᔪᕐᕖᑦ ᓄᓇᙳᐊᓕᐅᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑕᐃᑰᙵᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᔪᕐᓇᙱᒃᑳᖕᒐᑦ.

- ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ **ᐃᓅᔪᓂ-ᐊᐅᓚᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ** ᒥᑭᓐᓂᖅᐹᒃᑰᖅᓯᒪᔪᑦ ᐊᑕᐅᓯᙳᕐᓂᒃᑯᑦ ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᕐᑯᓪᓗᒋᑦ ᐱᑐᖅᑲᒥᓂᕐᓂᒃ ᐆᑦᑐᕋᐅᑎᒃᑯᑦ ᐱᓕᕆᐊᓴᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ. ᑕᒪᓇ ᐃᓕᒋᔭᕐᑲᖅᑐᖅ ᐃᐸᒋᑦᑎᐊᕐᓂᖅ ᓴᐳᒻᒥᔭᐅᔪᓂᒃ ᓇᔪᕐᕕᖕᒋᓐᓂᒃ, ᓴᓇᓯᒪᔪᓂᒃ, ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᖁᐸᓄᐊᑦ ᐱᑭᐅᖕᒋᑦ, ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖕᒋᑦ ᑰᖕᒋᓐᓂ) ᐊᔪᕐᓇᙱᓂᖓᓄᑦ ᐊᑐᕐᓗᒋᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐅᒪᔪᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓱᕋᐃᑦᑕᐃᓕᒪᓂᕐᒧᑦ. ᐃᐸᒋᔭᐅᔭᕋᐃᑦᑐᓂᒃ ᓄᓇᙳᐊᓕᐅᕐᓂᖅ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᕐᓂᕐᒧᑦ ᐃᐸᒋᔭᕋᐃᑦᑐᓂᒃ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᓇᔪᖅᑕᐅᔪᑦ ᐆᒪᔪᓂᒃ; ᑕᒪᓇ ᐅᖃᐅᓯᐅᓯᒪᔪᖅ ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔪᓂᑦ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᐅᕐᑲᖕᒋᑎᒍᑦ.
- ᐋᖅᑭᒃᓯᒪᓂᖓ ᐃᓯᒪᒋᔭᐅᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᒍ ᐅᐸᑎᓴᐅᔪᑦ **ᓯᓚᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ.** ᖃᐅᔮᓵᕐᓃᑦ ᐃᓕᒋᔭᕐᑲᖅᑐᑦ ᒥᒃᓴᐅᓴᒃᓯᒪᔪᑦ ᓯᕗᓂᒧᑦ ᓯᓚᐅᑉ ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓂᒃ, ᐊᒻᒪᓗ ᐋᖅᑭᒃᓯᒪᓂᖓ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᖅ ᓴᓇᓯᒪᓂᖓ (ᐊᖅᑯᑏᑦ, ᐊᑦᑕᖅᑕᐅᓯᒪᔪᑦ ᓯᓇᒃᓴᓄᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᐅᓚᓂᕐᒧᑦ ᓴᓇᕝᕖᑦ) ᐃᓯᒪᒋᔭᐅᔪᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᓱᕋᐃᔪᓐᓇᕐᓂᕐᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᑎᓪᓗᒋᑦ.
- **ᓄᓇᐅᑉ ᕿᕿᓂᖓ** ᑎᑎᕋᖅᓯᒪᓂᑦᑯ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᔫᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᑐᙵᓂᖕᒋᓐᓂᒃ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖕᖓᓂᒃ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ. ᑕᒪᓇ ᐊᑐᖅᑐᖅ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓄᑦ ᐊᒻᒪᓗ ᓯᓚᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᕐᒧᑦ.
- ᐊᒥᓱᑲᓪᓚᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᑎᑎᕋᖅᓯᒪᔫᒃᑯᑦ ᐊᓯᙳᖅᑕᐅᕐᑯᔭᐅᔪᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ **ᐱᕙᓪᓕᐊᔪᓂᒃ ᓄᓇᓂᒃ ᐊᑐᖅᑐᓂᒃ.** ᐃᓕᒋᓗᒍ ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᓂᒃ ᐊᑐᖅᑐᓂᒃ ᐃᖕᒋᕐᕋᓂᖅ ᓇᔪᕐᕕᐅᔫᓄᑦ ᐊᖅᑲᑎᒃᑯᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᓂᒃ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᕙᓪᓕᐊᕐᑯᓪᓗᒋᑦ ᐃᓄᐃᑦ ᐃᖕᒋᕐᕋᔪᑦ ᓄᓇᒧᑦ.

ᐊᔪᕐᓇᙱᒃᑲᓪᓗᐊᖅᑐᒃᑯᑦ ᓯᕗᓂᕆᒧᑦ ᐱᕙᓪᓕᐊᓂᖅ

ᐃᓯᒪᒃᓴᖅᓯᐅᕐᓂᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓕᒋᔭᐅᒋᐊᕐᑲᖅᑐᖅ ᐃᓚᖓᓄᑦ ᐱᓕᕆᐊᓯᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐱᓕᕆᐊᓯᖅ ᐃᓚᖓᒍᑦ ᐃᓕᒋᔭᐅᔪᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᐅᑦᒥ ᐊᔪᕐᓇᕈᓐᓃᖅᑎᑦᑎᔭᓐᓇᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ, ᐱᔭᓐᓇᐅᑎᑦᑕᕐᑲᕐᓂᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓕᒋᔭᐅᓂᐊᖅᑐᓂᒃ ᐅᔾᔨᖕᓂᐊᕐᕕᐅᔪᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ ᓴᓇᕝᕕᐅᓯᒪᔪᑦ ᐅᕙᓗᓐᓂᑦ ᑲᔪᓯᑎᑕᐅᓗᓂ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᓯᒧᑦ ᐱᒻᒪᕆᐅᓗᓂ ᓯᕗᓂᕆᒧᑦ ᐱᓕᕆᐊᓯᓄᑦ.

ᐱᓕᕆᐊᓯᒧᑦ ᐋᖅᑭᒃᓯᒪᓂᖓ

Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓯᖅ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔫᒃᑯᑦ ᐊᑕᐅᓯᙳᕐᓂᕐᒧᑦ ᐊᒥᓱᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᓂᒃ ᑎᓴᒪᓄᑦ ᓇᔪᕐᕕᐅᔪᓄᑦ ᐅᔭᕋᖕᓂᐊᕝᕕᐅᑎᓪᓗᒋᑦ. ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓕᖕᒋᑦ ᓇᔪᕐᕕᐅᔪᑦ ᐱᖃᓇᐊᖅᑲᖅᑐᑦ ᑲᔪᓯᓂᕐᒧᑦ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᓯᖕᒋᓐᓄᑦ ᓇᔪᕐᕕᐅᔪᓄᑦ. ᐊᔾᔨᑲᓯᐊᒃᑯᑦ, ᒪᑐᓂᖓ, ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓕᖕᒋᓐᓂ ᓇᔪᕐᕕᐅᔪᓂ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐱᐊᓂᖅᑳᖅᑎᓐᓇᕆᑦ ᐊᐅᓚᓂᖕᒋᓐᓄᑦ ᐊᓯᖕᒋᓐᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ. ᑕᒪᒃᑭᑦ, ᖃᓄᐃᑦᑑᓂᖓ ᒪᓕᓪᓗᒍ ᐃᓕᖓ 2 ᐱᓕᕆᐊᓯᖅ ᐃᓕᒋᔭᕐᑲᖅᑐᖅ ᑎᓴᒪᓄᑦ ᐅᑭᐅᓄᑦ ᓴᓇᓂᕐᒧᑦ (ᐅᑭᐅᖓ 1-5-ᒧᑦ). ᒪᑐᓂᖓ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐅᑭᐅᖓ 14-ᙳᓕᖅᐸᑦ. ᐊᒻᒪᓗ ᑕᐃᒪᐅᓗᑎᒃ ᑎᓴᒪᓄᑦ ᐅᑭᐅᓂᒃ ᑲᑎᓪᓗᒋᑦ. ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᐱᕙᓪᓕᐊᔪᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ, ᐱᕙᓪᓕᐊᓗᑎᒃ ᐅᑭᐅᖓ 14-ᙳᓕᖅᐸᑦ. ᐊᔾᔨᙳᐊᖅ 2 ᓇᓗᓇᐃᖅᓯᔪᖅ ᐱᓕᕆᐊᓯᒧᑦ ᐋᖅᑭᒃᓯᒪᔫᒃᑯᑦ ᐊᔾᔨᒌᙱᑦᑐᓂ ᐱᓕᕆᐊᓯᒧᑦ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ.

ᓇᓪᓕᖀᒐᔅᓴᐃᑦ

ᓄᓇᕗᒻᒥ ᐱᕙᓪᓕᐊᔪᓄᑦ ᖃᐅᔨᖅᑎᕐᒋᑦ ᑲᑎᒪᔨᕐᒋᑦ ᓇᓗᓇᐃᔾᔪᑎᕐᒋᑦ ᐊᑐᖅᑎᑦᑎᔪᖅ TMAC-ᑯᑦ ᐊᑐᕐᑯᓪᓗᒋᑦ "ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᕐᒋᓐᓂᕐᒧᑦ"("go/no go") ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᒫᑦᓇ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᕐᒐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᐊᒍᑦ ᐱᕙᓪᓕᐊᔪᒃᑯᑦ ᐱᓕᕆᐊᔅᓴᐅᑉ.

<u>"ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᕐᒋᓐᓂᕐᒧᑦ"</u>

ᒪᕐᕈᐃᓕᕐᒐᑐᐃᓐᓇᓇᐊᓕᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᕐᒐᓄᑦ "ᐱᒋᐊᕐᓂᕐᒧᑦ/ᐱᒋᐊᙱᕐᒋᓐᓂᕐᒧᑦ" ᐃᓯᒪᓕᐅᕐᓂᕐᒧᑦ ᒫᑦᓇ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᕐᒐᓄᑦ:

1. ᑲᔪᓯᓗᓂ ᒫᑦᓇ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᕐᒐᓂᒃ, ᓴᖅᑭᑎᑕᐅᕐᑯᔭᐅᔪᒃ ᐊᑐᕐᑯᓕᖅᑕᐅᔪᓂᒃ ᑐᔅᓯᕋᖅᓯᒪᔪᒃᑯᑦ.
2. ᕿᒪᑐᐃᓐᓇᕐᓗᒍ ᒫᑦᓇ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖅ ᑎᑭᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᒪᓕᖅᑎᓪᓗᒋᑦ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ ᒥᑭᓪᓕᑎᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᕝᕙᓘᓐᓃᑦ ᒥᑭᓪᓕᕙᓪᓕᐊᓗᒋᑦ ᐊᑦᑕᕐᓇᖅᑕᑐᓂᒃ ᐱᕚᓪᓕᕐᑯᓪᓗᒍ ᐱᓕᕆᐊᔅᓴᐅᔪᑦ ᐱᐊᓂᒋᐊᕐᓂᕐᒧᑦ.

TMAC-ᑯᑦ ᐅᑉᐱᕆᔭᕐᑲᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᖅ ᐊᔪᕐᓇᙱᓪᓗᓂ ᐱᓕᕆᐊᔅᓴᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓇᔭᖅᑐᖅ ᐃᑲᔪᕐᓗᓂ ᐱᕐᑲᑕᐅᓯᒪᔪᓂᒃ ᐃᓚᒋᓗᒋᑦ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᕐᒋᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᑐᙵᕝᕙᒃᑯᑦ. ᑕᒪᓐᓇ ᐱᐊᓂᕐᓂᕐᒐ ᐊᑐᖅᑕᐅᔪᒃᑯᙳᕐᒐᔪᑦ ᒫᑦᓇ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᕐᒐ ᑕᑯᑎᑦᑎᔪᖅ ᐊᕐᒋᔪᒃᑯᑦ ᐃᓯᐊᓈᖅᓯᓂᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓄᑖᒥᒃ ᐅᔭᕋᕐᓂᐊᕐᓂᕐᒧᑦ ᑕᒻᒫᕐᕙᒻᒥᒃ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᕐᒐᓂ. HBᐆᑉ ᑲᕐᒋᖅᓯᐊ ᐱᕐᑯᑎᒋᔭᐅᔪᑦ ᑕᑯᑎᑦᑎᔪᖅ ᐊᕐᒋᔪᒥᒃ ᐅᔭᕋᕐᓂᐊᕐᓂᕐᒧᑦ ᕿᓂᕐᓂᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᕐᒐᒍᑦ, ᐊᒻᒪᓗ HBᐆᑉ ᑲᕐᒋᖅᓯᐊ ᐱᓕᕆᐊᔅᓴᖅ ᐱᕐᑯᑎᕐᒋᑦ ᐱᑦᑕᐅᓂᕐᒋᑦ ᐱᐅᔪᑦ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᕐᒐᒍᑦ ᐊᑦᑕᕐᓇᖅᑐᖅ ᐊᕐᒋᔪᒃᑯᑦ ᒥᑭᓪᓕᖅᑕᐅᓯᒪᔪᑦ ᐊᐅᓚᓂᒃᑯᑦ ᐊᑭᓕᐅᑎᕐᒋᓐᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᑦ ᐊᒻᒪᓗ ᓇᔪᕐᕕᐅᙱᑦᑐᓂᑦ, ᐃᓚᒋᓗᒍ ᓴᓇᓂᖅ ᓇᔪᕐᕕᕐᒐᓂ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᕐᒋᓐᓄᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᕐᒋᒍᑦ. ᐱᕙᓪᓕᐊᓂᕐᒐ ᐸᕐᓇᐅᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᕐᓂᒃᑯᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐱᓕᕆᐊᕐᑲᕐᓂᒃᑯᑦ ᑮᓇᐅᔾᔭᓴᕝᕕᐅᕐᑲᖅᑐᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕋᓯᐊᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᓴᓇᓗᑎᒃ ᑕᐃᒪᐅᔪᒃᑯᑦ ᐱᕐᑯᑎᒋᔭᐅᔪᓂᒃ ᑕᐃᒪᐅᕐᒋᓐᓇᕋᓯᐊᕐᓗᒋᑦ ᑮᓇᐅᔭᐃᑦ ᐊᕐᒋᓪᓕᕚᓪᓕᕈᓐᓇᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᕿᓂᕐᕕᐅᔪᓐᓇᕐᓂᕐᒧᑦ.

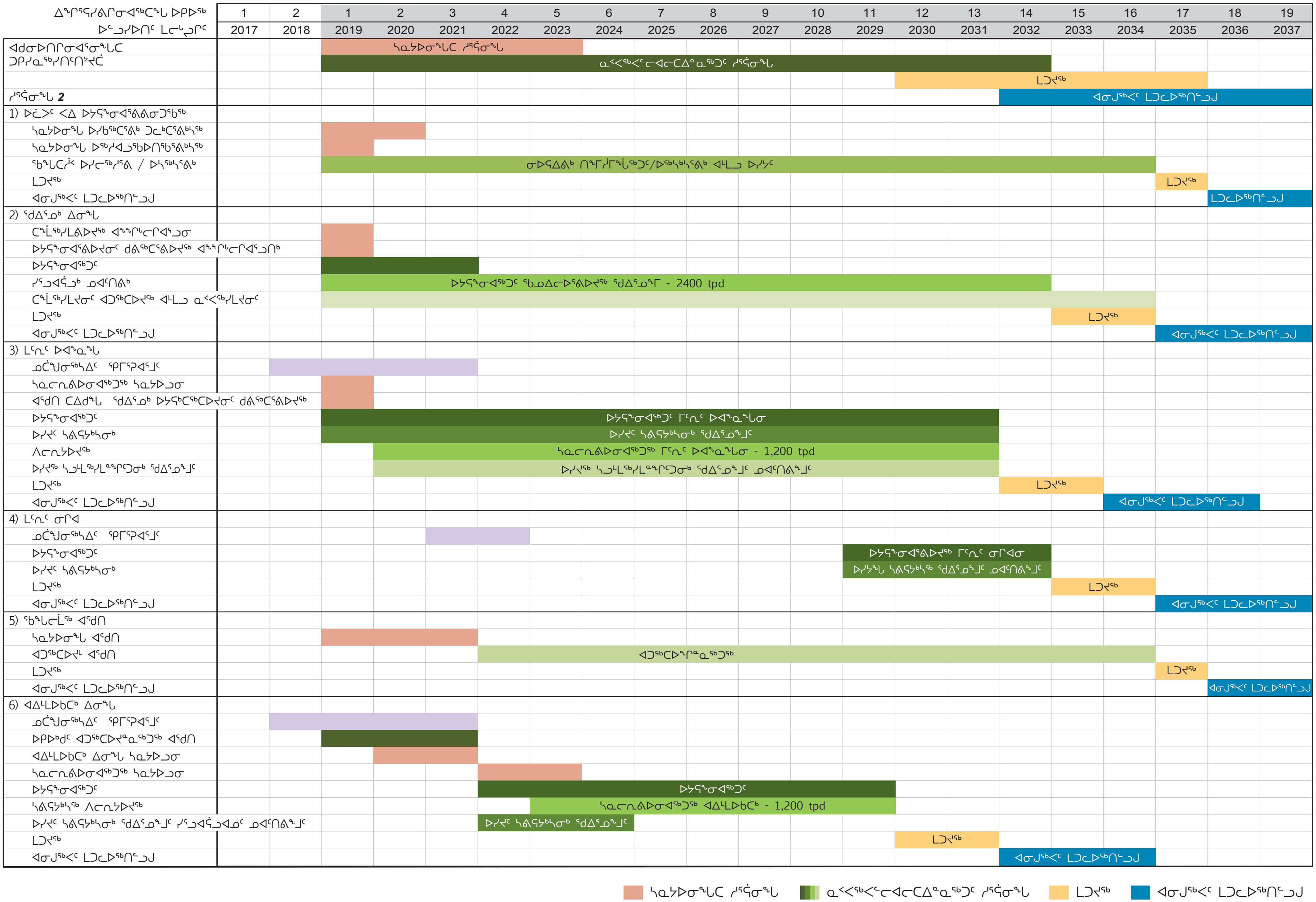
ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᐃᑲᔫᑏᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᓄᓇᕐᑲᖅᑐᓂᒃ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐊᒻᒪᓗ ᑮᓇᐅᔭᕐᑲᕐᓂᓇᔭᐅᕙᒃᑐᒃᑯᑦ ᐃᑲᔫᑎᓂᒃ ᐃᑲᔪᕐᓗᓂ ᐃᓅᓯᓇᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᑲᔪᓯᓗᓂ ᐃᓄᐃᑦ ᐃᓯᐊᓈᖅᕝᓴᔅᓴᕐᒋᓐᓄᑦ ᑲᔪᓯᓗᓂ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑮᓇᐅᔭᓕᐅᕐᕝᕆᔭᐅᔪᓂᒃ ᐃᖅᑲᓇᐃᔭᒃᑯᑦ ᕿᑎᕐᒥᐅᑕᓄᑦ.

<u>ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᓇᓗᓇᐃᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ</u>

ᓇᔪᕐᕕᐅᔪᖅ ᐃᓕᔭᐅᕙᒃᑐᓂᒃ ᖃᓄᐃᑦᑐᒃᑯᑦ ᒥᑭᓪᓕᕚᓪᓕᖅᑎᑦᑎᔪᖅ ᐊᒥᓱᓂᒃ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᕐᒐᒍ ᐊᓯᐊᒍᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᔾᔨᒌᕐᒋᑦᑐᓂᒃ. ᐱᕙᓪᓕᐊᔪᑦ ᓇᒻᒥᓂᒃᑯᑦ ᓇᔪᕐᕕᐅᔪᑦ ᐱᔭᓇᐊᕐᑲᖅᑐᑦ ᒥᒐᓂᖅᐹᒃᑯᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐆᑦᑑᑎᒋᓗᒍ ᐱᑦᑕᐅᓯᕚᓪᓕᕐᓂᖅ ᑕᑯᒃᓴᐅᔪᓂᒃ, ᐃᓕᕝᕕᒋᔭᐅᔪᓂᒃ, ᐃᑯᒪᓄᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᓂᒃ, ᐅᖅᓱᒧᑦ ᐱᕐᑯᑎᓂᒃ ᐊᑐᒐᔅᓴᓂᒃ ᐊᒻᒪᓗ ᐃᓪᓗᓕᐅᒃᑲᓐᓂᕐᓂᕐᒧᑦ. ᑎᑎᕋᖅᓯᒪᓂᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᕐᒐ ᓇᔪᕐᕕᐅᔪᓄᑦ ᑐᕌᖅᓯᒪᔪᑦ ᐊᔪᕐᓇᙱᑦᑐᒃᑯᑦ ᓴᓇᔭᐅᓂᕐᒐᓄᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᓱᕝᕕᐅᓗᓂ ᓇᒻᒥᓂᒃᑯᑦ ᓇᔪᕐᕕᐅᔪᑦ ᐱᓕᕆᐊᔅᓴᐅᔪᑦ ᐅᔭᕋᕐᓂᐊᕐᕕᒻᒥ, ᑕᐃᒫᒃ ᐊᕐᒋᔪᒃᑯᑦ ᓂᕈᐊᕈᑕᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᐃᓯᒪᒋᔭᐅᓯᒪᔪᑦ ᐋᖅᑮᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᖃᓄᐃᑦᑑᓂᐊᕐᓂᕐᒐᓄᑦ ᐃᓕᕐᒐᓄᑦ ᐱᐊᓂᑦᑎᐊᕆᐊᕐᓗᒍ ᖃᓄᐃᑦᑑᓂᐊᕐᓂᕐᒐᓄᑦ ᓴᓇᕝᕕᐅᓂᐊᖅᑐᓂᒃ ᐃᒻᒥᒎᕐᒐᔪᒃᑯᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᓂᑦ.

ᓴᕿᔮᖅᑐᖅ 2

ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᐅᑦᑐᕐᑎᑦ



ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐱᐊᓂᒋᐊᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓯᖅ ᐊᖏᓂᖅᓴᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ Hᐆᑉ ᑲᖏᖅᓯᐊ ᐱᐅᑦ. ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᒋᔭᐅᓂᐊᖅᑐᒧᑦ ᐊᓪᔭᖅᑐᐃᓂᕐᒧᑦ ᐅᒥᐊᕐᔪᐊᓂᙶᖅᑐᓂᒃ, ᐊᖅᑯᑎᐅᓂᐊᖅᑐᒥᒃ ᐋᔅᑕᓐ ᓇᔪᕕᖓᓄᑦ ᓄᓇᒃᑯᑦ ᐊᒻᒪᓗ ᑎᒻᒥᔫᒃᑯᑦ, ᓄᓇᒃᑯᑦ ᐊᑐᖅᑕᐅᕙᖕᓂᒃᑯᑦ ᐅᔭᕆᓐᓂᐊᕐᕕᒋᓗᒍ ᐊᑑᑎᖕᒋᓐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐊᑖᓂ ᐅᔭᕆᓐᓂᐊᕐᕕᐅᕙᒃᑐᒃᑯᑦ, ᐊᒥᓲᓂᖕᒋᑦ ᐊᒻᒪᓗ ᓇᒦᓐᓂᐊᕐᓂᖕᒋᑦ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᓇᓪᓖᕈᑎᓂᒃ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓲᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᓐᓄᑦ ᐊᐅᓚᓂᖅ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᕐᓂᕐᒧᑦ ᐃᑯᒪᓄᑦ. ᐊᖏᕈᐊᖅᑐᒃᑯᑦ, ᐊᔾᔨᒌᙱᑦᑐᒃ ᓇᓪᓕᒍᖓᔅᓴᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᓴᓇᔭᐅᓯᒪᔫᒃᑯᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕐᓂᐅᔫᒃᑯᑦ ᐱᐊᓂᒃᑕᐅᔾᔭᓇᖅᑐᒃᑯᑦ, ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔫᒃᑯᑦ, ᐅᑎᖅᑎᑦᑎᓂᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ, ᓄᓇᕆᔭᐅᔪᓄᑦ ᐊᖏᖅᓯᒪᓂᖅ, ᐊᒻᒪᓗ ᐃᓅᖅᑎᑎᒃᑐᑦ-ᑮᓇᐅᔭᓕᐅᕐᑲᑦᑕᕐᓂᖏᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ. TMAC-ᑯᑦ ᐅᑉᐱᓇᔅᑲᖅᑐᑦ ᐱᓕᕆᐊᓴᒧᑦ ᑕᑯᑎᑕᐅᔫᒃᑯᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓂᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᕝᕙᖅᑐᒃᑯᑦ EIS-ᑯᓐᓂᑦ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ ᐊᒥᓱᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓕᕐᑯᔭᐅᔫᒃᑯᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓂᒃ ᓂᐅᒪᓐᑦ (Newmont) ᑎᓯᐱᓇ 2011-ᖑᑎᓪᓗᒍ.

ᑮᓇᐅᔭᓕᐅᕐᓂᓇᔭᐅᕙᒃᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᕙᑎᖓ

<u>ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᐱᕙᓪᓕᐊᔪᑦ</u>

ᑕᒪᒃᑭᒍᑦ ᐊᒥᓲᓂᖕᒋᑦ ᐊᐅᓚᓂᕐᒧᑦᐅ-ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ, ᐋᔅᑕᓐ–ᒫᑦᓇᑦ ᐱᓕᕆᐊᓯᖅ ᐊᐅᓚᓂᐊᖅᑐᑦ ᐃᒪᕐᑳ 11, 764-ᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᑲᓇᑕᒥ. ᐃᓚᒋᓗᒋᑦ 2,307-ᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐃᓚᒋᔭᕐᑲᖅᑐᓂᒃ ᓴᓇᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ (7,018 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᑲᑎᓪᓗᒋᑦ [ᕐᑲᓂᒋᔭᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᑦ, ᕐᑲᓂᙱᑦᑐᓂᒃ ᑲᒪᒋᔭᐅᔪᑦ ᐊᒻᒪᓗ ᓄᐃᕙᓪᓕᐊᔪᓂᒃ] ᐃᖅᑲᓇᐃᔭᔅᓴᐃᑦ), ᐊᒻᒪᓗ 9,484 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᕐᑲᓂᒋᔭᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ (26,513 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᑲᑎᓪᓗᒋᑦ) ᐃᓚᒋᔭᐅᓗᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᒃ ᐊᐅᓚᔪᓂᒃ. ᑕᐅᒪᐅᔪᑦ ᐃᖅᑲᓇᐃᔭᕐᓃᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᔫᒃᑯᑦ 175-ᓂᒃ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᐊᔾᔨᒌᓐᓂᒃᑯᑦ ᐅᑭᐅᖓ 1-ᒥ, ᐊᖏᓪᓕᕙᓪᓕᐊᓗᓂ 1,287-ᓂᒃ ᐅᑭᐅᖓ ᕐᑯᓕᒋᔭᐅᔪᒥ, ᒥᑭᓪᓕᕙᓪᓕᐊᓗᓂ 281 ᑭᖑᓪᓕᐅᑉ ᐅᑭᐅᒋᓂᐊᖅᑕᖓᓂ ᐊᐅᓚᑎᓪᓗᒋᑦ.

ᓄᓇᕗᒻᒥ, 321 ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᕐᑲᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐊᓪᓗ 1,110-ᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᕐᑲᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᕐᑲᕐᓂᖅ ᐊᐅᓚᑎᓪᓗᒍ. ᕐᑲᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᓗᒃᑖᑦ ᐃᑲᔫᑎᑦ ᓄᓇᕗᒻᒥ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐃᓕᑕᕆᔭᐅᓗᑎᒃ ᕿᑎᕐᒥᐅᓄᑦ ᐊᐅᓚᑎᓪᓗᒋᑦ, ᐊᒻᒪᓗ ᐊᖏᔫᒃᑯᑦ (90 ᐳᓴᓂᒃ) ᓄᓇᕗᒻᒥ ᐃᖅᑲᓇᐃᔮᒧᑦ ᐃᑲᔫᑎᓂᒃ ᓴᓇᑎᓪᓗᒋᑦ ᐃᓱᒪᒋᔭᐅᕐᑲᑕᐅᔪᑦ ᕿᑎᕐᒥᐅᑕᐅᓗᑎᒃ. ᓇᓗᓇᐃᒃᑯᑕᖅ 1 ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᐅᔫᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᕕᒋᔭᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᓴᒧᑦ.

ᓴᖅᑭᑕᐅᓯᒪᔪᑦ 1. ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᓇᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᖏᑦ

ᑮᓇᐅᔭᓕᐅᕐᓂᓇᔭᐅᔪᑦ ᐃᑲᔫᑏᑦ	ᓴᓇᓂᕐᒧᑦ (ᐅᑭᐅᖓ 1 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 4)			ᐊᐅᓚᓂᖓ (ᐅᑭᐅᖓ 5 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 14)		
	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ
ᑲᑎᓪᓗᒋᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ (ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ)[1]	7,018	567	390	26,513	1,973	1,419
· ᕐᑲᓂᑦᑐᒃᑯᑦ ᑲᒪᒋᔭᐅᔪᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ (ᐃᖅᑲᓇᐃᔭᕐᑎ ᐊᕐᕌᒍᑐᐃᓐᓇᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ)	2,281	321	289	9,484	1,110 (ᕿᑎᕐᒥᐅᓕᒫᒥ)	
GDP ($ ᒥᓕᐊᓐ)	$808	$68.4	$41.0	$3,191.1	$245.4	$202.3

ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐃᑲᔫᑏᑦ	ᓴᓇᓂᕐᒧᑦ (ᐅᑭᐅᖓ 1 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 4)			ᐊᐅᓚᓂᖓ (ᐅᑭᐅᖓ 5 ᑎᑭᓪᓗᒍ ᐅᑭᐅᖓ 14)		
	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ	ᑲᓇᑕ	ᓄᓇᕗᑦ	ᕿᑎᕐᒥᐅᑦ
ᑖᒃᑰᔭᕐᓂᖅ ($ ᒥᓕᐊᓐ)	$146.2	$9.3	$5.7	$587.0	$33.8	$29.2
· ᒐᕙᒪᕐᔪᐊᒃᑯᑦ	$80.0	$6.7	$4.2	$319.3	$24.7	$21.5
· ᓄᓇᓖᑦ/ᓄᓇᒋᔭᐅᔪᑦ	$66.3	$2.6	$1.5	$267.7	$9.1	$7.7
ᐃᖅᑲᓇᐃᔮᒧᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ ($ᒥᓕᐊᓐ)[2]	$608.1	$59.9	$38.2	$2,456.7	$223	$190.6
· ᖃᓂᑦᑐᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ	$304.2	$42.6	$34.1	$1,403.7	$163.8 (ᕿᑎᕐᒥᐅᓕᒫᒥ)	

ᓇᓗᓇᐃᒃᑯᑕᖅ: (1) "ᑲᑎᓪᓗᒋᑦ ᐃᖅᑲᓇᐃᔭᔅᓴᐃᑦ" ᓇᓚᐅᑦᑖᕐᓂᒋᔭᐅᔪᒃᑯᑦ ᐃᓚᒋᔭᖅᑐᑦ ᖃᓂᑦᑐᓂᒃ, ᖃᓂᙱᑦᑐᓂᒃ, ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᔅᓗᑦ ᓯᕗᓂᒧᑦ (2) ᑮᓇᐅᔭᓕᐅᕐᓂᖏᑦ ᐃᓚᒋᔭᖅᑐᑦ ᐃᑲᔫᑎᓂᒃ ᐱᖃᑕᐅᓪᓗᑎᒃ ᖃᓂᑦᑐᒃᑯᑦ, ᖃᓂᙱᑦᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓄᑦ ᐃᓱᐊᓈᖅᐱᔅᓴᓄᑦ.

ᓇᓗᓇᐃᒃᑯᑕᖅ: ERM, 2016. Hᐆᑉ ᖃᖏᖅᓯᐊ ᐱᓕᕆᐊᔅᓴᖅ: ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᓂᖏᑦ ᖃᓄᐃᑦᑑᓂᖓ ᐅᓂᒃᑳᓕᐊᑦ. (Hope Bay Project: Economic Impact Model Report)

<u>ᓄᓇᒋᔭᐅᔪᒥ ᐃᖅᑲᓇᐃᔮᔅᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᓇᓱᐊᕐᓂᕐᒧᑦ</u>

TMAC-ᑯᑦ ᖃᐅᔨᓴᕐᓂᒃᑯᑦ ᐃᓱᒪᒋᔭᖃᖅᑐᑦ 15% ᐳᓴᓂᒃ ᓴᓇᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐅᔪᓂᒃ ᐊᒻᒪᓗ 30% ᐳᓴᓂᒃ ᐊᐅᓚᓂᖓᓄᑦ ᐱᓕᕆᐊᔅᓴᓂᒃ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ. ᐃᖅᑲᓇᐃᔮᔅᓴᐃᑦ ᐃᓱᐊᓈᕆᔅᓴᖏᑦ ᑐᕌᖓᓂᐊᖅᑐᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᓂᕐᒧᑦ ᕿᑎᕐᒥᐅᑕᓂᒃ ᓄᓇᖃᖅᑐᓂᒃ, ᐃᖃᓗᑦᑑᑦᑎᐊᖅ, ᖁᕐᓗᖅᑐᖅ, ᐅᖅᓯᖅᑑᖅ, ᑕᓗᕐᔪᐊᖅ ᐊᒻᒪᓗ ᑰᒑᕐᔪᒃᒥᑦ. ᒪᓕᓪᓗᒍ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ (IIBA) (ᒪᔾ 2015), ᖁᑦᑎᓐᓂᖅᐸᖅ ᓯᕗᓪᓕᐅᔭᕆᐊᓕᒃ ᐃᖅᑲᓇᐃᔮᔅᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ ᐃᓄᖕᓂᒃ ᕿᑎᕐᒥᐅᑕᓂᒃ.

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓗᒍ ᐊᖏᖃᑎᒌᓐᓂᒃᑯᑦ ᐱᓕᕆᓕᔾᔪᔾᓂᒃᑯᑦ ᐃᓱᐊᓈᕆᔅᓴᒃᑯᑦ ᕿᑎᕐᒥᐅᑲᓄᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ. ᓇᓗᓇᐃᖅᓯᒪᔪᒃᑯᑦ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᐊᓂ, ᕿᑎᕐᒥᐅᑕᐃᑦ ᐊᔪᙱᓐᓂᖓᓄᑦ ᓇᒻᒥᓂᖃᖅᑐᑦ, ᑕᐃᒫᓪᓗᐊᑎᒍᑦ ᐊᖏᖃᑎᒌᖕᓂᒃᑯᑦ ᐱᓕᕆᓪᔪᔾᓂᒃᑯᑦ ᑐᕌᖓᔪᑦ ᐱᖁᑎᓂᒃ ᐱᔨᑦᑎᕋᐅᑎᓂᒃ ᑐᓂᔭᐅᓯᒪᙱᑦᑐᓂᒃ ᕿᑎᕐᒥᐅᑕᓂᒃ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ. TMAC-ᑯᑦ ᐃᓚᒋᔭᖃᖅᑐᑎᒃ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐃᑲᔪᖅᑎᒌᒃᑐᓂᒃ, ᐱᓕᕆᖃᑎᖃᕐᓂᐊᖅᑐᑦ ᓵᖅᑭᑎᑦᑎᓗᑎᒃ ᑐᓂᔭᐅᓂᒃᑯᑦ ᑮᓇᐅᔭᒃᑯᑦ ᓈᒻᒪᒋᔭᐅᔪᒃᑯᑦ ᐋᖅᑮᓯᓂᖅ ᐃᓕᓴᐃᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᔅᓴᓂᒃ ᐃᓄᖕᓄᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᓂᑦ ᐊᐅᓚᑦᑎᔾᔨᖏᓐᓂᑦ. ᑕᐃᒪᐅᑎᓪᓗᒍ, TMAC-ᑯᑦ ᐅᐸᑦᑎᓇᔭᖅᑐᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᐃᑲᔪᕐᓂᐊᖅᑐᖅ ᐱᔪᓐᓇᕐᓂᖅ ᖃᓄᑐᐃᓐᓇᖅ ᓴᓇᙳᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐃᑲᔪᕐᕕᐅᓗᑎᒃ ᐊᖏᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐃᓱᐊᓈᕐᕕᔅᓴᒃᑯᑦ ᓯᕗᓂᔅᓴᒧᑦ ᓄᓇᕗᒻᒥᐅᑕᓄᑦ.

<u>ᐱᓕᕆᐊᔅᓴᓄᑦ ᓯᓂᒃᑕᕐᕖᑦ ᐊᒻᒪᓗ ᐃᖏᕐᕋᕈᑏᑦ</u>

ᐃᓱᒪᒋᔭᐅᔪᑦ ᑲᑎᓪᓗᒋᑦ ᒫᑦᓇ–ᐸᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖅ (ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅ ᐃᖅᑲᓇᐃᔭᖅᑎᖏᑦ) ᐃᖅᑲᓇᐃᔭᖅᑎᑕᐅᓂᐊᖅᑐᖅ ᐃᒪᖃ 650-ᓂᒃ ᐃᓄᖕᓂᒃ. ᑐᐊᓇᔅ ᓯᓂᒃᑕᕝᕕᖓ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐃᓄᖃᕈᓐᓇᖅᑐᒥᒃ 400-ᓂᒃ ᐊᒻᒪᓗ 300-ᓂᒃ ᐃᓄᖃᕈᓐᓇᖅᑐᓂᒃ ᓯᓂᒃᑕᕝᕕᒻᒥ ᓴᓇᔭᐅᑎᓪᓗᒍ ᐹᔅᑕᓐᒥ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐱᓕᕆᔪᑦ ᒪᑦᓇᑦ ᓇᔪᕝᕕᐊᓂ ᓯᓂᒃᑕᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᑐᐊᓇᔅᒥ.

ᐱᓕᕆᐊᔅᓴᖅ ᑎᒻᒥᓲᖅᑲᖃᑦᑕᕐᓂᐊᖅᑐᖅ ᑎᑭᑦᑐᒃᑯᑦ ᐊᐅᓪᓚᖅᑐᒃᑯᑦ ᐊᐅᓚᓂᕐᒧᑦ. ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑎᒻᒥᓯᑦ ᐃᑦᒥᓐᑕᓐ (Edmonton) ᐊᒻᒪᓗ ᔭᓗᓇᐃᕝ (Yellowknife) ᐊᒻᒪᓗ ᓇᔪᕐᕕᐅᔪᒧᑦ ᐊᐅᓚᓂᐊᖅᑐᑦ ᑎᓴᒪᐃᖅᑕᕐᓗᑎᒃ ᐱᓇᓱᐊᕈᓯᒫᒥ, ᐊᒻᒪᓗ ᐊᐅᓪᓚᐃᕙᓪᓗᑎᒃ ᑎᑭᑎᑦᑎᕙᓪᓗᑎᒃ ᐃᖅᑲᓇᐃᔭᖅᑎᓂᒃ ᓄᓇᕗᒻᒥᐅᑕᐅᙱᑦᑐᓂᒃ.

ᓄᓇᕗᒻᒥᐅᑕᓂᒃ ᐊᙳᖅᑕᐅᕙᓐᓂᐊᖅᑐᑦ ᓄᓇᓕᓂᙵᖅᑐᓂᒃ ᐃᖃᓗᑦᑑᑦᑎᐊᒃᑯᑦ ᓇᔪᕙᒻᒧᑦ. ᐃᖅᑲᓇᐃᔭᖅᑐᓕᒫᑦ ᐊᐅᓚᓂᐊᖅᑐᑦ ᐱᖓᓱᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ ᐃᖅᑲᓇᐃᔭᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ ᓅᖅᑲᖓᑲᓚᐅᕐᓂᖓᒍᑦ ᒪᓕᓪᓗᑎᒃ.

ᐱᓕᕆᐊᔅᓱᒧᑦ ᓴᓇᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᑦ

ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ

ᑕᐃᒪᐅᔪᑦ ᓴᓇᓯᒪᔪᑦ (ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ) ᓇᔪᕕᐅᔪᑦ ᓴᓇᓯᒪᓂᖏᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᓯᖏᓐᓄᑦ ᐊᐅᓚᓂᕐᒧᑦ/ᕿᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓱᓄᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓯᓐᓇᕆᐊᓕᒃ ᐃᑲᔪᕐᓂᒃᑯᑦ ᐱᓕᕆᐊᔅᓱᒧᑦ ᓴᓇᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᓚᒋᔭᕐᑲᖅᑐᓂᒃ ᐅᑯᓂᖓ: ᑐᐊᕆᔅ ᓇᔪᕕᐊ ᓯᓂᒃᑕᕝᕕᖓᓄᑦ ᐊᖏᓂᖓ 400-ᓂᒃ ᐃᓄᖃᕈᓐᓇᖅᑐᒥᒃ; ᑐᐊᕆᔅ ᒥᑦᑕᕝᕕᖓ; ᕌᐳᑦ ᑲᖏᖅᓯᐊ ᐊᙳᕕᐅᖃᑦᑕᖅᑐᓂᒃ ᐃᓪᓗᕐᔪᐊᖓᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᖓ ᑐᐊᕆᔅᓱᑦ; ᐊᒻᒪᓗ ᒪᑦᓇᑦ ᓯᕿᓐᓂᖓᑦᑕ ᓇᔪᕕᖏᑦ ᐊᒻᒪᓗ ᐊᖅᑯᑎᐅᔾᓇᖅᑐᓂᒃ; ᐊᒻᒪᓗ ᓯᓂᒃᑕᕝᕕᒃ ᐊᒻᒪᓗ ᒥᑦᑕᕝᕕ ᐹᔅᑕᓐᒥ.

ᓄᑖᖅ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᓄᓇᑏᑦ ᐊᑐᖅᐸᒃᑕᖏᑦ ᐊᐅᓚᔾᔪᓇᕐᓂᕐᒧᑦ

ᖃᓂᓐᓂᖓᓄᑦ ᒪᑦᓇᑦ ᐊᕙᑎᖓ ᑐᐊᕆᔅ ᓇᔪᕕᖓᓄᑦ, ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ ᓴᓇᕝᕕᖓ, ᐊᒻᒪᓗ TIA-ᑯᑦ ᑐᓂᓯᔫᑦ ᐃᓱᐊᓈᖅᕕᔅᓴᓂᒃ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ ᑕᐃᒪᐅᔪᓂᒃ ᐊᑐᖅᐸᒃᑕᖏᓐᓂᒃ ᐊᐅᓚᔾᔪᓇᐅᑎᓂᒃ ᑐᐊᕆᔅᒥ, ᑕᐃᒫᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑭᓕᐅᑎᓂᒃ ᐊᑐᕐᓂᒃᑯᑦ ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐱᓱᕝᕕᐅᔾᔪᓇᕐᓂᖓᓄᑦ. ᓇᓗᓇᐃᒃᑯᑕ 2 ᓇᓗᓇᐃᖅᓯᒪᔪᖅ ᐸᕐᓇᐅᑎᓄᑦ ᓄᑖᒥᒃ ᓴᓇᓂᐊᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᔪᒧᑦ ᒫᑦᓇᑦ–ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓱᖅ

ᐊᑕᖅᓯᔪᒃᑯᑦ ᓴᐅᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᔾᔪᒃᑕᕐᕖᑦ ᓇᔪᕕᖏᑦ

ᐱᕙᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓯᒪᔪᑦ ᑲᔪᓯᑎᐊᕐᓂᖓᓄᑦ ᐱᓕᕆᐊᔅᓱᒧᑦ ᓴᓇᕗᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᑦ ᐱᖃᕆᐊᖃᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐅᔾᔪᒃᑕᕐᕕᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐊᑐᐃᓐᓇᐅᔭᔅᓱᓄᑦ ᐱᓕᕆᐊᔅᓱᖅ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᖅ ᐊᔪᕐᓇᙱᓐᓂᖓᓄᑦ ᐅᔾᔪᖕᓂᐊᕐᕕᖕᓂᒃ ᐊᒻᒪᓗ ᐅᔾᔪᖕᓂᐊᕐᕕᖕᓂᕐ ᓴᓇᕈᑎᓂᒃ ᓄᓇᒧᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᒧᑦ. 5 MT ᐊᖏᓂᖓᓂᒃ ᐅᔾᔪᖕᓂᐊᕐᕕᐅᑉ ᓴᓇᕈᑎᖏᓂᒃ ᐊᑐᖅᑕᐅᔭᕆᐊᕐᑲᖅᑐᑦ ᐃᓚᖓ 2-ᒥ ᓴᓇᑎᓪᓗᒋᑦ.

ᓇᓗᓇᐃᒃᑯᑕᖅ 2. **ᓄᑖᑦ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᓴᓇᓯᒪᔪᓂᒃ**

ᓇᒦᓐᓂᖓ	ᓴᓇᓂᖅ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ
ᕌᐳᑦ ᑲᖏᖅᓯᐊ	· ᓴᓇᓂᖅ ᐊᙳᖅᑐᐃᓂᕐᒧᑦ ᐱᕐᑯᑎᓂᒃ ᑐᓚᕝᕕᖓᓂ ᕌᐳᑦ ᑲᖏᖅᓯᐊᓂ. · ᓴᓇᓂᖅ 20 ML ᐊᖏᓂᖅᑲᖅᑐᒥᒃ ᐅᖅᓱᖅᑕᕝᕕᒻᒥᒃ (ᑎᓴᒪᐅᓗᑎᒃ ML5 ᐅᖅᓱᕝᕖᒃ) · ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖅ ᐱᐢᑎᕋᐅᑎᓂᒃ/ᐊᖅᑯᑎᑦᑲᕐᓂᖅ ᐊᙳᕕᐅᔪᒧᑦ ᑐᓚᕝᕕᒻᒧᑦ.
ᑐᐊᕆᔅ ᓇᔪᕕᖓ	· ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖅ ᓯᓂᒃᑕᕝᕕᓂᒃ. · ᐊᖏᓪᓕᕙᓪᓕᐊᓂᖅ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᖓᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᕕᐊᓂᒃ (TIA), ᐱᕚᓪᓕᕐᓗᒍ ᓯᕿᓐᓂᐊᑕ ᐊᒻᒪᓗ ᐱᖓᓐᓇᐅᑉ ᓴᓇᕝᕕᐅᑉ ᑰᕝᕕᖓ. · ᒥᑭᔪᒥᒃ ᓅᑕᐅᓗᑎᒃ ᖄᖅᑲᑦᑕᖅᑐᓂᒃ ᓴᓇᕝᕕᖓᓂᒃ · ᓴᓇᓂᖅ ᒪᕿᖕᓂᒃ ᐊᓄᓇᓕᐅᕈᑎᔅᓴᓂᒃ · ᓴᓇᓗᓂ ᕕᓐᑎ ᑕᓯᐊᓂ ᑐᓄᕕᐊᑕ ᐃᒪᑦᑎᐊᕙᒧᑦ ᐱᔪᓐᓇᐅᑎᔅᓴᒥᑦ
ᒪᑦᓇᑦ ᑐᓄᕕᐊ	· ᐱᐊᓂᕆᐊᓗᒍ ᒪᑦᓇᑦ ᑐᓄᕕᐊ ᓄᓇᐅᑉ ᐊᑖᓂ ᐱᓕᕆᐊᓇᔭᐅᔪᑦ. · ᐊᖏᓪᓕᕙᓪᓕᐊᓗᒍ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᖏᓐᓂᒃ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᓯᓂᒃᑕᕝᕕᑦᑲᕐᓗᓂ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᔾᔪᖕᓂᐊᕝᕕᒻᒥ, ᐃᓚᒋᓗᒍ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᐊᖅᑐᓂ ᐃᓕᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᓇᔪᕕᖓᓂᒃ, ᐊᒻᒪᓗ

ᓇᒦᓐᓂᖓ	ᓴᓇᓂᖅ ᐊᒻᒪᓗ/ᐅᕙᓘᓐᓃᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᑦ
	ᑐᖅᑯᕐᕕᐅᕙᒃᑐᓂᒃ ᓇᔪᕐᕕᖓᓂᒃ. · ᓴᓇᓂᕐᒧᑦ 1,200 tbd ᐃᒪᓕᐅᖅᐸᓪᓕᐊᔫᔭᒥᒃ ᐊᒻᒪᓗ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᖓᓂᒃ ᒪᑦᓇ ᑐᓄᕕᐊᓂ. · ᓴᓇᓗᓂ ᒪᕐᕉᖓᓂᒃ ᐊᓄᓇᓕᐅᕈᑎᔅᓴᓂᒃ · ᓴᓇᓂᕐᒧᑦ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᕐᑲᕐᓂᑦ ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓰᒃᓴᐃᑦ ᐊᑐᖏᑦᑐᓂᒃ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᑐᐊᓇᔅ ᓯᕐᑭᓐᓂᐊᓄᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓰᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖓᓄᑦ. · ᓴᓇᓂᖅ ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎᒥᒃ ᓴᓇᕝᕕᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ ᐱᕐᑯᔾᔪᐅᓯᒪᔫᒃᑯᑦ ᐃᑲᔪᖅᑐᓂᒃ ᐅᔾᔨᖓᓂᐊᕐᕕᒻᒥ ᐱᕙᓪᓕᐊᔪᓂᒃ. · ᓴᓇᓂᖅ ᐊᓯᖏᓐᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᓇᐊᕐᑲᖅᑐᓂᒃ ᐃᑲᔪᕐᓗᓂ ᐅᔾᔨᖓᓂᐊᕐᕕᐅᑉ ᐊᒻᒪᓗ ᐊᔾᔨᖓᓇᔾᔪᐅᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᕐᒥ, ᐃᓚᒋᓗᒍ ᐅᖅᓴᖅᑕᕐᕕᒃ, ᐅᔾᔨᕈᔾᔪᒧᑦ ᐃᓕᕝᕕᒃᓴᒥᒃ, ᐅᔾᔨᕈᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᒃᓴᖓᓂᒃ ᐊᒻᒪᓗ ᐃᒪᒃᑯᑦ ᐅᑎᖅᑎᑕᐅᕝᕕᔅᓴᒥᒃ ᑕᓯᕐᒧᑦ. · ᓴᓇᓂᖅ ᐊᓯᖏᓐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐱᔪᓐᓇᐅᓂᖓᓄᑦ ᒪᓕᓪᓗᒍ ᐃᑲᔫᑎᔅᓴᓂᒃ ᑲᔪᓯᓂᕐᒧᑦ ᕿᓂᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᕐᒥ ᐊᒻᒪᓗ ᐹᔅᑕᓐᒥ. · ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᒡᒐᖅᑕᐅᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓇᖏᕈᑎᔅᓱᑦ ᐅᔾᔨᖓᓂᐊᕐᕕᒻᒥ
Madrid South	· ᐱᓂᐊᓂᖓᓂᕐᒧᑦ ᒪᑦᓇᑦ ᓯᕐᑭᓐᓂᐊᑕ ᐊᑖᓂ ᐱᓕᓇᕝᕕᐅᔪᓂᒃ. · ᐊᖏᓪᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᒪᑦᓇᑦ ᓯᕐᑭᓐᓂᐊᓂ ᐱᕙᓪᓕᐊᔪᓐᓇᕐᓗᓂ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᓇᓂᕐᒧᑦ ᐅᔾᔨᖓᓂᐊᕐᓂᖅ. · ᓴᓇᓂᖅ ᑕᒪᒃᑭᓐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔭᓇᐊᕐᑲᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐅᔾᔨᖓᓂᐊᕐᕕᐅᔪᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᒪᑦᓇᑦ ᓯᕐᑭᓐᓂᐊᓂ ᐃᓚᒋᓗᒍ ᐅᖅᓴᖅᑕᕐᕕᒃ, ᐅᔾᔨᕈᔾᔪᓄᑦ ᐃᓕᕝᕕᖓᓂᒃ, ᐅᔾᔨᕈᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᖓᓂᒃ ᐊᒻᒪᓗ ᑰᕝᕕᒥᒃ ᑕᓯᕐᒥᑦ. · ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᓴᓇᕝᕕᐅᔪᓄᑦ ᐊᒻᒪᓗ ᐃᓇᖏᖅᑕᐅᓂᐊᖅᑐᒧᑦ ᐃᓕᕝᕕᒥᒃ ᐅᔾᔨᖓᓂᐊᕐᕕᒻᒥ.
ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ	· ᓴᓇᓂᖅ ᒪᑦᓇᓪ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᖓᓂᒃ ᑲᔪᓯᔪᒧᑦ ᒪᑦᓇᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖏᓐᓄᑦ, ᐃᓚᒋᓗᒍ ᑰᕝᕕᐅᔫᒃᑯᑦ ᐊᖅᑯᑎᐅᔫᒃᑯᑦ. · ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᓴᓇᓂᕐᒧᑦ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᐅᔪᒥᒃ.
ᐹᔅᑕᓐ	· ᓴᓇᓂᖅ ᐅᑭᐅᒧᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᒥᒃ ᒥᑦᑕᕐᕕᒻᒥᒃ ᐹᔅᑕᓐᒥ. · ᓴᓇᓂᖅ ᓱᓇᓗᒃᑖᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐅᔾᔨᖓᓂᐊᕐᕕᒧᑦ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᓇᓂᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐹᔅᑕᓐᒥ ᐃᓚᒋᓗᒍ ᓴᓇᓂᖅ ᓄᑖᒥᒃ ᓯᓂᒃᑕᕐᕕᒻᒥᒃ (300-ᓂᒃ ᐃᒡᓕᕐᑲᕐᓗᓂ) ᐊᒻᒪᓗ ᐃᑲᔫᑎᓂᒃ ᓴᓇᕝᕕᐅᔪᓂᒃ (ᐊᓇᖅᑕᕐᕕᖕᒧᑦ ᓴᓗᒻᒪᖅᓴᐅᑎ, ᐃᑯᐊᓪᓚᕝᕕᒃᓴᒥᒃ, ᐃᒪᕐᑲᐅᑎᕐᑲᕐᓂᖅ), ᐅᔾᔨᕈᔾᔪᓄᑦ ᐃᓕᕝᕕᖓᓂᒃ, ᖃᕐᑲᑦᑕᖅᑐᓄᑦ ᓴᓇᕝᕕᒥᒃ, ᐅᔾᔨᕈᙱᑦᑐᓂᒃ ᐃᓕᕝᕕᖓᓂᒃ, ᐃᓚᔅᓴᐅᔪᓄᑦ ᐊᑐᖅᑕᐅᓲᖑᔪᓂᒃ ᐃᓕᕝᕕᔅᓴᖓᓂ, ᐊᒻᒪᓗ ᐊᒻᒪᓗ ᐸᓂᕝᑳᒃᓴᓂᒃ ᐊᐅᓚᔪᓐᓇᐅᑎᓂᒃ ᓇᔪᕐᕕᓂᒃ (TMA), ᐃᓕᕝᕕᐅᔫᔅᓴᓂᒃ ᓇᔪᕐᕕᖓᓂᒃ, ᑲᔪᓯᓐᓇᑦᑎᐊᕈᑎᒥᒃ ᓴᓇᕝᕕᓂᒃ, ᑰᕝᕕᐅᔪᓂᒃ ᑕᓯᕐᓂᒃ. · ᓴᓇᓂᖅ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐱᓕᓇᓂᒃᒧᑦ ᓴᓇᕝᕕᖓᓂᒃ. · ᓴᓇᓗᓂ ᒫᕐᕈᖓᓂᒃ ᐊᓄᓇᓕᐅᕈᑎᔅᓴᓂᒃ · ᓴᓇᓂᖅ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕕᒃ ᐊᒻᒪᓗ ᐅᖅᓴᖅᑕᕐᕕᐅᑉ ᓴᓇᕝᕕᖓᓂᒃ. · ᓴᓇᓂᖅ ᐃᒪᓂᒃ ᐊᑐᙱᑦᑐᓂᒃ ᓴᓗᒻᒪᖅᓴᕐᕕᖓᓂᒃ ᓴᓇᕝᕕᒻᒥᒃ ᐃᓚᒋᓗᒍ ᐃᒋᑕᐅᓂᐊᖅᑐᓂᒃ ᐃᓕᕝᕕᖓᓂᒃ ᐊᐃᒪᐅᑲᑕᓘᑉ ᑕᓯᖓᓂ. · ᐊᓯᖏᑦ ᓴᓇᓯᒪᔪᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᐅᓚᔫᒃᑯᑦ ᕿᓂᕐᓂᕐᒥᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐹᔅᑕᓐᒥ.

<u>ᐅᒥᐊᕐᔪᐊᓕᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᖏᕐᕋᕈᑎᑦ</u>

ᕌᐳᑦ ᐃᑭᕋᓴᖓᓂ ᐊᒡᔭᕐᕕᐅᑦᑕᕐᓂᐊᖅᑐᖅ ᐅᖅᓯᒥᒃ, ᐱᕐᑯᑎᓂᒃ ᐊᒻᒪᓗ ᓴᓇᕐᕈᑎᓂᒃ ᐊᑐᖅᑕᐅᔭᓇᐊᕐᑲᖅᑐᓂᒃ ᐱᓕᓇᐊᔅᓴᖓᓂ ᓴᓇᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓚᓕᐅᑎᙱᓪᓗᒍ ᖃᖓᓂᖓᒍᑦ ᐊᒻᒪᓗ ᖃᖓᒃᑯᑦ ᐱᕐᑯᑎᓂᒃ ᑎᒻᒥᓲᒃᑰᕐᓂᒃᑯᑦ. ᐊᐅᓚᑎᓪᓗᒍ ᐃᓚᒋᔭᐅᔪᑦ, TMAC-ᑯᑦ ᓂᕆᐅᒃᑐᑦ ᐅᖅᓴᖅᑕᐅᕐᑲᑦᑕᕐᓗᑎᒃ ᐱᖓᓯᐃᕐᓗᓂ ᐊᒡᔭᕐᕕᐅᓗᑎᒃ, ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᑎᓴᒪᓄᑦ ᐊᒡᔭᖅᑐᐃᓂᖅ ᐱᕐᑯᑎᓂᒃ (ᐅᒥᐊᕐᔪᐊᒃᑯᑦ ᓴᓇᕐᕈᑎᓂᒃ, ᐱᕐᑯᑎᔅᓴᓄᑦ, ᓂᕿᓂᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕈᑎᓂᒃ) ᐊᐅᒪᑎᓪᓗᒍ ᓯᑯ ᐅᑭᐅᖓᓂ.

ᐱᓕᕆᐊᔅᓴᖅ ᐊᑐᕐᓂᐊᖅᑐᖅ ᐱᓕᕆᐊᔅᓴᓂᒃ ᓇᔪᕐᕕᐅᔪᒥᒃ ᐊᖅᑯᑎᐅᔪᒃᑯᑦ. ᓇᑭᕐᓂᖓ ᑭᒡᓕᖅᑳᕐᓂᐊᖅᑐᑦ ᐊᑐᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᔾᔪᑎᖃᖅᑐᓂᒃ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐊᐅᔭᖅᑕᐅᕙᓐᓂᐊᖅᑐᑦ ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑎᒻᒥᓲᒃᑯᑦ ᐃᑦᒪᓐᑕᓐᒥ (Edmonton), ᔭᓗᓇᐃᒥᑦ (Yellowknife), ᐊᒻᒪᓗ ᕿᑎᕐᒥᐅᑕᓂᑦ ᓄᓇᙱᓐᓂᑦ. ᑎᒻᒥᓲᒃᑯᑦ ᐊᐅᔭᖅᑐᐃᓂᖅ ᐱᔾᔪᑎᖃᐅᑎ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᔨᓄᑦ ᐊᐅᓪᓛᕐᓂᕐᒥᒃ, ᐊᒻᒪᓗ ᐱᕐᑯᑎᓂᒃ ᐊᐅᔭᐃᖃᑦᑕᕐᓂᕐᒧᑦ. ᓄᑖᒥᒃ 2,000 ᒥᑕᓂᒃ ᒥᑦᑕᕐᕕᓕᐅᕐᓂᐊᖅᑐᑦ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖓᓂ. ᒥᑦᑕᕐᕕᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐆᑦᑑᑎᒋᓗᒍ Dash-8 ᐊᒻᒪᓗ Boeing 737-200 ᑎᒻᒥᓲᙳᙵᓂᒃ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔫᓐᓇᖅᑐᖅ ᐊᖏᓂᖅᓴᓄᑦ ᑎᒻᒥᓲᓂᒃ Hercules C-130 ᑎᒻᒥᓲᖓᓂᒃ. ᑕᐃᒪᐅᔪᑦ ᐅᑭᐅᒧᑦ ᒥᑦᑕᕐᕕᐅᔪᓂᒃ (ᐊᒻᒪᓗ ᓯᑯᒃᑯᑦ ᒥᑦᑕᕐᕕᒃ) ᑐᐊᕆᔅ ᓇᔪᕐᕕᐊᓂ.

<u>ᒫᑦᓇᓪ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ</u>

ᒫᑦᓇ-ᐹᔅᑕᓐ ᐅᑭᐅᒧᑦ ᐊᖅᑯᑎ (AWR) ᓄᑖᖑᓂᐊᖅᑐᖅ ᓴᓇᕗᕕᒃ ᓴᓇᔭᐅᓂᐊᖅᑐᖅ ᐱᓕᕆᔅᓴᖓᓄᑦ. ᐊᖅᑯᑎ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐊᑕᐅᓯᒃᑯᑦ ᓄᓇᓯᐅᑎᖅᑲᐳᓐᓇᖅᑐᒥᒃ ᐊᖅᑯᑎ ᐃᓂᖅᑲᕐᓗᓂ ᐃᑳᕈᒪᔪᓄᑦ. ᐊᖏᔪᑦ ᓄᓇᓯᐅᑏᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓴᓇᓗᓂ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐᓗᑎᒃ ᐊᖅᑯᑎᒃᑯᑎᑦ ᐊᐅᔭᖅᑐᐃᓗᓂ ᐅᔾᔪᔭᓂᒃ ᐊᒻᒪᓗ ᐃᒪᙳᖅᑎᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᐊᐅᓚᑎᓪᓗᒋᑦ ᐃᓚᖓᓂ.

<u>ᐅᔾᔨᕆᓂᐊᕐᕕᐅᑉ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑦ</u>

ᑐᐊᕆᔅ, ᒫᑦᓇᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐃᓕᕝᕕᖏᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᓄᓇ ᕿᕿᐳᒪᑎᓪᓗᒍ ᐊᒻᒪᓗ ᕿᕿᐳᒪᙱᑎᓪᓗᒍ ᓄᓇ. ᑕᐃᒪᓂᖓᒍᑦ, ᒫᑦᓇᑦ ᐃᓕᕝᕕᖓ ᐃᓕᔭᐅᕚᒃᑐᑦ ᑕᓯᐅᑉ ᐊᑖᓄᑦ, ᑕᐃᒫᒃ ᕿᕿᐳᒪᙱᑦᑐᓪᑐᑦ, ᓇᒥ ᐹᔅᑕᓐ ᐃᓕᕝᕕᖓᓪ ᕿᕿᐳᒪᓃᑦᑐᑦ. ᐃᓕᕝᕖᑦ ᐃᑳᖅᑕᐅᕚᓐᓂᐊᖅᑐᑦ ᐊᖅᑯᑕᐅᙱᑦᑐᒃᑯᑦ ᓄᓇᒃᑯᑦ, ᐊᒻᒪᓗ ᐊᖅᑯᑕᐅᙱᑦᑐᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᐅᔭᖅᑐᐃᓂᕐᒧᑦ ᐅᔾᔨᐅᔭᓂᒃ ᐊᒻᒪᓗ ᐊᑦᑕᑯᓂᒃ ᓄᓇᐅᑉ ᐊᑖᓂᑦ. ᓄᓇᐅᑉ ᐊᑖᓂ ᐅᔾᔨᕐᓂᐊᕐᕕᓪᒥ ᐱᕙᓪᓕᐊᔪᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐊᒥᓯᒃᑲᓪᓚᓂᒃ ᐊᔾᔨᙱᑦᑐᓂᒃ ᐊᑐᐃᓐᓇᐅᕐᑯᓪᓗᒍ ᓄᓇᓕᕆᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᕐᑯᔭᐅᔪᒃᑯᑦ ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᖓᓄᑦ ᐃᓕᕝᕕᐅᕚᒃᑐᓄᑦ. ᓴᓇᓯᒪᔪᖅ ᑐᙵᕝᕕᑦᔭᐅᔪᖅ ᐅᑎᖅᑎᑕᐅᓂᖓ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ ᐃᓚᔅᓴᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᑦ ᓄᓇᐅᑉ ᖄᖓᑎᒍᓪᓘᓐᓃᑦ

<u>ᐊᑐᖅᑕᐅᙱᑦᑐᑦ ᐅᔾᔨᐃᑦ ᐊᒻᒪᓗ ᐊᑦᑕᖅᑕᐅᓂᒃᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ</u>

ᐊᑐᖅᑕᐅᔪᑦ ᐅᔾᔨᕐᓂᐊᕐᓂᕐᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐊᑐᖅᑕᐅᙱᑦᑐᓂᒃ ᐅᔾᔨᐅᔭᓂᒃ ᐊᐅᔭᖅᑕᐅᔪᑦ ᓄᓇᒧᑦ,ᑕᐃᒫᒃ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐃᒪᕐᑲᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᓄᓇᒧᑦ, ᐊᒻᒪᓗ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓯᖅᑯᕐᕕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐅᖅᓯᒧᑦ ᐊᑐᖅᑕᐅᕐᑯᔭᐅᔪᓂᒃ ᐊᐅᔭᖅᑐᐃᓗᓂ ᐅᔾᔨᕐᓂᐊᕐᕕᒻᒥᑦ. ᐊᑐᙱᑦᑐᑦ ᐅᔾᔨᐅᔭᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕐᓂᕐᒧᑦ ᒪᑐᔭᐅᖅᑳᖅᑎᓐᓇᒍ. ᐃᒻᒥᒃᑰᖓᔪᒃᑯᑦ ᐅᔾᔨᕐᓂᐊᕐᕖᑦ ᓇᔪᕐᕕᖏᑦ ᐃᓚᒋᔭᖅᑲᖅᑐᑦ ᐊᑐᙱᑦᑐᓂᒃ ᐅᔾᔨᐅᔭᓂᒃ ᐃᓕᕝᕕᔅᓴᖓᓂᒃ ᓇᔪᕐᕕᖓ ᖃᓂᓐᓂᖅᐸᖓᑦ ᐊᔪᕐᓇᙱᓐᓂᖓ ᐅᔾᔨᕐᓂᐊᕐᕕᐅᑉ ᐃᓕᕝᕕᖓᓂᑦ. ᐊᑐᙱᑦᑐᑦ ᐅᔾᔨᐅᔭᐃᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐊᑐᖅᑕᐅᓯᒪᒃᑯᑦ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐆᑕᕐᓇᖅᑐᓂᒃ ᑯᕕᑦᑕᐃᓕᒪᓂᕐᒧᑦ.

<u>ᐅᔾᔨᐅᔭᓄᑦ ᐊᐅᓚᓂᖅ ᐊᒻᒪᓗ ᐃᓚᔅᓴᓂᒃ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᑦ</u>

ᐱᓕᕆᐊᕆᔭᕐᑲᖅᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ, ᐃᓚᔅᓴᐃᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᓴᖅᑭᑎᑕᐅᓂᐊᖅᑐᑦ ᒫᑦᓇᑦ ᑐᓄᕕᐊᓂ, ᓯᕿᓐᓂᐊᓂ, ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖓᓂ. ᑕᐃᒪᐅᔪᑦ ᑐᐊᕆᔅᒥ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕗᕕᖓ ᐊᐅᓚᔪᖅ ᐊᒻᒪᓗ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᑐᖅᑕᐅᓗᓂ ᐱᓕᕆᐊᔅᓴᒧᑦ; ᑐᐊᕆᔅ ᐃᓚᔅᓴᖏᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᑲᔪᓯᓂᐊᖅᑐᑦᑕᐅᖅ ᐊᑐᖅᑕᐅᓗᑎᒃ. 1,200 tbd ᐃᒪᓕᐅᕈᑎ ᓴᓇᔭᐅᓂᐊᖅᑐᖅ ᒫᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐊᒻᒪᓗ 2,400 tbd ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᔭᐅᓂᐊᖅᑐᖅ ᐹᔅᑕᓐᒥ. ᐃᓚᔅᓴᐃᑦ ᐱᕙᓪᓕᐊᑎᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅᒥ, ᒫᑦᓇᑦ ᑐᓄᕕᐊᓂ, ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕐᕕᖓᓂ; ᐃᓚᔅᓴᓗᒃᑖᑦ ᒫᑦᓇᑦ ᓯᕿᓐᓂᐊᓂ ᐊᐅᓪᓚᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ ᑐᐊᕆᔅ ᐱᕙᓪᓕᐊᕝᕕᓕᕆᕝᕕᐊᓄᑦ ᐅᕝᕗᓘᓐᓃᑦ ᒫᑦᓇᑦ ᑐᓄᕕᐊᑕ ᐃᒪᓕᐅᕐᕕᖓᓄᑦ.

ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐊᒥᓲᓂᖕᒋᑦ ᒫᑦᓇᑦ ᑐᓄᕕᐊᓂ ᓂᕆᐅᒋᔭᐅᔪᖅ ᖁᑦᑎᓐᓂᖅᑲᕐᓗᓂ 3,200 tbd ᐅᖓᑖᓄᐊᖅᑐᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐊᖏᓂᖓᑎᒍᑦ ᒫᑦᓇᑦ ᑐᓄᕕᐊᑕ ᐃᒪᓕᐅᕐᕕᖓᓂ. ᐊᒥᓲᓂᖕᒋᑦ ᐃᓚᙱᐃᑦ ᓄᓇᐅᓯᑎᒃᑰᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕕᖓᓄᑦ ᐱᕙᓪᓕᐊᑎᑕᐅᓗᑎᒃ. ᐃᒪᓕᐅᕈᑎ ᐱᕙᓪᓕᐊᑎᑕᐅᔪᑦ ᒫᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐃᒪᓕᐅᕐᕕᖓ ᓄᓇᓯᐅᑎᒃᑰᖅᑎᑕᐅᖅᑲᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕕᖓᓄᑦ ᑲᓐᓄᕐᑳᓄᑦ ᐅᑎᖅᑎᑦᑎᓂᕐᒧᑦ. ᐋᔅᑕᓐ ᐱᕙᓪᓕᐊᕝᕕᖓ ᓴᓇᕝᕕᒃ ᐊᑭᓕᖅᑕᐅᓂᐊᖅᑐᖅ ᐅᓪᓗᕆᔭᖓᓂ ᐅᕝᕙᓘᓐᓃᑦ ᐅᓪᓗᕆᔭᐅᙱᕆᑎᓪᓗᒍ ᐊᑲᓪᓃᓂᕐᒧᑦ 2023–ᖑᖅᑳᖅᑎᓐᓇᒍ ᐊᒻᒪᓗ ᐃᒻᒥᒃᑯᑦ ᐊᐅᓚᓗᓂ 2024-ᒥ ᓴᓇᕝᕕᐅᓗᓂ. ᐱᑎᐊᕐᖓᕐᓂᖅ ᐱᖓᓱᐃᑦ ᐅᑭᐅᓄᑦ, ᐃᓚᐃᓐᓇᑎᒍᑦ ᐃᓚᙱᐃᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᒃ ᐋᔅᑕᓐᒥᑦ ᓄᓇᓯᐅᑎᒃᑰᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕕᖓᓄᑦ ᐱᕙᓪᓕᐊᑎᑕᐅᓗᑎᒃ. ᐋᔅᑕᓐ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᓴᓇᕝᕕᖓ ᐃᒻᒥᒃᑦ ᐊᐅᓚᔪᓐᓇᓕᖅᐸᑦ, (2024), ᐋᔅᑕᓐᒦᑦᑐᓕᒫᑦ ᐃᓚᙱᖕᒋᑦ ᐱᕙᓪᓕᐊᑎᑕᐅᓂᐊᖅᑐᑦ ᐋᔅᑕᓐᒥ ᑕᐃᒫᒃ ᐃᖕᒋᕋᔾᔪᑕᐅᕙᒃᑐᑦ ᓄᖅᑲᕐᓂᐊᖅᑐᑦ ᑐᐊᕆᔅᒧᑦ.

<u>ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᐊᐅᓚᓂᖓ</u>

ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐱᕙᓪᓕᐊᓯᒪᔪᑦ ᒪᑦᓇᑦ ᑐᓄᕕᐊᓂ ᐃᒪᓕᐅᖅᐸᓪᓕᐊᔾᔪᑎ ᐃᒻᒦᔭᖅᑕᐅᑦᑕᕐᓂᐊᖅᑐᑦ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᓐᓄᑦ ᓱᓪᓗᓕᒃᑯᑦ ᐊᖅᑯᑎᕐᑲᖅᑐᒃᑯᑦ. ᐊᐅᓚᓂᖓ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᓐᓂᒃ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᖕᒋᖅᑕᐅᓯᒪᓂᒃᑯᑦ. ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐋᔅᑕᓐᒥ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᓇᐊᑦ ᓴᓇᕝᕕᖓ ᐸᓂᖅᓯᖅᑕᐅᓂᐊᖅᑐᑦ ᐋᔅᑕᓐᒥ.

<u>ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ</u>

ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᒪᓕᒃᑐᑦ ᐊᖕᒋᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ(Type) A ᐃᒪᕐᒧᑦ ᓚᐃᓵ 2AMDOH1323. ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᖃᐅᔾᔭᖅᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᖅ ᑐᐊᕆᔅ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐱᓯᒪᑦᑎᓂᐊᖅᑐᑦ ᑕᒪᒃᑭᓐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᓄᓇᐅᑉ ᐊᑏᓂ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᒥ ᐃᒪᐃᑦ ᐃᒋᑕᐅᓯᒪᙲᑦᑐᒃᑯᑦ ᐃᓚᒋᔭᖅᙲᑦᑐᑦ, ᐃᓚᒋᓗᒍ: ᐃᒪᐃᑦ ᖃᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᒪᑦᓇᑦᒥᑦ ᑕᕐᓯᒥᙹᖅᑐᑦ; ᐳᑦᑕᖓᔪᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᓂᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᓇᐊᓄᑦ (ᑐᐊᕆᔅ ᐊᒻᒪᓗ ᐋᔅᑕᓐ ᓇᔪᕐᕕᖕᒋᑦ); ᐊᒻᒪᓗ ᐃᓚᐅᓯᒪᔪᑦ ᓄᓇᐅᑉ ᐃᒪᖓᓂᒃ ᒪᑦᓇᑦ ᓇᔪᕐᕕᖓᓂ. ᐃᒪᐃᑦ ᐃᒋᑕᐅᔭᓇᐊᕐᑲᖅᑐᑦ ᐊᑐᕐᓂᖕᒋᑦ (ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᖃᓄᐃᑦᑑᓂᖓ A ᐃᒪᕐᒧᑦ ᓚᐃᓵ) ᐃᒋᑕᐅᓂᐊᖅᑐᑦ ᕌᐳᑦ ᐃᑭᕋᓱᖕᓂᓄᑦ ᑰᕝᕕᖓᒍᑦ. ᐃᒪᙳᖅᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐃᓕᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᐅᑉ ᐊᑖᓄᑦ ᐅᔭᕋᐅᔭᐃᑦ ᐊᑐᖅᑕᐅᙲᑦᑐᓂᒃ ᐱᖃᑎᖃᕐᓗᑎᒃ.

ᐊᖏᓂᖓ ᐃᒪᐅᑉ ᐅᑎᖅᑎᑦᑎᓂᖅ ᑐᐊᕆᔅᒥᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖕᒋᓐᓂᖕᒋᑦ ᐊᖏᓂᖅᐹᒃᑰᖓᓂᐊᖅᑐᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑐᕈᓐᓇᖅᑯᓪᓗᒍ ᐃᒪᑦᑕᐅᕙᐃᑦ ᐊᑐᖅᑕᐅᓂᖕᒋᑦ ᑐᐊᕆᔅ ᑕᓯᐊᓂᑦ. ᑕᐃᒪᐃᑦ ᐃᒪᐃᑦ (ᑎᒍᔭᐅᔪᓐᓇᖅᑐᑦ) ᑐᐊᕆᔅ ᓇᔪᕐᕕᖓᓂ ᑲᔪᓯᓂᐊᖅᑐᖅ ᐊᑐᖅᑕᐅᓗᓂ ᕕᓐᑎ ᑕᓯᐊᓂᑦ (Windy Lake); ᓴᓇᕝᕕᓐᓂᑦ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᕆᔅ ᑕᓯᖓᓂᑦ. ᐋᔅᑕᓐᒥ ᑕᐃᒪᐅᔪᑦ ᐊᒻᒪᓗ ᓴᓇᓯᒪᔪᒃᑯᑦ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᐃ,ᐅᑦᑕᓃᑉ ᑕᓯᖓᓂᑦ; ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᙲᑦᑐᑦ, ᐃᓚᒋᓗᒍ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᐃᒪᙳᖅᑕᐅᓯᒪᔪᑦ, ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕐᓂᐊᖅᑐᑦ, ᐊᒻᒪᓗ ᓴᓗᒻᒪᖅᑕᐅᓗᑎᒃ ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᙲᑦᑐᑦ ᑯᕕᔭᐅᓗᑎᒃ ᐊᐃᒪᐅᑲᑦᑕᓃᑉ ᑕᓯᐊᓄᑦ ᑰᒃᑐᒃᑯᑦ. ᓴᓗᒻᒪᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᐃᑦ ᐋᔅᑕᓐᒥ ᑯᕕᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᐃᒪᐅᑲᑦᑕᓃᑉ ᑕᓯᐊᓄᑦ.

<u>ᐊᑦᑕᑯᐃᑦ ᐊᐅᓚᓂᖓ</u>

ᐊᑦᑕᕐᓇᙲᑦᑐᑦ ᐊᑦᑕᑯᐃᑦ ᐊᒡᒍᐃᑕᐅᓂᐊᖅᑐᖅ ᐊᒻᒪᓗ ᐃᒋᑕᐅᓗᑎᒃ ᓯᖁᒥᕝᕕᒃᓴᒃᑯᑦ, ᓄᓇᒧᑦ ᐃᓕᓯᓂᖅ, ᐅᕝᕙᓘᓐᓃᑦ ᐃᑭᑕᐅᓗᑎᒃ. ᑕᐃᒪᐅᔪᑦ ᐊᑦᑕᑯᐃᑦ ᐱᔭᐅᓂᐊᖅᑐᑦ ᒪᑦᓇᑦᒥ ᓄᓇᓯᐅᑎᒃᑯᑦ ᑐᐊᕆᔅᒧᑦ ᐊᒻᒪᓗ

ᐃᓕᔭᐅᓗᑎᒃ ᑐᐊᓇᔅ ᐊᑦᑕᑰᓯᕝᕙᖕᖓᓄᑦ ᐱᓕᕆᐊᕆᔭᐅᓗᑎᒃ ᐊᒻᒪᓗ ᐊᑦᑕᑰᖅᑕᐅᓗᑎᒃ. ᓄᑖᒥᒃ ᓯᕐᑯᒥᒃᓴᐅᑎᔅᓴᒥᒃ ᐊᒻᒪᓗ ᐊᑦᑕᑯᒃᓴᕙᒻᒥᒃ ᓴᓇᓂᐊᖅᑐᑦ ᐹᔅᑕᓐᒥ.

ᑕᐃᒪᐅᓗᒃᑖᖅᑐᒃᑯᑦ ᐊᐅᓚᔾᔪᑕᐅᔪᑦ ᐹᔅᑕᓐᒥ ᓯᓂᒃᑕᕐᕖᑦ ᐃᓚᖃᕐᓂᐊᖅᑐᑦ ᓄᓇᒥᙱᖅᑐᓂᒃ ᐊᓇᖅᑕᕐᕕᐅᑉ ᐊᒻᒪᓗ ᐃᒪᑦᑕᐅᙱᑦᑐᓂᒃ ᓴᓗᒪᖅᓴᐃᓂᕐᒧᑦ ᓴᓇᕙᓪᓕᒃ. ᑯᕕᑕᐅᔪᑦ ᓴᓗᒪᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᑦᓴᐅᙱᑦᑐᑦ ᓄᓇᒧᐊᖅᑕᐅᓗᑎᒃ ᐅᕝᕙᓗᓐᓃᑦ ᐊᐃᒪᐅᑲᑦᑕᓘᑉ ᑕᓯᐊᓄᑦ [OC3]. ᐃᑎᑕᐅᔪᑦ ᓴᓗᒪᖅᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᑰᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᒧᑦ ᐅᕝᕙᓗᓐᓃᑦ ᐊᐃᒪᐅᑲᑦᑕᐅᑉ ᑕᓯᐊᓄᑦ ᐊᓯᖏᓪᓗ ᐃᑎᑕᐅᔪᑦ. ᒪᓪᓕᐃᑦ ᐃᑭᑕᐅᓂᐊᖅᑐᑦ ᐅᕝᕙᓗᓐᓃᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ ᐃᑎᑕᐅᓗᑎᒃ ᓄᓇᐅᑉ ᐊᑖᓄᑦ ᐃᓇᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐊᑦᑕᑯᓂᓪᓗ. ᓯᓂᒃᑕᕐᕕᖃᓛᙱᑦᑐᖅ ᒪᑦᓇ ᑐᓄᕙᐊᓂ ᐅᕝᕙᓗᓐᓃᑦ ᓯᕿᓐᓂᐊᓂ ᓇᔪᕐᕕᐅᔪᓂᑦ; ᕿᕐᓂᖅᑐᑦ ᐊᒻᒪᓗ ᓴᓗᒪᐃᑦᑐᑦ ᐃᒪᐃᑦ ᐃᑎᑕᐅᓂᐊᖅᑐᑦ ᑲᑎᖅᓱᖅᑕᐅᓂᐊᖅᑐᑦ (ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᓴᓇᕝᕙᒃᑯᑦ) ᐊᒻᒪᓗ ᐊᓪᔭᖅᑕᐅᓗᑎᒃ ᐃᑎᑕᐅᓂᐊᖅᑐᑦ ᑐᐊᓇᔅ ᓇᔪᕐᕕᐊᓄᑦ ᐊᓇᖅᑕᕐᕕᐅᑉ ᓴᓗᒪᖅᓴᕐᕕᖕᒧᒃ.

ᐃᑯᒪᐃᑦ, ᑐᖅᑰᓯᕝᕙᐃᑦ, ᐊᒻᒪᓗ ᐃᓕᕆᔭᐅᔪᑦ ᐱᔾᑎᖃᐅᑎᓄᑦ

ᐃᑯᒪᐃᑦ ᑲᑎᑦᑐᕆᑦ ᐊᑐᖅᑕᐅᓂᖏᑦ ᐱᓕᕆᐊᔅᓱᑦ (ᐅᔭᖁᖕᓂᐊᕐᕕᒃ, ᓯᕐᑯᒥᒃᑯᕝᕕᒃ, ᐊᒻᒪᓗ ᓇᔪᕐᕕᓪᓗᑦ-ᐃᓕᕆᔭᐅᔪᑦ ᓴᓇᕝᕚᑦ) ᓂᕆᐅᕆᔭᐅᔪᑦ 85,000MWh/ᐅᑭᐅᒧᑦ. ᑕᐃᒪᐅᔪᖅ ᑐᐊᓇᔅᒥ ᐃᑯᒪᐅᓯᕝᕕᒃ ᓈᓪᓕᒃᑐᒥᒃ ᐊᖏᓂᖅᖅᑐᖅ ᐃᑯᒪᐃᓂᕐᒧᑦ ᑐᐊᓇᔅ ᓇᔪᕐᕕᐊᓂ. ᐱᔪᓐᓇᐅᑎᒃᑯᑦ ᐃᑯᒪᒧᑦ ᓴᓇᕝᕙᒻᒥᒃ ᓴᖅᑭᑎᑕᐅᓂᐊᖅᑐᖅ ᒪᑦᓇ ᑐᓄᕙᐊᓂ (ᐱᖓᓱᑦ 1.2 MW ᐊᖏᓂᖏᑦ) ᐊᒻᒪᓗ ᐹᔅᑕᓐ (ᐱᖓᓱᓂᒃ ᐊᕕᓂᓖᑦ 1.2-MW ᐊᖏᓂᖏᑦ ᐃᓚᓕᐅᑎᓗᒍ 725-KW ᓇᒻᒥᐅᑎᔅᓴᖓᓂᒃ). ᐃᑯᒪ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᒪᑦᓇ ᓯᕿᓐᓂᐊᓂ ᐊᑐᕐᕕᔅᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᑯᒪᒧᑦ ᐅᖅᓱᒃᑯᑦ ᐊᐅᓚᔪᓂᒃ (ᒪᕐᕉᒃ 725-KW ᐃᑯᒪᐃᑦ ᐅᖅᓱᒃᑯᑦ ᐊᐅᓚᔫᒃᑯᑦ ᐃᓚᒋᓗᒍ 350-KW ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᓇᒻᒥᐅᑎᓯᒪᓗᑎᒃ ᐃᑯᒪᐃᑦ ᐅᖅᓱᒧᑦ ᐊᐅᓚᔫᒃᑯᑦ). ᐃᑯᒪᐃᑦ ᓴᕕᐅᔭᖏᑦ ᐃᓕᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᐅᔪᓕᒫᓄᑦ ᓇᒍᓇᐃᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᒃᑯᑦ ᐃᑯᒪᖃᕐᓂᕐᒧᑦ ᐊᐅᓚᔫᒃᑯᑦ ᐊᓄᓇᒃᑯᑦ ᑐᒃᓯᕋᖅᑕᐅᓯᒪᔪᖅ ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓗᓂ ᐅᖅᓱᐊᓗᒃᑯᑦ ᐃᑯᒪᓄᑦ ᑲᖏᖅᓱᒥ.

ᐅᖅᓱᐊᓗᒃᑯᑦ ᑎᑭᓐᓂᐊᖅᑐᑦ ᕌᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᐊᒻᒪᓗ ᑐᖅᑯᖅᑕᐅᓗᓂ ᐅᖅᓴᕐᕕᖕᖓᓂ ᕌᐳᑦ ᑲᖏᖅᓱᐊᓂ (5ML ᑲᑎᓪᓗᒋᑦ), ᐊᑐᖓᔅᓯᒃᑲᓐᓂᕐᓂᒃ ᑐᖅᑯᐃᓯᒪᖃᑕᐅᓗᑎᒃ ᑕᐃᒪᐅᔪᓂᒃ ᑐᐊᓇᔅ ᐅᖅᓴᕐᕕᖕᖓᓂ (7.5ML) ᐊᒻᒪᓗ ᓄᑖᖅ ᐅᖅᓴᕐᕖᑦ ᒪᑦᓇ ᑐᓄᕙᐊᓂ (4.5 ML) ᐊᒻᒪᓗ ᐹᔅᑕᓐᒥ (74.5 ML). ᓄᓇᓯᐅᑎᒃᑯᑦ ᐅᖅᓱᒃᓴᖅ ᐊᐅᓪᓚᖅᑎᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᕌᐳᑦ ᑲᖏᐊᓄᑦ ᐊᒻᒪᓗ ᓇᔪᕐᕕᐅᔪᓄᑦ. ᓯᖅᑯᕐᓂᐅᑏᑦ ᑐᖅᑯᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᖅᑰᓯᕝᕙᒻᒥ; ᑐᖅᑰᓯᕝᕚᑦ ᓇᔪᕐᕕᖏᑦ ᑐᐊᓇᔅ ᓇᔪᕐᕕᖓᓂ ᐊᒻᒪᓗ ᐊᔾᔨᑲᓯᐊᑐᑦ ᑐᖅᑰᓯᕝᕕᒃ ᓴᓇᕝᕙᐅᔪᓂᑦ ᓴᖅᑭᑦᑎᓂᐊᖅᑐᑦ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂ. ᐊᑦᑕᕐᓇᖅᑐᑦ ᐱᕐᔪᑏᑦ (ᐃᓚᒃᓴᐃᑦ) ᐊᐅᓪᓚᖅᑎᑕᐅᓂᐊᖅᑐᑦ, ᑲᒪᒋᔭᐅᓂᐊᖅᑐᑦ ᑐᖅᑯᖅᓯᒪᔭᐅᓂᒃᑯᑦ ᒪᓕᓪᓗᒍ ᐱᕐᔪᔭᐅᓯᒪᔪᒃᑯᑦ ᐊᐅᓪᓛᕐᓂᖅ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᕐᔪᑎᓂᒃ ᐱᕐᔪᔭᖓᓂᒃ; ᓯᕗᓪᓕᖅᐹᖅ ᐊᑦᑕᕐᓇᖅᑐᑦ ᑐᖅᑰᓯᕝᕚᑦ ᓴᓇᕝᕙᖏᑦ ᑐᐊᓇᔅ ᓇᔪᕐᕕᐊᓃᑦᑐᑦ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᓇᔪᕐᕕᐊᓂ. ᐊᑦᑕᕐᓇᖅᑐᑦ ᐊᑦᑕᑯᐃᑦ ᐲᖅᑕᐅᓂᐊᖅᑐᖅ ᓇᔪᕐᕕᐅᔪᒥᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐃᑎᑕᐅᓂᐊᖅᑐᓂᒃ.

Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᔅᓴᖅ ᑭᓪᓕᖃᖅᑐᑦ ᐃᑳᕈᑎᓂᒃ ᓇᔪᕐᕕᖓᓄᑦ ᐱᔾᔪᑎᖃᖅᑐᒍ. ᑭᒃᑯᓕᒫᑦ ᐃᑳᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓚᖅᑐᑦ ᓇᔪᕐᕕᒻᒥᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ ᐱᕆᐊᖅᑯᖅᑎᓐᓇᕆᑦ ᐊᐅᓪᓚᕐᓂᕐᒧᑦ ᑎᓪᓕᓲᒃᑯᑦ, ᐊᒻᒪᓗ ᒪᓕᕐᑯᔭᐅᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᑉ ᐱᕐᔪᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᓂᖏᓐᓂᒃ. ᐃᒥᐊᓗᒃᑕᖃᓇᐊᖃᙱᓪᒪᓇᒃᑐᑦ ᐊᒻᒪᓗ ᐳᓗᐊᑦᑎᔾᔭᕐᔫᑎᑦᑕᖃᓇᐊᖃᙱᓪᒪᓇᒃᑐᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ. ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐃᓕᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᐅᔨᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᑭᔪᖅᓂᖅᐸᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐊᓂᕙᓪᓕᐊᓂᕐᒧᑦ ᒪᓕᒍᔅᓯᓂᒃ ᑲᒪᒋᔭᐅᓂᐊᖅᑐᑦ. ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᐱᖅᑲᓂᕐᒥᒃ ᐃᓕᑦᑎᓯᒪᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᐱᕐᔪᑎᓂᒃ ᐱᖅᑲᓗᑎᒃ ᑐᐊᕕᕐᓇᖅᑐᖅᑲᓕᕐᓂᖅᐸᑦ.

ᐊᑬᑎᒧᑦ ᐊᐅᓚᓂᖓ

TMAC-ᑯᑦ ᐊᑬᑎᐅᑉ ᐊᐅᓂᖓᓄᑦ ᐋᖅᑭᒃᓯᒪᔪᑦ (EMS) ᖁᑦᑎᓐᓂᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔾᒃᑯᑦ ᐱᑬᓪᓚᐊᔪᓐᓇᐅᓗᓂ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᑐᖅᑎᑕᐅᔪᒪᓕᖅᑐᓂᒃ ᓴᖅᑭᑎᑦᑎᓂᕐᒧᑦ ᐊᑬᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ (EMPS). ᐊᑬᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐊᒥᓱᒃᑯᑦ ᐃᓚᒌᒃᑐᒃᑯᑦ-ᕿᓇᐅᔭᓕᐅᖅᑕᐅᑬᒃᑐᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓕᑕᖅᑕᐅᓯᒪᔪᑦ ᑕᒪᒃᑭᓐᓄᑦ ᓇᒻᒥᓂᕆᔭᐅᔪᒧᑦ. ᑕᐃᒪᐅᓪᓗᐊᕐᓂᖓᓄᑦ, ᐊᑬᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐊᑬᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ ᑐᓂᓯᔪᑦ TMAC-ᑯᑦ ᑕᐅᑦᑐᕐᑲᕐᓂᒃᑯᑦ ᑲᐅᔫᓵᕐᓂᖅ, ᖃᐅᔫᓵᕐᓗᑎᒃ ᐊᒻᒪᓗ ᐅᓂᒃᑳᓕᐅᕐᓗᑎᒃ ᖃᓄᐃᓕᐅᖅᑕᐅᔪᓂᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᐅᓚᒋᐊᕐᓗᒋᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᑬᓪᓚᐊᔪᓂᒃ ᐊᒻᒪᓗ ᐱᑭᓪᓚᕐᑯᓪᓗᒍ ᐃᓅᖃᑎᒌᑦ-ᕿᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐃᑲᔫᑎᖏᓐᓂᒃ.

ᐃᓚᖏᑦ ᐊᑬᑎᐅᑉ ᐊᐅᓚᓂᖓᓄᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒪᐅᔪᑦ ᒫᓐᓇᓵᒃᑯᑦ ᐃᓚᖓᓂᙶᖅᑐᓂᒃ ᐱᑬᓪᓚᐊᓯᒪᔪᓂᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᐅᑦᒥ, ᐊᒻᒪᓗ TMAC-ᑯᑦ ᓂᕆᐅᙱᑦᑐᑦ ᐃᓗᓕᓗᒃᑖᖏᓐᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐊᓯᙳᖅᐸᓪᓚᐊᓗᓂ ᐊᖏᔾᒃᑯᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᓵᒧᑦ. ᑭᓯᐊᓂ, ᐸᕐᓇᐅᑎᑦ ᓄᑖᙳᖅᑎᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐊᓯᙳᖅᐸᓪᓚᐊᓂᖏᓐᓄᑦ ᐱᖁᔭᓂᙶᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐅᓂᒃᑳᓕᐅᕐᓗᑎᒃ ᐊᑐᓇᐊᖃᖅᑐᒃᑯᑦ, ᐊᓯᙳᖅᐸᓪᓚᐊᔪᓂᒃ ᐊᐅᓚᑕᐅᔪᓂᒃ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ (ᐆᑦᑑᑎᒋᓗᒍ ᓱᖏᐅᑎᔪᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ) ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖅ ᒫᓐᓇ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓴᖅ ᓄᓇᕗᒻᒥ ᐊᑬᑎᓕᓇᐅᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐃᒪᓕᓇᐅᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᐱᑬᓪᓚᐊᓕᖅᑎᓪᓗᒋᑦ.

ᒪᑐᓂᖓ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ

ᑕᒪᕐᒥᒃᑲᓪᓚᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᔅᓴᖅ ᓇᔪᕐᕕᖓ ᐊᐅᓚᐃᓐᓇᖅᑐᒃᑯᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓪᓗᒋᑦ ᐃᓚᖓᓂᒃ ᐱᓕᕆᐊᔅᓴᒧᑦ. ᑭᓯᐊᓂ, ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᖓᓄᑦ, ᓇᔪᕐᕕᐅᔪᑦ ᐊᑐᖅᑕᐅᔭᕆᐊᖃᙱᓕᖅᑐᓂᒃ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐅᑎᖅᑎᑕᐅᓂᐊᖅᑐᑦ.

ᒪᑐᓂᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᐊᕐᓂᒧᑦ ᐸᕐᓇᐅᑎᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑐᓂᔭᐅᓯᒪᓪᓗᑎᒃ ᐱᖓᓱᒃᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ:

- **ᓇᐃᑦᑐᒃᑯᑦ ᐅᔭᕋᖓᓂᐊᕐᕕᐅᑉ ᒪᑐᓯᒪᓂᖓ** ᐱᔪᓐᓇᐅᔪᓐᓇᖅᑐᖅ ᐱᑬᓪᓚᐊᔪᑦ ᓄᖅᑲᖅᑎᑕᐅᓯᒪᑎᓪᓗᒋᑦ ᐅᑭᐅᙳᙱᑦᑐᒧᑦ. ᐱᓕᕆᐊᓵᐅᔪᖅ ᒥᐊᓂᕆᔭᐅᓗᓂ ᐊᒻᒪᓗ ᑲᔪᓯᑎᐊᖏᓐᓇᕈᑎᐅᓂᐊᖅᑐᑦ, ᐱᖁᑏᑦ ᐊᒻᒪᓗ ᓴᓇᕙᕕᑦ ᑲᔪᓯᑎᐊᙱᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖁᓪᓗᒋᑦ ᑲᔪᓯᓂᕐᒧᑦ ᐊᐅᓚᓂᕐᒧᑦ, ᑲᔪᓯᑎᐊᙱᓐᓇᕐᓂᕐᒧᓪᓗ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᐊᑬᑎᐅᑉ ᓴᐳᒻᒥᓂᖓᓄᑦ ᐊᑐᖅᑐᓂᒃ.
- **ᐊᑯᓂᐅᔾᒃᑯᑦ ᐅᔭᕋᖓᓂᐊᕐᕕᐅᑉ ᒪᑐᓂᖓ** ᐱᔪᓐᓇᐅᔪᓐᓇᖅᑐᑦ ᓄᖅᑲᖅᑎᑕᐅᓯᒪᓕᖅᑎᓪᓗᒋᑦ (ᒥᐊᓂᕆᔭᐅᔪᑦ ᐊᒻᒪᓗ ᑲᔪᓯᑎᐊᙱᓐᓇᕐᓂᒃᑯᑦ) ᐊᑕᐅᓯᕐᒥᑦ ᐅᑭᐅᒥᑦ ᑳᖏᐅᑎᓯᒪᔾᒃᑯᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᕿᓇᐅᔭᐃᕈᑎᓂᖓᓄᑦ). ᓇᓗᓇᐃᖅᓯᒪᔾᒃᑯᑦ ᑕᒪᐅᓇ, TMAC-ᑯᑦ ᓇᓗᓇᐃᖅᓯᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᔪᑦ ᑲᔪᓯᑎᐊᙱᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ; ᓴᓇᕝᕕᓗᒃᑖᑦ ᐊᒻᒪᓗ ᐱᖁᑏᑦ ᐊᐅᓚᔪᓐᓇᒃᑲᓂᖅᑎᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᐅᓚᔪᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐅᑭᐅᖑᔪᒥ, ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑐᑦ ᐃᒋᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᓯᖅᑯᕐᓇᖅᑐᑦ ᐲᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᐅᔪᒥᑦ. ᐃᓚᖏᑦ ᐃᖅᑲᓇᐃᔭᖅᐱᑦ (ᐊᑬᑎᓕᓇᔩᑦ) ᑲᒪᒋᔭᖅᑲᕐᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᐅᔪᒥ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ. ᐊᑯᓂᐅᔾᒃᑯᑦ ᒥᐊᓂᓇᓂᖅ ᐊᒻᒪᓗ ᑲᔪᓯᑎᑕᐅᑦᑎᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᑦ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᑲᔪᓯᓗᓂ ᐊᓯᙳᖅᐸᓪᓚᐊᓂᖓᓄᑦ ᒪᓕᓪᓗᒋᑦ.
- **ᒪᑐᔭᐅᓂᖓ ᐅᔭᕋᖓᓂᐊᕐᕕᒃ** ᒪᑐᔭᐅᓂᐊᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᑬᓪᓚᐊᔪᓂᒃ ᐅᖃᐅᓯᐅᓯᒪᔾᒃᑯᑦ ᐃᓚᖓ 2 ᒪᑐᓂᖅ ᐅᔭᕋᖓᓂᐊᕐᕕᒻᒥ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐸᕐᓇᐅᑎᖏᓐᓂ. ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐲᖅᓯᓂᕐᒥᒃ ᓇᑉᐸᖅᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ. ᑐᐊᓇᔅ ᐊᒻᒪᓗ ᐹᔅᑕᓐ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ

ᓴᓇᕝᕚᑦ ᐋᖅᑭᒃᑕᐅᓂᐊᖅᑐᑦ ᐊᑯᓂᐅᔪᒃᑯᑦ ᒪᑐᓯᒪᓂᐊᖅᑐᒃᑯᑦ, ᐅᑎᖅᑎᑦᑎᓗᑎᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓗᑎᒃ ᓇᓗᓇᐃᕐᓗᑎᒃ ᐊᕙᑎᐅᑉ ᑕᒪᒃᑮᖅᓯᓂᕐᒧᑦ, ᐹᓴᑖ ᒦᕝᕕᖓ ᐊᒻᒪᓗ ᒪᑦᑕᑦ-ᐹᓴᑖᐅᑭᐅᒧᑦ ᐊᖅᑯᑎᖓ ᑕᐃᒪᐅᑐᐃᓐᓇᕐᓂᐊᖅᑐᖅ ᕿᕿᓂᖓᒍᑦ ᐸᓯᒻᒥᔭᐅᓂᖓᓄᑦ, ᑭᓯᐊᓂ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᑎᑎᕋᖅᓯᒪᔪᑦ ᒪᓕᒋᐊᓖᑦ) ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᐊᐅᓚᓂᖓ ᓴᓇᓯᒪᔪᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᑯᕕᕝᕚᑦ, ᐊᑖᒍᑦ ᑯᕕᕝᕚᑦ, ᐃᑳᕐᕚᑦ) ᐲᖅᑕᐅᓂᐊᖅᑐᑦ.

- ᓇᔪᕐᕕᐅᔪᖅ ᕿᒪᒃᑕᐅᓂᖓ ᑐᑦᓵᖅᓯᒪᔪᑦ ᒪᑐᓂᐊᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐅᑎᖅᑎᑦᑎᓂᖅ ᐱᓕᕆᐊᓯᖅ ᓇᔪᕐᕕᖓ ᐊᒻᒪᓗ ᐱᓕᕆᐊᕆᔭᐅᓯᒪᔪᑦ ᓇᔪᕐᕚᑦ ᐊᔪᕐᓇᙱᑦᑐᒃᑯᑦ ᐊᒻᒪᓗ, ᐊᑐᐃᓐᓇᐅᔪᒃᑯᑦ, ᐃᒻᒥᒃᑯᑦ-ᑲᔪᓯᔪᓂᒃ ᓄᓇᒥᐅᑕᐃᑦ ᑲᑎᔪᓐᓇᖅᐸᑕ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᕙᑎᖓᓄᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐱᕙᓪᓕᐊᔭᐅᔪᓂᒃ. TMAC-ᑯᑦ ᒪᑐᓂᕐᒥᒃ ᑐᙵᕝᕕᖕᒋᑦ ᑐᑦᓴᖕᒋᑦ ᐊᒻᒪᓗ ᐃᓗᓕᖕᒋᑦ ᐱᕙᓪᓕᐊᑕᐅᓯᒪᔪᑦ ᐱᐊᓂᖕᓂᕐᒧᑦ ᓯᕗᓂᒧᑦ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒥᒃ ᐱᔪᒪᔭᒃᑯᑦ ᓇᐃᑦᑐᒃᑯᑦ ᐊᑲᐅᔨᓐᓇᖅᑐᒃᑯᑦ ᐊᑐᕐᓂᖅ. ᒪᑐᖅᑳᖅᑎᓐᓇᒍ ᖃᐅᔨᓴᕐᓂᖅ ᖃᐅᔨᓴᕐᓂᐊᖅᑐᑦ ᓇᔪᕐᕕᒻᒥ ᖃᖓᒃᑯᑎᒃᑯᑦ ᐊᑐᐃᓐᓇᐅᓗᓂ ᑐᑦᓵᕕᐅᓯᒪᔫᒃᑯᑦ ᒪᓕᑦᑐᑎᒃ ᒪᑐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᑎᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᐊᓂᒃᑕᐅᑎᐊᕐᓂᖓᓄᑦ ᐱᕐᑯᔭᓕᐅᖅᐱᑦ ᐊᖏᖅᑕᐅᓯᒪᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᑦ ᐃᑲᔪᖅᑎᒋᒃᑐᓄᑦ.

ᓇᐅᓇᐃᔭᐃᓂᖅ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᖅ

ᑭᒃᑯᐃᓐᓇᕐᓄᑦ ᓇᐅᓇᐃᔭᐃᓂᖅ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᖅ

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᑭᒃᑯᐃᓐᓇᕐᓄᑦ ᓇᐅᓇᐃᔭᐃᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐊᖏᖃᑎᒌᖕᓂᕐᒥᒃ. ᑭᒃᑯᐃᓐᓇᐃᑦ ᑐᑭᓯᐊᕝᔪᑎᖕᒋᑦ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖕᒋᑦ ᐱᐊᓂᑦᑎᐊᖅᑕᐅᓯᒪᔪᑦ ᐱᓕᕆᐊᓯᖕᖓᓄᑦ ᐊᔾᔨᒌᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ, ᐃᓚᒋᓗᒍ ᓄᓇᓕᒃᑯᑦ ᑲᑎᒪᖅᑲᑎᒌᖕᓂᖅ ᐊᒻᒪᓗ ᐊᑕᐅᓯᒃᑯᑦ ᐅᖅᑲᖅᑎᖅᑲᖅᓂᖅ Hᐋᓪᓚᒃᑯᓐᓄᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᒻᒪᓗ ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ, ᐊᒻᒪᓗ ᓂᕈᐊᖅᑕᐅᓯᒪᔪᓄᑦ ᑲᑎᒪᓂᕐᒧᑦ ᐃᓐᓇᐃᓪᓗ ᐊᒻᒪᓗ ᐊᓯᕙᖅᐲᑦ ᐊᙳᓇᓱᐊᖅᐲᑦ ᐃᓕᑦᔭᐅᓪᓗᑎᒃ. ᖃᐅᔨᑎᐊᕈᐲᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ, ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ ᐅᖃᐅᓯᐅᔪᒃᑯᑦ ᑐᓂᔭᐅᓯᒪᔪᑦ ᓇᒧᑐᐃᓐᓇᖅ ᐊᒻᒪᓗ ᐃᓄᒃᑎᑑᖅᑎᑕᐅᓯᒪᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐃᓄᐃᓐᓇᖅᑐᑦ. ᐱᓕᕆᐊᕆᓯᒪᔪᑦ ᑲᑎᖅᑲᑎᖏᓐᓂᕐᒧᑦ ᐃᓚᓐᓂᐊᕈᑎᓯᐃᑦ ᓄᑖᙳᖅᑎᑕᐅᓯᒪᔪᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᖕᒋᑦ ᑐᓂᓯᓯᒪᔪᑦ ᖃᐅᔨᒪᔭᖕᒋᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐱᖅᓱᖅᑐᑎᒃ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᖕᒋᓐᓂᒃ ᐱᔪᑎᖅᑲᖅᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓯᒧᑦ.

ᒐᕙᒪᒃᑯᑦ ᐊᖏᖃᑎᒌᖕᓂᖅ

TMAC-ᑯᑦ ᒐᕙᒪᒃᑯᑦ ᐊᖏᖃᑎᒌᖕᓂᖅ ᐱᕙᓪᓂᐊᔪᑦ ᑐᑦᓴᖓᔪᑦ ᐱᔾᔪᑎᖃᐅᑎᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᒥᐅᔪᒃᑯᑦ ᑐᑭᓯᐊᓇᑦᑎᐊᖅᑐᒃᑯᑦ ᐱᔪᑎᖅᑲᖅᑐᓂᒃ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓯᖓᓄᑦ. ᒪᓕᒋᐊᓖᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐊᖅᑯᑎᒧᑦ ᐅᖃᐅᓯᐅᕐᒋᓇᖅᑐᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑎᒥᐅᔪᓄᑦ ᐱᔪᓐᓇᐅᑎᕆᔪᓐᓇᕐᓂᖓᓄᑦ ᐊᑲᐅᓈᖅᑐᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ. ᑕᒪᒃᑭᑦ ᐱᓕᕆᐊᓯᒧᑦ-ᐊᑕᔪᑦ ᐅᖃᐅᓯᐅᔪᑦ ᒐᕙᒪᒃᑯᓐᓄᑦ ᑎᒥᐅᔪᓄᑦ ᐊᔾᔨᓕᐅᖅᑕᐅᓯᒪᔪᑦᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᓴᖅᑭᑕᐅᓂᐊᕐᓂᖓᓄᑦ ᑭᒃᑯᐃᓐᓇᕐᓄᑦ.

ᓯᑎᐱᕆ 2016-ᖑᑎᓪᓗᒍ, TMAC-ᑯᑦ ᖃᐃᖁᔨᓚᐅᖅᑐᑦ ᐅᖃᖅᑎᐅᔪᓂᒃ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᖕᓂ ᐊᒻᒪᓗ ᓄᓇᑦᑎᐊᑉ ᖃᐅᔨᓴᖅᐱᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᑕᑯᓗᑎᒃ Hᐆᑉ ᑲᖏᖅᓱᐊ ᐱᓕᕆᐊᓯᖓᓂᒃ (ᐃᓚᒋᓗᒍ ᓴᓇᕝᕚᑦ ᐊᒻᒪᓗ ᒫᑦᑕᑦ-ᐹᓴᑖ ᓇᔪᕐᕕᖕᒋᓐᓂᒃ).

ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᖃᐅᔨᒪᓂᖕᒋᑦ

ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᖃᐅᔨᒪᓂᖕᒋᑦ (TK) ᑐᑭᖓ ᐊᖅᑐᖅᑕᐅᓲᖑᔪᖅ ᓇᐅᓇᐃᕐᓗᒍ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐱᔭᐅᓯᒪᔪᑦ ᐃᓄᖕᓄᒃ ᓄᓇᒥᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓂᒃ, ᓯᓚᕐᔪᐊᑉ ᐱᕙᓪᓕᐊᓂᖕᒋᓐᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᐅᕐᓂᒃᑯᑦ ᓇᐅᓇᐃᑎᐊᕐᓗᒍ

ᐆᒃᑑᑎᖓ ᐊᕙᑎᑦᑎᓂᒃ ᐊᒃᑐᐃᒐᔭᖅᑐᓂᑦ ᐅᖃᖅᓯᒪᔪᑦ

ᐱᓕᕆᖃᑎᒌᑦᑎᐊᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐊᑲᐅᓈᕐᓂᕐᒧᑦ ᐃᓅᓯᐅᔪᒥ. ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᑐᓂᓯᔪᑦ ᐊᑭᑐᔫᑎᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᒃᑯᑦ ᐃᓂᖃᕐᓂᒃᑯᑦ ᐊᒻᒪ ᐊᑯᓂᐅᙱᑦᑐᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᐊᓯᕙᕐᓂᖅ, ᐊᖑᓇᓱᖕᓂᒃᑯᑦ, ᐃᖃᓗᒃᓯᐅᕐᓂᒃᑯᑦ, ᐆᒪᔪᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᒻᒪ ᐊᐅᓪᓛᕐᓂᖅ ᓄᓇᒥ ᓂᕿᐊᖅᑕᐅᓯᒪᔪᓂᒃ. ᑐᓂᓯᔪᓐᓇᖅᑐᖅ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᕐ ᓄᓇᒋᔭᐅᔪᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐃᓅᖃᑎᒌᓐᓂᖅ-ᑭᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᒃᑯᑦ ᒪᓕᒃᑐᓂᒃ ᐊᒻᒪ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓂᒃ, ᐅᐸᕐᓂᒃᑯᑦ, ᐊᑲᐅᓂᒃᑯᑦ ᐊᒻᒪ ᐊᓯᖏᑎᒍᑦ ᑕᐃᒪᐅᔪᓂᒃ.

TMAC-ᑯᑦ ᐃᓯᒪᓕᐅᖅᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ ᐋᖅᑭᒃᓯᒪᓂᖓᓄᑦ, ᖃᐅᔨᓴᖅᑕᐅᔪᒧᑦ ᖃᐅᓴᖅᑕᐅᖃᓯᐅᑎᒋᐊᓖᑦ ᐊᒻᒪ ᖃᐅᔨᓴᕐᓂᖅ ᐅᑉᐱᕆᔭᐅᔪᓂᒃ ᓄᓇᒧᑦ ᐊᑕᔪᓂᒃ ᐃᓕᒌᒃᑐᓂᑦ (VECs) ᐊᒻᒪ ᐅᑉᐱᕆᔭᐅᔪᑦ ᐃᓅᖃᑎᒌᒃ-ᑭᓇᐅᔭᓕᐅᕐᓂᕆᕙᒃᑕᖏᑦ ᐃᓕᒋᒃᑐᓂᒃ (VSEC's), ᐊᒻᒪ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪ ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᓂᒃ. ᐊᖏᔪᒃᑯᑦ ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᑲᑎᖅᓱᐃᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ

ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖏᓐᓄᑦ ᓇᐅᓇᐃᔭᐅᒃᑯᑦ ᐃᓕᖅᑯᓯᓕᕆᔨᒃᑯᓐᓂᑦ ᐱᓕᕆᐊᔅᓴᖓᒍᑦ (NTKP) ᑎᑎᕋᖅᓯᒪᔪᓂᒃ. ᐅᓇᐃᔭᐅᒃᑯᑦ ᐃᓕᖅᑯᓯᓕᕆᔨᒃᑯᑦ ᑐᙵᕝᕕᐅᔪᑦ ᑎᑎᕋᖅᑕᓯᒪᔪᓂ ᐊᒻᒪᓗ ᓄᓇᒧᑦ-ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖏᑎᒍᑦ ᖃᐅᔨᒪᓂᑎᒍᑦ ᕿᑎᕐᒥᐅᑕᓂᑦ. ᐱᓕᕆᐊᔅᓴᖅ ᓇᔪᕝᕕᖓ ᑕᑯᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᒃᑯᑦ ᖃᓄᐃᓕᐅᖅᑕᐅᖃᑦᑕᕐᓂᑯᓂᒃ ᖃᖓᓱᖅ ᐃᓄᖕᓄᑦ, ᑕᑯᒃᓴᐅᔪᒃᑯᑦ ᐊᒥᓱᓂᒃ ᑲᑎᖃᑦᑕᕐᓂᖏᑦ ᓄᓇᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᕐᓂᒃᑯᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ RSA-ᒥ.ᑕᐃᒪᐅᓇᓱᒋᔭᐅᔪᑦ ᐱᖃᓗᐊᙱᓐᓂᖓᓄᑦ ᓄᓇᒥ, ᐃᒪᕐᑎᐊᕙᖓᓄᑦ, ᐊᒻᒪᓗ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᒃ ᓇᓂᔭᐅᓯᒪᔪᓂᒃ ᓄᓇᒋᔭᐅᔪᒥ ᐊᒻᒪᓗ ᐊᖑᓇᓱᐊᖃᑦᑕᖅᑕᖏᑦᑕ ᐃᓄᖕᓄᑦ.

ᑎᑎᕋᖅᓯᒪᔪᒃᑯᑦ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ (ᐊᒻᒪᓗ ᑎᒥᐅᖅᑯᑕᐅᔪᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖏᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ *ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᙱᑦ ᐅᕝᕙᓘᓐᓃᑦ IQ)*ᖃᐅᔨᒃᑲᐃᓚᐅᖅᑐᑦ ᓂᕐᔪᑏᑦ ᖃᐅᔨᓴᕐᓂᖏᓐᓂᒃ ᖃᖓᓱᖅ ᐱᓐᓂᑯᓂᒃ ᐊᒻᒪᓗ ᐅᓪᓗᒥᒧᑦ ᑎᑭᓪᓗᒍ ᖃᓄᐃᑉᐸᓪᓕᐊᖃᑦᑕᕐᓂᖏᑦ ᓂᕐᔪᑎᓄᑦ ᐊᐅᓪᓛᕐᓂᕆᕙᒃᑕᖏᑦ ᐊᒻᒪᓗ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᓐᓇᕐᓂᖅ ᓂᕐᔪᑎᓄᑦ ᐊᐅᓪᓛᖅᑐᓂᒃ. ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᖅ ᐱᓕᕆᐊᔅᓴᐃᑦ ᑲᑎᒪᖃᑎᖃᓚᐅᖅᑐᑦ ᓄᓇᒋᔭᐅᔪᓂᒃ ᐅᖃᖅᑎᐅᔪᓂᒃ ᑐᑭᓯᐊᔾᔭᔾᔭᓂᒋᓪᒍᒃ ᐊᒻᒪᓗ ᐅᖃᖅᑎᑏᒃᑐᑎᒃ ᐊᓯᖏᓐᓂᒃ ᐱᓕᕆᐊᔅᓴᐅᔪᓂᒃ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᖏᑦ ᐊᐅᓚᔪᓐᓇᓯᓐᓂᕐᒥᒃ ᐅᑦᑑᑎᒋᓪᓗᒍ ᐊᖅᑭᒃᑎᒍᑦ ᓴᓇᔭᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᓂᖏᑦ ᒥᑭᓂᖅᐸᒃᑐᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᐅᕙᒃᑐᑦ ᓂᕐᔪᑎᓄᑦ.

ᐊᕙᑎᐅᑉ ᖃᓄᐃᓐᓂᖓ

ᖃᓄᐃᑦᑑᓂᖓ

ᓯᓚᖓ Hᐆᑉ ᖃᖏᖅᓱᐊᒥ ᐱᓕᕆᐊᔅᓴᖅ ᐃᒃᐲᖅᓇᕐᓂᖅᑳᖑᔪᑦ. ᒥᑭᔪᒥᒃ ᐃᒻᒥᕐᕙᐅᓯᒪᔪᖅ ᓯᓚᒃᑯᑦ, ᐊᒻᒪᓗ ᐃᒃᐲᖅᓇᕐᓂᖓ ᕿᕿᓯᒪᐃᓐᓇᖅᑐᖅ ᐅᑭᐅᓗᒃᑖᖅᑲᔫᓄᑦ, 20 ᐆᓇᕐᓂᖓᓄᑦ ᑎᑭᑉᐸᓪᓗᓂ ᓇᐃᑦᑐᒃᑯᑦ ᐊᐅᔭᒥ. ᐊᐅᔭᒃᑯᑦ ᖃᐅᒪᐃᓐᓇᖅᑐᑦ, ᑖᖅᑎᓪᓗᒍ, ᐅᓐᓄᑲᓴᒃᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᒃᐲᖅᓇᐃᓐᓇᖅᑎᓪᓗᒍ ᐅᑭᐅᒥ.

ᐃᓄᐃᑦ ᐅᖃᖅᓯᒪᔪᑦ ᐃᓚᐅᑉ ᐊᓯᙵᖅᐸᓪᓕᐊᓂᖓᓄᑦ (ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓇᐅᓂᐃᔭᐅᑎᑦ ᐃᓕᖅᑯᓯᓕᕆᓃᑦ ᐅᓂᒃᑳᖓᓂ), ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᓯᒪᓂᖏᑦ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᑦ ᓯᓚᐅᑉ ᖃᓄᐃᓕᐅᖅᑲᑦᑕᖅᑐᒥᓂᖓᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐅᑭᐅᑦ ᑕᑦᓕᒪᐅᓕᖅᑐᓂᒃ. ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᐊᕐᓂᖓᓄᑦ ᓯᓚ ᐊᓯᙵᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᓇᓗᓇᖅᑐᖅ, ᐅᑉᐱᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᔪᑦ ᓯᓚᒧᑦ ᕐᑯᑦᑎᓐᓂᒃᑯᑦ ᐃᒃᐲᖅᓇᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐃᒥᕐᕙᐅᓂᖓᓄᑦ, ᐊᓯᙵᖅᐸᓪᓕᐊᑎᑦᑎᔾᔪᓇᖅᑐᖅ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓂ ᐊᒻᒪᓗ ᐊᐳᑎᐅᑉ ᐊᑦᑎᓐᓂᖓᓂᒃ.

ᓯᓚᐅᑉ ᐊᓂᕐᓂᑦᓴᖓ Hᐆᑉ ᑲᖏᖅᓱᐊᓂ ᓇᔪᕐᕙᖓ ᐊᒻᒪᓗ ᓇᒥᑐᐃᓐᓇᖅ ᓄᓇᕗᒻᒥ ᖃᓄᐃᙱᑦᑐᖅ ᐊᖏᓂᖅᓴᒃᑯᑦ, ᐃᓱᒪᕆᓗᒍ ᒥᑭᓐᓂᖓᓄᑦ ᐆᓇᖅᓯᓂᖓᒍᑦ ᓱᕈᕐᓇᖅᑐᖅ ᐊᖏᔫᒃᑯᑦ ᓄᓇᖅᑲᕐᓂᕆᔭᐅᓂᙳᖅᑐᓂᒃ. Hᐆᑉ ᑲᖏᖅᓱᐊᑉ

ᓯᓚᑖᓂ ᐱᓕᕆᐊᓴᖅ ᓇᔪᕐᕕᖓ, ᐊᖏᓂᖅᓴᒃᑯᑦ ᓯᓚᒨᐊᕐᑎᑕᐅᓯᒪᔪᑦ ᐅᖅᓱᐊᓗᒻᒥᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᖏᓐᓂᒃ ᐊᑐᖅᑕᐅᔪᓂᒃ, ᐅᖅᑰᓯᕝᕖᑦ, ᓄᓇᓯᐅᑏᑦ, ᓯᑮᑦ, ᐊᖏᔪᑦ ᓄᓇᓯᐅᑏᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᓂᑦ. ᑐᓴᕐᓃᓗᐊᙱᑦᑐᑦ.

ᐱᓕᕆᐊᓴᖅ ᓇᔪᕐᕕᖓ ᑲᓇᑕᐅᑉ ᓇᓗᓇᐃᒃᑯᑕᖓᓃᑦᑐᖅ, ᐊᖏᔫᒃᑯᑦ ᓄᓇᓕᐅᖅᓯᒪᔪᖅ ᖃᖓᓂᓪᑳᒃᑯᑦ ᐅᑯᔪᐊᓗᓂᙵᖅᑐᓂᒃ ᐅᓴᕋᐃᑦ ᓴᓂᖓᖅᑕᐅᓯᒪᔪᑦ ᓯᕐᒥᓂᑦ. ᓴᖅᑲᖅᓯᒪᔪᑦ ᐅᓴᕋᐃᑦ ᓇᑎᖓᓂᑦ ᓇᓂᓴᐅᔪᓐᓇᖅᑐᑦ. ᓴᐅᓴᐅᓂᑯᐃᑦ ᕿᓂᖅᑕᐃᑦ ᑲᑦᑕᐅᓯᒪᔪᑦ ᓯᕐᒥᒧᑦ ᐊᒻᒪᓗ ᑰᖕᓄᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᕿᕿᕐᙰᓇᖅᑐᒥ ᓄᓇᒥ ᕿᑎᕐᒥᐅᑦ ᓄᓇᖓᓂ, ᓄᓇᕋᖅᑲᖅᑐᓂ ᐊᒻᒪᓗ ᐅᔭᕋᖅᑲᖅᑐᓂ ᕿᕿᓯᒪᐃᓐᓇᖅᑐᓂᒃ ᐅᑭᐅᓕᒫᒧᑦ.

ᐆᒪᔪᐃᑦ ᖃᓄᐃᓐᓂᖓ

ᐅᔭᕋᖅᑲᖅᑐᒥ, ᐃᒪᖅᑲᖅᑐᒥ ᐊᒻᒪᓗ ᐃᓅᕈᖅᑲᙱᑦᑐᒥ ᓄᓇᒥ, ᓇᐹᖅᑐᑦ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᑦ ᑕᐃᒪᐅᔪᑦ ᐊᒥᖏᓪᓗᑎᒃ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᖅᑲᖅᑐᓂ ᑕᑕᖅᑐᓂᒃ ᓄᓇᑐᐃᓐᓇᒥ ᐱᓕᕆᐊᓭᐅᔫᑉ ᓇᔪᕕᖕᔭᖓᓂ. ᓇᐹᖅᑐᑦ ᓇᐃᑦᑐᑦ ᐊᒻᒪᓗ ᐊᕚᓚᕿᐊᖅᑲᖅᑐᑦ, ᐃᒪᐅᑉ ᖃᓂᐊᓂ ᓇᐹᖅᑐᓂᒃ, ᐅᖅᐱᒐᖅᑲᖅᑐᓂ ᐊᒻᒪᓗ ᖃᑯᖅᑐᓂᒃ ᐊᒻᒪᓗ ᕿᕐᓂᖅᑐᓂᒃ ᑯᒪᐅᔭᓂᒃ ᐃᓚᖏᓐᓇ ᓇᔪᕕᐅᔪᓂ. ᐃᕕᒃᑕᖅᑲᖅᑐᓂ ᐊᒻᒪᓗ ᑭᓂᐸᔪᑦ ᓄᓇᐃᑦ ᐳᒃᑭᑐᒦᓐᓂᖅᓴᐅᔪᑦ. 870-ᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐱᕈᖅᓯᐊᖅᑲᖅᑐᑦ ᓇᔪᕕᐊᓂ, ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᑎᖓᐅᔭᓂᒃ, ᒪᓐᓂᖅᓂᒃ ᐊᒻᒪᓗ ᖁᐊᔭᕐᓇᖅᑐᓂᒃ.

ᓄᓇᐅᑉ ᓂᕐᔪᑎᖏᑦ ᓄᓇᒋᔭᐅᔪᒥ ᑐᒃᑐᐃᑦ (ᑕᕝᕙᓐ/ᔪᓂᐊᓐ ᐊᒻᒪᓗ ᑎᕝᔭᓚᐅᑉ ᒥᒃᓵᓂᕐᒥᐅᑕᐃ ᑐᒃᑐᖏᑦ) ᐅᒥᖕᒪᐃᑦ, ᐊᒃᕋᐃᑦ, ᐊᕐᕕᑦ ᐊᒻᒪᓗ ᐊᒪᕈᐃᑦ, ᒪᕿᓂᒃ ᓂᐅᕐᑲᖅᑐᓂᒃ, ᐃᒪᕐᒥᐅᑕᓂᒃ ᐊᒻᒪᓗ ᓄᓇᒥ ᖁᐸᓄᐊᓂᒃ ᐱᐊᕇᖅᑖᕐᑲᑦᑕᖅᑐᓂᒃ. ᑐᒃᑐᐃᑦ ᐊᒻᒪᓗ ᑐᒃᑐᒃᓯᐅᕐᓂᖅ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖏᓐᓄᒃ, ᓇᓗᓇᐃᔾᔪᓯᖏᑦ, ᖁᕕᐊᒋᔭᖏᑦ ᐊᒻᒪᓗ ᐃᓅᕐᑲᑎᒋᓐᓂᖅ ᐱᓪᓕᕆᐅᖅ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᓄᓇᖅᑲᖅᑐᓂᒃ ᓄᓇᕗᒻᒥ.

ᑎᓴᒪᐃᑦ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐃᓅᕈᓂ ᖁᐸᓄᐊᑦ ᐱᐊᕇᖅᑖᕐᑲᑦᑕᖅᑐᑦ (ᑭᒡᒐᕕᐊᕐᔪᐊᓂᒃ, ᑭᒡᒐᕕᓂᒃ, ᖁᐸᓄᐊᕐᓂᐅᑏᑦ ᐊᒻᒪᓗ ᓇᒃᑐᕋᓖᑦ) ᐊᒻᒪᓗ ᐱᖓᓯᐃᑦ ᓄᓇᑐᐃᓐᓇᒥ ᒪᕿᓐᓂᒃ ᓂᐅᕐᑲᖅᑐᓂᒃ (ᐅᒃᐲᑦ ᐊᒻᒪᓗ ᖁᐸᓄᐊᕐᓂᐅᑏᑦ) ᓇᔪᕕᒋᔪᓐᓇᖅᑕᖏᑦ. ᐃᒪᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᓴᐅᑉ ᓇᔪᕕᐊᓂ ᑲᖑᖅᑲᖅᑐᓂ, ᖁᓪᔪᖅᑲᖅᑐᓂ,, ᒥᑎᖅᑲᖅᑐᓂ, ᓇᐅᔭᖅᑲᖅᑐᓂ, ᐃᒥᖅᑯᑕᐃᓚᖅᑲᖅᑐᓂ, ᑎᓴᒪᑎᒎᑦ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᖃᖅᓴᐅᓂᒃ ᐊᒻᒪᓗ ᑕᑎᒡᒐᓂᒃ

ᑲᑎᓪᓗᒋᑦ 14-ᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐃᖃᓗᖕᓂᒃ ᑕᓯᕐᓂᑦ ᐊᒻᒪᓗ ᑰᖕᓃᑦᑐᓂᒃ ᐱᓕᕆᐊᓴᐅᑉ ᓇᔪᕕᒋᔮᓂ. ᐊᒥᒍᓂᖅᓴᐃᑦ ᖁᓚᖏᓗᐊᖅᑐᓂᒃ ᑲᒃᑮᓚᖕᒐᔪᖅᑲᖅᑐᓂᒃ (ninespine stickleback) ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐃᖃᓗᒐᓂᒃ, ᐃᖃᓗᒃᐱᓂᒃ, ᓯᓗᐸᐸᐅᒐᓂᒃ, ᑲᓇᔪᓂᒃ, ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᑯᓇᓪᑰ (Crisco) ᑖᓯ ᑯᓇᓪᑰ (Least Crisco), ᑎᒃᑖᑏᑦ, ᓯᓚᓐᓂᖅᓴᓂᒃ ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᓵᑦᑐᓂᒃ ᐃᖃᓗᖕᓂᒃ, ᑎᓴᒪᓂᒃ ᓇᓪᔪᓚᖕᓂᒃ ᑲᒃᑭᕙᐊᖅᑑᓂᒃ, ᐆᒐᓂᒃ, ᐅᓪᓗᓇᐊᖑᔫᖅᑐᓂᒃ (starry fish) ᐃᖃᓗᖕᓂᒃ. ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᙱᑦᑐᑦ ᓇᓂᔭᐅᓯᒪᔪᑦ ᑰᒃᑯᑦ ᕋᕗᑦ ᐲᒧᑦ ᑎᑭᑦᑐᒍ.

ᑕᕆᐅᒥ ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᙱᑦᑐᑦ ᓴᕗᓐ (Saffron) ᐆᒐᓂᒃ, ᐊᒻᒪᔭᓂᒃ, ᐅᑭᐅᖅᑕᖅᑐᒥ ᐃᖃᓗᐃᑦ, ᑲᕙᓯᑏᓂᒃ, ᑎᓴᒪᓂᒃ ᓇᓪᔪᓚᖕᓂᒃ ᑲᓇᔪᐃᑦ, ᐃᖃᓗᐸᐱᓂᒃ, ᐊᒻᒪᓗ ᐆᒐᓂᒃ. ᓇᑦᑏᑦ ᐃᑖᓐᓂᒃᑯᑦ ᑕᑯᔭᐅᓰᖅᑐᑦ ᕋᕗᑦ ᑲᖏᖅᓯᐊᓂ.

ᐃᓅᔪᑦ ᖃᓄᐃᓐᓂᖓ

ᐃᓅᕐᑲᑎᒌᖕᓂᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᓕᐅᖅᐸᓪᓕᐊᓂᖏᑦ ᐊᔾᔨᒌᒋᔭᖅᑲᙱᑦᑐᑦ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᐊᓯᙳᖅᓯᒪᓪᓗᓂ ᐊᖏᔫᒃᑯᑦ 50-ᓂᒃ ᐅᑭᐅᑦ ᖄᖏᖅᓯᒪᓕᖅᑐᓂᒃ. 1950-ᖏᓐᓂ ᐊᒻᒪᓗ 1960 ᐱᒋᐊᓕᕐᖅᑎᓪᓗᒍ ᐊᒥᓱᑦ ᐃᓄᐃᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓕᓚᐅᖅᑐᑦ ᓄᑦᑎᖅᑐᖅᐸᓪᓕᐊᓪᓗᑎᒃ ᐊᖑᓇᓱᒃᑎᒌᓐᓂᕐᒧᑦ ᑲᑎᖅᓱᐃᕙᓪᓕᐊᓂᕐᒧᑦ ᓄᓇᓕᔭᐅᓂᐊᖅᑐᒧᑦ ᐊᑯᓂᐅᔪᒥᒃ ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᓕᔭᐅᔪᒧᑦ ᓄᑦᑎᖅᑐᖅᑐᑎᒃ. Pelt ᐱᕚᓪᓕᐊᓪᓗᑎᒃ ᐊᑭᖏᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓᓄᑦ 1950-ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᒥᓱᓂᒃ ᐊᔾᔨᒦᒃ ᖃᓂᒪᐅᑏᑦ ᐊᒥᓱᓄᑦ ᑐᖁᓪᓗᑎᒃ ᐃᓄᐃᑦ, ᒐᕙᒪᒃᑯᓐᓂᑦ ᕿᓇᐅᔭᓂᒃ ᐃᑲᔫᑎᓂᒃ ᓴᖅᑭᓚᐅᖅᑐᖅ 1947-ᖑᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᑲᔫᑎᑐᐊᕆᔭᐅᓪᓗᓂ ᐊᒥᓱᓄᑦ

ᓄᑦᑎᖅᑐᓄᑦ ᓄᓇᒋᔭᐅᔪᒧᑦ. ᐅᕙᑦᑎᐊᕈ, ᐃᓄᐃᑦ ᑲᑎᖅᑲᑎᕆᖕᓂᖕᒋᑦ ᖃᖓᙵᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐃᓚᒋᓐᓂᖕᒋᑦ ᒪᓕᓪᓗᒋᑦ ᑭᓯᐊᓂ ᓄᓇᒋᔭᐅᔪᑦ ᑲᑎᖅᑲᑎᖅᑲᖅᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᒥᓱᒃᑯᑦ ᐃᓚᒋᒃᑐᓂᒃ ᐃᓚᒋᖅᑲᑎᙵᒋᒃᑲᓗᐊᖅᑐᓂᒃ

ᓄᑦᑎᖅᑐᖅᓂᖅ ᕿᓇᐅᔭᓕᐅᖅᓂᖅᒧᑦ ᐊᔪᖅᓇᖅᓯᕙᓪᓕᐊᓪᓗᓂ ᐃᓅᖅᑲᑎᕆᒃᑐᓄᑦ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖓᒍᑦ. ᐊᓯᕙᖅᑏᑦ ᐊᖑᓇᓱᒃᑏᑦ, ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᐅᓚᔨᐅᓂᖅᒧᑦ, ᐱᓕᕆᐊᒧᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓕᓚᐅᖅᑐᑦ, ᐊᔾᔩᙱᑦᑐᓂᒃ ᐱᐊᓂᒍᑕᐅᓪᓗᑎᒃ. ᐊᔪᖅᓇᙱᑦᑐᒃᑯᑦ ᐊᖏᓪᓕᕙᓪᓕᐊᓪᓗᓂ ᕿᓇᐅᔭᓕᐅᖅᑕᐅᓂᒃᑯᑦ ᓂᐅᕕᕈᓐᓇᖅᓂᖅ. ᓄᓇᒋᔭᐅᔪᒥ, ᕿᓇᐅᔭᖃᖅᓂᕆᔭᐅᔪᑦ ᑕᐃᒪᐅᖕᒋᓐᓇᖅᑐᑦ, ᐊᒻᒪᓗ ᐱᖅᑯᑏᑦ ᐊᑐᖅᑐᐊᖅᑕᐅᙱᓐᓂᖅᓴᐅᓕᖅᑐᑎᒃ. ᐃᓐᓇᖅᓄᑦ ᐊᐅᓚᑎᑕᐅᕙᓚᐅᖅᑐᑦ ᒐᕙᒪᒃᑯᓄᑦ ᓈᑎᑕᐅᓪᓗᑎᒃ. ᐋᓐᓂᐊᖅᕕᖅᑲᓕᖅᑐᑎᒃ ᐊᒻᒪᓗ ᒐᕙᒪᒃᑯᑦ ᐊᑭᓕᖅᑕᐅᕙᓪᓕᐊᓪᓗᑎᒃ ᐊᖏᓪᓕᕙᓪᓕᐊᓪᓗᑎᒃ ᓄᑕᖅᑖᑕᖅᓂᖅᒧᑦ.

ᖃᓄᐃᑦᑑᓂᖓ ᐃᓅᖅᑲᑎᕆᖕᓂᖅᒧᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖃᖅᓂᕆᔭᐅᔪᑦ ᐃᓱᒪᒋᔭᐅᙳᕆᑦᑐᑦ 'ᖃᖓᓂᑕᑐᑦ' ᐊᒻᒪᓗ 'ᓄᑖᒃᑯᑦ' ᑭᓯᐊᓂ ᐊᑕᐅᑦᑎᒃᑯᑦ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᐃᓄᖕᓄᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ ᐃᓅᓂᖕᒋᓐᓄᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓪᓗᑎᒃ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅᒧᑦ ᐃᓅᓯᕆᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖃᖅᓂᕆᔭᐅᔪᓂᒃ ᐃᓅᓯᖕᒋᓐᓂ ᐊᓯᙳᖅᐸᓪᓕᐊᓪᓗᑎᒃ ᖃᓄᐃᑦᑑᓂᖕᒋᓐᓄᑦ ᑕᐃᒫᒃ ᑐᒃᓯᕋᖅᑕᐅᓯᒪᔪᖅ ᐱᓕᕆᐊᔅᓯᖅ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓗᓂ ᑐᓂᓯᕙᓪᓕᐊᓂᖅᒧᑦ ᐃᓅᖅᑲᑎᕆᒃᑐᓄᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᖃᖅᓂᕆᔭᐅᔪᓄᑦ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅᒧᑦ. ᑭᑎᖅᒥᐅᑦ ᑲᔪᓯᓯᒪᔪᑦ ᐊᔪᖅᓇᖅᑐᒃᑯᑦ ᐃᓅᖅᑲᑎᕆᖕᓂᖅᒧᑦ ᐊᒻᒪᓗ ᕿᓇᐅᔭᓕᐅᖅᓂᖅᒧᑦ, ᐃᖅᑲᓇᐃᔮᖅᑲᖏᓗᐊᖅᓂᖓᓄᑦ ᐊᒥᓲᓂᖕᒋᑦ, ᐃᓕᓐᓂᐊᕿᓂᒃᓯᒪᓗᐊᙵᖕᒋᖕᒋᓐᓄᑦ ᐊᒻᒪᓗ ᐱᐅᓯᕚᓪᓕᓇᐊᖅᑲᖅᓂᖓᓄᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖅᒧᑦ.

ᓄᓇᕗᒻᒥ ᕿᓂᖅᑐᖅ ᓄᖑᓯᐃᑦᑐᓂᒃ, ᑎᓯᓂᖅᐹᓂᒃ ᐅᔭᕋᖅᓂᒃ, ᑲᓐᓄᖅᑯᓂᒃ ᐊᒻᒪᓗ ᓴᕕᒐᐅᔭᔅᓴᓂᒃ, ᑭᑭᐊᒃᓴᓂᒃ ᐊᒻᒪᓗ ᑯᓇᔅᑐᓂᒃ (Crystal). ᕿᑎᖅᒥᐅᓂ ᐊᐅᓚᔪᖅᑲᙳᕆᑦᑐᑦ ᐅᔭᕋᖕᓂᐊᖅᕕᐅᔪᓂᒃ ᑭᓯᐊᓂ ᐱᖓᓱᓂᒃ ᕿᓂᖅᑕᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᓄᑦ ᐊᒻᒪᓗ 14-ᓂᒃ ᐅᔭᕋᐅᔭᓂᒃ ᕿᓂᖅᑕᖅᑐᑦ ᐱᓕᕆᐊᔅᓴᐅᔪᓂᒃ.

ᓄᓇᒋᔭᐅᔪᒥ ᐊᒻᒪᓗ ᐱᓕᕆᕝᕕᖅᑲᖅᑐᓂᒃ ᓄᓇᒥᒃ ᐊᑐᖅᓂᖅᒧᑦ ᐱᑕᖅᑲᖅᑐᖅ ᓇᔪᖅᕕᒋᔭᐅᔪᒥ. ᐱᓕᕆᕝᕕᖅᑲᖅᑐᑦ ᓄᓇᒥᒃ ᐊᑐᖅᓂᖅᒥᒃ ᒥᑭᓐᓂᖅᓴᖅ, ᐃᓚᒋᓪᓗᒍ ᐊᓯᕙᖅᓂᐅᑏᑦ ᐊᖑᓇᓱᖕᓂᐊᕈᑎᓂᒃ, ᒥᐊᓂᕆᔭᐅᓂᒃᑯᑦ ᓄᓇᒧᐊᖅᓂᖅ ᐊᒻᒪᓗ ᑕᒻᒪᖅᕖᑦ, ᐊᒻᒪᓗ ᐳᑖᖅᑐᓕᕆᓂᖅᒧᑦ (ᐆᑦᑑᑎᒋᓪᓗᒍ, ᓄᓇᒧᑦ ᐳᑖᕆᐊᖅᑐᖅᑐᓂᒃ, ᖁᕕᐊᓱᖕᓂᖅᒧᑦ ᐊᒻᒪᓗ ᐅᒥᐊᒃᑯᑦ ᐊᐅᓪᓛᖅᓂᖅᒧᑦ). ᐊᑕᐅᓯᖅ ᑕᒻᒫᖅᕕᒃ ᑐᓂᓯᓰᖅ ᐳᑖᖅᑐᓂᒃ ᐱᙳᐊᖅᓂᒃᑯᑦ (ᐆᑦᑑᑎᒋᓪᓗᒍ, ᐱᓯᑐᖅᑐᖅᓂᖅ, ᓂᖅᔪᑎᓂᒃ ᑕᐅᑐᒋᐊᖅᑐᖅᓂᖅ ᐊᒻᒪᓗ ᐊᔾᔨᓕᐅᕆᓂᖅ). ᐊᓯᕙᖅᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᒃᑏᑦ ᕿᓇᐅᔭᓕᐅᖅᑲᑦᑕᖅᑐᑦ ᐅᒥᖓᒧᑦ, ᑐᒃᑐᓄᑦ, ᐊᒪᕈᓄᑦ ᐊᒻᒪᓗ ᖃᖅᕕᓄᑦ. ᓄᓇᒧᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᖅ ᐊᓯᕙᖅᓂᖅ, ᐊᐃᑦᑕᖅᓂᖅᒧᑦ, ᐃᖅᑲᓗᒃᓯᐅᖅᓂᖅᒧᑦ ᑕᒻᒫᖅᓂᖅᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓪᓛᖅᓂᖅᒧᑦ. ᐊᖑᓇᓱᖅᑕᐅᖅᑲᑦᑕᖅᑐᑦ ᐃᒪᒥᒃᑯᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᑎᒃ ᐊᒻᒪᓗ ᑐᓂᐅᖅᑲᐃᕙᒃᑐᑎᒃ ᓄᓇᒋᔭᐅᔪᒧᑦ.

ᐱᓕᕆᐊᔅᓴᐅᑉ ᐃᓅᖅᑲᑎᕆᖅᑦᑕᐅᑎᓂᖅ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᔪᑦ

ᐅᑉᐱᕆᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕆᑦ

ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕆᑦ (VEC) ᐊᒻᒪᓗ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᖅᑲᑎᕆᑦ-ᕿᓇᐅᔭᓕᐅᖅᓂᕆᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᖑᕆᑦ ᓇᓪᓕᒌᖅᓯᒪᔪᑦ, ᓱᓇᒃᑯᑖᖑᔪᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᐃᓄᖕᓂᑦ ᐊᕙᑎᐅᔪᓂᒃ ᐃᓱᒪᒋᔭᐅᔪᑦ ᖃᐅᔨᓴᖅᓂᖅᒧᑦ ᓱᓇᒃᑯᑖᓂᒃ, ᐊᕙᑎᐅᓂᖅᒧᑦ, ᕿᓇᐅᔭᓕᐅᖅᓂᕆᔭᐅᔪᒃᑯᑦ, ᐃᓅᖅᑲᑎᕆᖕᓂᖅᒧᑦ, ᐃᓕᖅᑯᓯᒃᑯᑦ ᐊᒻᒪᓗ ᐃᑦᑕᖅᓂᑕᒃᑯᑦ ᐱᒻᒪᕆᐅᔪᑦ. ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓱᓇᒃᑯᑖᖑᕆᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᔅᓴᖅ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑭᒃᑯᑐᐃᓐᓇᓂᑦ ᐅᖃᐅᔾᔪᖅᑕᐅᓯᒪᔫᒃᑯᑦ, ᐊᑐᐊᒐᒧᑦ ᐱᕙᓪᓕᐊᓂᖅᒧᑦ, ᖃᐅᔨᓴᖅᓂᖅ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖑᕆᓐᓇᓂᑦ, ᐊᒻᒪᓗ ᐊᑐᖅᑕᐅᓕᖅᑯᔭᐅᑰᖅᓂᒃᑯᑦ ᐃᓚᒋᔭᐅᔪᑦᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᑦ EIS ᓇᓗᓇᐃᖅᕕᖓᓂᑦ; ᓂᕈᐊᒐᔅᓴᐃᑦ ᐃᑉᐱᒋᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖑᕆᑦ ᐊᒻᒪᓗ ᐊᒻᒪᓗ

ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᕐᑲᑎᒌᑦ-ᑮᓇᐅᔾᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᕐᕿᑦ ᐃᓱᒪᕆᔭᐅᖅᑕᐅᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᕐᓂᖓᓄᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᖃᑕᐅᓂᖏᓐᓄᑦ ᒫᑦᓇᑦ-ᕚᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖓᓄᑦ.

ᑐᑭᓯᐊᔾᔪᑎᒍᑦ, TMAC-ᑯᑦ ᖃᐅᔨᓚᐅᖅᑐᑦ ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᕿᑦ ᐊᒻᒪᓗ ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᕐᑲᑎᒌᑦ-ᑮᓇᐅᔾᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᕐᕿᑦ, ᐊᒻᒪᓗ ᐊᓯᕐᕿᑦ ᐅᖃᐅᓯᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ. ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᑦ ᓱᓇᒃᑯᑖᕐᕿᑦ ᐃᓚᕆᔭᖃᖅᑐᑦ ᓯᓚᒧᑦ, ᓄᓇᒧᑦ, ᐃᒪᕐᒧᑦ, ᑕᕆᐅᕐᒧᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐊᕙᑎᐅᔪᓂᒃ ᐊᒻᒪᓗ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐊᑖᓂ ᓇᓕᐊᒃᑰᕐᓂᖕᕿᑦ.

ᒪᓕᒡᒍᒍ ᐃᓚᖓᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᖅ 3-5 ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᖃᐅᔾᔭᐅᓯᒪᔪᓂᒃ EIS ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔫᒃᑯᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᒻᒥᒃᑰᖅᓯᒪᔪᓂᒃ ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᖅ ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᕿᑦ ᐊᒻᒪᓗ ᐃᑉᐱᕆᔭᐅᑦᑎᐊᖅᑐᖅ ᐃᓅᕐᑲᑎᒌᑦ-ᑮᓇᐅᔾᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᓱᓇᒃᑯᑖᕐᕿᑦ, ᑐᒃᓯᕋᖅᑕᐅᓯᒪᔫᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᓴᓗᒪᐃᕙᓪᓕᐊᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐊᒻᒪᓗ ᐊᖏᓂᖅᓴᒃᑯᑦ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ.

ᓯᓚᐅᑉ ᐊᕙᑎᖓ	ᓄᓇᐅᑉ ᐊᕙᑎᖓ	ᐃᒪᕐᑎᐊᕙᒃ ᐊᕙᑎᖓ	ᑕᕆᐅᕐᒥᐅᑕᐃ	ᐃᓅᔪᓄᑦ ᐊᕙᑎᖓ
• ᓇᒥᓗᒃᑖᖅ ᓯᓚᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᑐᓴᕐᓃᓐᓂᖓ ᐊᒻᒪᓗ ᓴᔪᖕᓂᖓ	• ᐱᕈᖅᓯᐊᑦ • ᓄᓇᐅᑉ ᖃᓄᐃᑦᑑᓂᖕᕿᑦ ᐱᒻᒪᕆᐅᔪᑦ • ᑐᒃᑐ • ᐊᒃᓴᕐ • ᐅᒥᖕᒪᒃ • ᓂᕐᔪᑏᑦ ᐊᒥᖃᖅᑐᑦ • ᖁᐸᓄᐊᑦ • ᐃᒪᕐᒥ ᖁᐸᓄᐊᑦ • ᓄᓇᒥ ᖁᐸᓄᐊᑦ	• ᖁᑖᓂ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᑦᑑᓂᖕᕿᑦ • ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖓ • ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ ▪ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑲᕙᓯᓚᒃ ▪ ᑕᓯᕐᒥ ᐃᖃᓗᕐᒑᐃᑦ ▪ ᐃᖃᓗᒃᐱᒃ ▪ ᑲᕙᓯᓚᒃ	• ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ • ᓴᐅᔭᐅᓂᑯᑦ ᖃᓄᐃᓐᓂᖓ • ᐃᖃᓄᐃᑦ ᓇᔪᕐᕕᖓ • ᐃᖃᓗᐃᑦ ᑲᑎᙵᔪᑦ ▪ ᐃᖃᓗᒃᐱᒃ ▪ ᐆᒐᖅ • ᓇᑦᑎᖅ • ᑕᕆᐅᒥ ᖁᐸᓄᐊᑦ	• ᐃᑦᑕᕐᓂᑕᓕᖑᕝᕕᑦ ᓇᔪᕐᕕᖕᕿᑦ • ᑮᓇᐅᔾᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᕙᓪᓕᐊᔪᑦ • ᓇᒻᒥᓂᕐᑲᕐᓂᕐᒧᑦ ᐃᓱᐊᓈᕐᕕᔅᓴᐃᑦ • ᐃᖅᑲᓇᐃᔭᐅᑏᑦ • ᐃᓕᓐᓂᐊᕐᓂᖅ ᐊᒻᒪᓗ ᐃᓕᑎᑕᐅᓂᖅ • ᐊᐅᓪᓛᕐᓂᖅ, ᐃᓪᓗᓕᕆᓂᖅ, ᐊᒻᒪᓗ ᓄᓇᓖᑦ ᐊᑐᖅᐸᒃᑕᕐᕿᑦ ᐊᐅᓚᔾᔭᓇᕐᑯᓪᓗᕆᑦ ᐊᒻᒪᓗ ᐱᔨᑦᑎᕋᐅᑏᑦ • ᓄᓇᕆᔭᐅᔪᒥ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐃᓅᑦᑎᐊᕐᓂᖅ • ᐱᓕᕆᕝᕕᖃᖅᑐᓄᑦ ᐆᒪᖅᑯᑏᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᑦ • ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᙳᐊᕐᓂᖅ ᐊᒻᒪᓗ ᖃᐅᔨᒪᓂᖅ • ᐃᓅᐸ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᕐᓂᕆᓐᓄᑦ ᖃᐅᔾᔭᕐᓂᖅ

ᓯᓚᐅᑦ ᐊᐢᑎᖏᓐᖓ

ᐱᓕᕆᐊᖃᖅᖢᖅ ᓄᓇᓯᐅᑎᓂᒃ ᐊᑐᖅᓂᖅᖢᖅ ᐊᒻᒪᓗ ᐃᑯᒪᒍᑦ ᐊᑐᖅᑕᐅᔪᓂ ᓯᓚᒍᐊᖅᑎᑦᑎᓂᐊᖅᑐᑦ, ᐊᔪᖅᓇᖏᓐᓂᑎᑐᐊᖅᓂᖏᓐᓄᑦ ᐱᐅᓂᒪᐊᓂᖅᒍᑦ ᐊᓂᖅᑲᖅᑐᑦᑕᐅᐸᐅᖅᑐᑦ ᖃᓄᐃᓐᓂᖏᓐᓄᑦ. ᑭᓯᐊᓂ, ᐱᓕᕆᐊᖃᖅᖢᖅ ᓇᔪᖅᓕᐊᑕ ᐅᖏᓪᓗᓂᖏᓐᓄᒍᑦ ᓄᓇᕐᓂᐅᔪᐊᑦᑎᓪ, ᑕᐃᒪᐅᑐᐃᓇᕆᐊᓕᓂᒃ ᐊᓂᖅᑲᖅᑐᑦᑕᐅᐸᐅᖅᑐᓕᓂᑐ ᐃᓄᖅᓂ ᓇᔪᖅᓕᑎᓴᐅᔪᓕᒃ ᖃᖏᓐᓄᐸᑦ ᑕᐃᒪᐅᑎᓕᓂᑦ.

ᐱᓕᕆᐊᖃᖅᖢᖅ ᐱᐅᓕᓕᐊᓂᐊᖅᑐᑦᖢᖅ ᐱᑭᖅᓯᕕᐅᓴ ᓯᓕᓚᐅᓴᖏᓐᓄᑦ ᑕᐃᒪᐅᖏᓪᓇᖅᑎᓕᓂᑦ ᐱᔨᐁᑎᓕᓂᑦ ᐃᑯᒪᓗ ᐊᔪᖅᑎᓯᐅᑦᑎᓪ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᑐᖅᑕᐅᔪᐊᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᓪᓂᓄᑦ ᐱᐅᓕᓕᐊᓂᐊᖅᑐᑦ (ᐅᓯᑐᐱᑎᓕᔭᒍ ᐃᑯᐊᓕᓚᖏᓐᓄᖅᖢᖅ ᐊᒻᒪᓗ ᓯᓇᖅᑯᖏᑕᖅᑐᑦ). ᑕᓚᑯᐊ ᐱᐅᓕᓕᐊᔪᓂ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᓂᔪᖏᓂ ᐊᒻᒪᓗ ᐊᐅᓕᕆᓂᑐᓂ ᐃᓕᓴᓄᓂ. ᐱᐅᖅᓯᐊᓄᓂ ᓯᓕᓚᐅᓴᖏᓐᓄᓪᓗᓂᖅᑐᑦ ᐊᔪᖅᓇᖏᓪᓂᓄᑦ ᐅᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐱᓕᕆᐊᖃᓄᖅᓯᐅᓂᒃ ᐃᓕᖏᓪᓂᓄᑦ ᐊᔪᖅᓇᖏᓪᓂᓄᑦ ᐅᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐱᓕᕆᐊᖃᓗᐊᖅᓯᐅᓂᒃ ᓄᓇᕗᓪᓕᒥ ᐊᒻᒪᓗ ᓄᓇᕕᑎᐊᒥ, ᑭᓯᐊᓂ ᒥᑭᓪᓂᖅᓴᓂᒃ ᓄᓴᐃᓂᖅᑲ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᓯᓚᕐᔪᐊᒥ ᐱᐅᖅᓯᐊᓄᓂ ᓯᓚᐅᓴᖏᓐᓄᓪᓗᓂᖅᑐᑦ ᓄᓇᕗᓪᓕᒥ.

ᓄᓇᓕᑦ ᐊᐢᑎᖏᓐᖓ

ᐱᓕᕆᐊᖃᖅᖢᖅ ᓯᓚᒍᐊᖅᑎᕆᑎᓪᓂᐊᖅᑐᑦ ᐱᐅᖅᓯᐊᓂᓐᓇᐅᔪᖅᑐᓂᒃ ᐃᓕᒥᓴᐅᔪᓂᒃ ᐊᐅᓚᐃᓐᓇᖅᑎᓕᓂᑦ ᐅᐊᓴᒧᖅᑐᓂᒃ ᐊᒻᒪᓗ ᓄᓇᓯᐅᑎᓂᓐᓇᐅᔪᖅᑐᓂᒃ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓪᓂᓄᑦ ᐱᐅᓕᓕᐊᓂᐊᖅᑐᑦ (ᐅᓯᑐᐱᑎᓕᔭᒍ ᐃᑭᐅᑎᓕᓂᐊᖅᑐᑦ ᐊᑕᑯᐃᐅᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ). ᑕᓚᑯᐊ ᓯᓚᒍᐊᖅᑎᑕᐅᔪᓂ ᐊᑐᐃᓐᓇᐅᔪᓂ ᓴᓇᑎᓂᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓂᑦ. ᓇᓚᐅᑦᑕᖅᑕᐅᔪᖏᓐᓄᑦ ᓯᓚᒍᐊᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᐱᐅᖅᓯᐊᓂᓐᓇᐅᔪᖅᑐᓂᒃ ᐊᔪᕐᓇᖅᑕᑦᑐᓂ ᐊᓯᖏᓪᓂᓄᑦ ᐅᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐱᓕᕆᐊᓗᓴᐅᔪᓂᒃ ᓄᓇᕗᓪᓕᒥ ᐊᒻᒪᓗ ᓄᓇᕕᑎᐊᒥ, ᑭᓯᐊᓂ ᒥᑭᓪᓂᖅᓴᓂᒃ ᐊᔪᕐᓇᖅᑕᑦᑐᓂᒃ ᐃᒪᓕᒃᑐᓂᒃ ᑲᓇᑕᐅᓂᐊᖅᑐᑦ.

ᑕᕐᐹᓐ ᐊᒻᒪᓗ ᔨᓂᐊᓐ (Dophin and Union) (ᖃᑭᖅᑕᖅ) ᑐᑐᖏᓂ ᐱᓯᓯᖓᕐᓂ ᑕᓗᐅᑦ ᓯᑯᐊᔪᓂ ᓚᐅᑐᐊᓗᓴ ᖃᑭᖅᑕᖏᓐᓄᓂ ᐊᒻᒪᓗ ᓄᓇᓗᓂ ᐅᐱᖏᓐᓄᓴᖅᑎᑦ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑎᑦ. ᐅᒥᐊᖏᔨᐊᑕᓗᖏᓪᓗᓂ ᐊᐅᓕᑕᐅᓂᐊᖅᑐᑦ ᐃᓕᖅᑲᖅᑐᑦᑕᐅᐸᐅᖅᑐᓕᓂᑐ ᐱᓕᕆᐊᖃᖅᖢᖅ ᓄᓇᕗᓪᓕᒥ ᐊᒻᒪᓗ ᓄᓇᕕᑎᐊᒥ, ᑭᓯᐊᓂ ᒥᑭᓪᓂᖅᓴᓂᒃ ᐊᔪᕐᓇᖅᑕᑦᑐᓂᒃ ᐃᓕᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓯᓚᕐᔪᐊᒥ ᓯᓚᒍᐊᖅᑎᑦᑎᓪᓂᐊᖅᑐᑦ ᐃᓕᓐᓂᐊᖅᑐᓕᓂᑐ ᐊᒻᒪᓗ ᐊᓯᖏᓪᓂᓄᑦ ᐱᐅᓕᓕᐊᓂᐊᖅᑐᑦ.

ᐱᓕᕆᐊᖃᖅᖢᖅ ᖃᐅᖏᓕᕐᓴᖅᑎᖅᓯᒪᓂᑦ ᑐᑐᖏᓂ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ ᐅᕙᓪᓕᐊᓂᐊᓂ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᓇᔪᖅᑎᖅᓴᐅᓪᓗᑕ ᒥᑭᓪᓂᖅᑲᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑦ >ᓴᓂᒃ ᑕᕐᐹᓐ (Doplhin) ᐊᒻᒪᓗ (Union) ᑐᑐᖓᓪᓂᒃ ᐅᑭᐅᖅᑎᑦ ᐊᒻᒪᓗ ᒥᑭᓪᓂᖅᑲᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑦ >ᓴᓂᒃ ᐊᕼᐃᐃᐊᑦ ᑐᑐᖓᓪᓂᒃ ᐊᐅᓴᖅᑎᑦ, TMAC-ᓄᑦ ᐁᖅᑭᓯᒪᔪᓂ ᒧᓇᑕᒫᑦᑐᓂ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐸᖅᑕᓪᓕᐊᔪᓂᒃ ᐃᓕᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᓚᐅᖅᓯᐅᓂᒃ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐅᑭᐅᖅᑕᖅᑐᓂᒃ ᐅᐱᐅᖅᑐᓂᒃ ᐃᓄᖅᓂ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᔪᕐᓇᖅᑕᑦᑐᓂᒃ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ. TMAC-ᓄᑦ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ ᓯᓇᖅᑯᐃᓂᕐᒥ ᑐᑐᖏᓂ ᖃᐅᔨᓴᖅᑎᑦ ᑕᐃᒪᐅᖏᓪᓇᖅᑎᓕᓂᑦ, ᐅᑭᐅᖅᑕᖅᑐᓂᒃ ᐱᓕᕆᐊᖃᖅᖢᖅ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᑯᒪᒍᑦ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ.

ᑕᒪᑲᑭ ᑕᐃᓗᒍ, ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐱᓕᕆᐊᖃᖅᖢᖅ ᓂᓚᐅᑎᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑕᐅᓯᒪᓂᖅᑐᑦ ᐊᑕᐅᓯᓂᕐᓗᑎᒃ ᐳᓴᐅᓂᑦ ᐊᐅᓚᑎᓂᑦ. ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐃᓄᖅᓂ ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ. TMAC-ᓄᑦ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ ᓯᓇᖅᑯᐃᓂᕐᒥ ᑐᑐᖏᓂ ᖃᐅᔨᓴᖅᑎᑦ ᑕᐃᒪᐅᖏᓪᓇᖅᑎᓕᓂᑦ, ᐃᓄᖅᓂ ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ.

ᑕᒪᒃᑭᑦ ᑕᐃᓗᒍ, ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐱᓕᕆᐊᖃᖅᖢᖅ ᓂᓚᐅᑎᖅᑕᐅᓂᐊᖅᑐᑦ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑕᐅᓯᒪᓂᖅᑐᑦ ᐊᑕᐅᓯᕐᓂᐊᕐᒪᑐᒃ ᐳᓴᐅᓂᑦ ᐊᐅᓚᑎᓂᑦ. ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐃᓄᖅᓂ ᖃᐅᔨᓴᖅᑎᖅᑕᖅᑐᓂᒃ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐃᓕᓴᕐᓂᐅᑎᓯᐅᓄᓂ ᐊᐅᓚᑎᓂᑦ. TMAC-ᓄᑦ ᐊᑕᐅᓯᒪᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᓄᓇᕗᖅᑕᖅᑎᖅᑕᖅᑐᓂᒃ ᐅᒪᒃᑯᓂᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖃᖅᖢᖅ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ ᐊᒻᒪᓗ ᐃᓕᖏᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᖏᓪᓂᓄᑦ.

ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓕᒃ 3. ᓇᐃᔅᑐᖅᑯᓂ ᐅᓂᒃᑲᓂ ᓯᓚᐅᑦ ᐊᓯᒪᓗ ᓄᓇᐅᑦ ᐊᐅᑎᖓᓂᑦ ᐃᓚᖅᓴᒥᑦ ᐱᐅᓪᓗᓯᒪᔪᓕᒃ [OC4]

ᓇᔨᖏᐃᐅᔨᓕᒃ	ᓄᓇᒥ ᐅᒪᔨᓂᒃ ᓯᓇᖅᑯᒋᓐᓂᑦ (VEC)	ᐊᔨᖏᓇᖓᑎᖅᓗᐊᖅᑐᖅᑯᓂᑦ ᐱᐅᓪᓗᓯᒪᔪᓕᒃ	ᓯᖏᑕᐅᑦᑕᐃᓕᓚᓂᑯᓂᑦ ᐊᐳᐱᖓᓂᖅᓂᖓᓂᑦ	ᐃᓚᖅᑐᐅᔨᓄᑦ ᐱᐅᓪᓗᓯᒪᔪᓕᒃ	ᐱᓕᓚᐅᓂᖓᓄᓕᖅᑎᓴᐅᓂᖓᓄᑦ
ᓯᓚᒧᑦ	ᐊᓂᖅᐸᖅᑐᖅᑯᖅᓴᐊᖅᑐᒃ ᖃᓄᖅᑲᓇᕐᓂᖅ	ᐊᓯᖏᓐᓇᖅᑐᓚᓯᒪᔪᓂᑦ ᐊᓂᖅᐸᖅᑕᐅᐅᔨᓄᑦ ᖃᓄᐃᔅᑎᓂᖅᓂᖓᓂᑦ	• ᐃᓚᖓᑕᑦ TIA ᐃᒪᐅᓕᑦ ᐊᑕᐠᓂᑕᐅᓂᐊᖅᑐᑦ ᐃᑲᔪᑎᐅᓚᓂᑎᒃ ᓯᐅᔅᓴᖅᑕᐃᓚᒪᓂᕐᒧᑦ ᓯᓚᑦ • ᖃᔪᓂᖅᑐᖅᑕᐅᓯᒪᔪᓕᒃ ᐅᓱᒪᐅᖅᑐᖅᑯᓂᑦ ᖃᔪᓂᒃᓂᓕᕆᓂᖅ ᓄᓇᐅᑦ ᓯᕗᑦᑕᐃᓚᒪᓂᕐᒧᑦ • ᐊᖅᑯᓂᑦ ᐊᑎᒪᓗ ᓴᓇᔨᐅᓯᒪᔪᓕᒃ ᐋᔪᕐᓂᖅᑐᑦᑎᐊᓯᒪᓗᓂᑎᒃ ᐃᒃᓯᑎᑦᑐᖅᑐᓂᒃ ᐊᐳᖅᑐᓂᒃ ᐊᑎᒪᓗ ᐊᓴᖅᑐᐃᓐᓇᓄᑦ ᐊᒥᓱᓕᕆᓂᖅᓴᖅ • ᐃᒃᓱᒪᓂᒃᑯᑦᑎᐊᓯᒪᓗᓂᑎᒃ ᐃᓕᓴᕐᓂᖅᑐᑦᑎᐊᓯᒪᓗᓂᑎᒃ ᐊᐅᓚᓯᒪᓂᖅᓴᖅ ᐊᑎᒪᓗ ᐊᓴᖅᑐᐃᓐᓇᓄᑦ ᐊᒥᓱᓕᕆᓂᖅᓴᖅ ᐊᐅᓚᓯᒪᓂᖅᓴᖅ ᐊᑎᒪᓗ ᓯᓚᑦᑎᐊᓯᒪᓗᓂᑎᒃ • ᐊᑦᑕᑯᐃᑦ ᐊᑐᖅᑕᐅᓴᖅᑲᓂᕐᓂᖅᓗᑦ ᐱᓕᓇᐊᖅᓴᖅ ᐊᑦᑕᑯᓂᖅᑕᐃᓚᒪᓂᕐᒧᑦ • ᑯᐃᕐᓕᓯᒪᔪᓕᒃ ᑲᒪᔨᓇᓕᓂᖅ ᐊᑎᒪᓗ ᐃᓕᓴᕐᓂᖅᑐᖅᑯᓂᑦ ᐃᓕᓴᕐᓂᖅᑐᖅᑯᓂᑦ ᐊᑐᖅᑕᐅᑎᓪᓗᒍ, ᐊᑐᐃᓐᓇᐅᑕᖅᑲᓚᑕ • ᐅᖅᓯᒪᑦ ᐊᑲᐅᓇᓕᓂᖅ ᐊᑎᒪᓗ ᑯᐃᕐᓕᓯᒪᔪᓕᒃ ᒥᑦᑕᐃᓚᒪᓂᕐᒧᑦ ᒥᑭᓂᖅᓴᐅᑯᑦ ᐊᑐᖅᑕᐅᑎᑦᑎᓗᒍ, ᐊᑐᐃᓐᓇᐅᑕᖅᑲᓚᑕ • ᓴᓇᓕᑎᑦ ᖃᐅᔨᓴᖅᑕᐅᖅᑕᓕᕆᓂᖅᑐᖅ ᐊᑎᒪᓗ ᓴᓇᔨᐅᔾᓴᖅᑕᐃᓚᒪᓂᖅᓗᒍ ᐱᔨᑎᑎᕐᕕᐅᑎᖅᑯᓂ • ᓯᐅᕐᓗᑦ ᓯᐅᕐᓴᖅᑕᐃᓚᒪᓂᖅ ᐃᓚᔨᓴᐅᓂᖅ ᐊᖅᑯᓂᑦ ᐃᓚᓯᓗᒍᑎᒃ, ᖃᑎᖅᓯᕗᑦᑕᐅᓯᒪᔪᓕᒃ, TIA ᐊᑎᒪᓗ TMA ᐊᑐᖅᑕᐅᔾᓴᐊᖅᓴᖅᑐᓂ ᐊᖅᑯᓂᑎᒥ ᓯᖅᓴᓂᖅᑯᓂ ᑭᒃᑕᖅᓴᖅᑎᑎᑕᖅ 50 km/hr • ᖃᓄᐃᓕᓂᕐᓇᔾᔨᐅᓂᑦ ᖃᑎᖅᓯᕗᑦᑕᐅᓯᒪᔪᓕᒃ		

ᓇᓴᕐᓂᐅᕐᓴᖅ	ᓄᓇᒥ ᐅᒪᓴᓂᖅ ᓯᓇᖅᑯᓪᓗᒋᑦ (VEC)	ᐊᓴᕐᓇᓚᑎᖅᑲᐊᖅᑐᖅᑯᑦ ᐱᓕᕆᓂᐊᓴᑦ	ᓯᕗᖅᑕᐅᑦᑕᐃᓕᓚᖅᑯᑦ ᐊᑲᐅᕝᓚᑎᓂᖅᑎᑦ	ᐃᓕᖅᓴᐅᓴᓄᑦ ᐱᓕᕆᓂᐊᓴᑦ	ᐱᓚᒪᐅᓂᖅᓴᓄᑦᖢᓴᓯᐅᓂᖅᓴ
			ᐊᓚᒪᓗ ᐃᓕᓴᐅᓗᑎᖅ ᓴᓇᖏᕈᑎᓄᑦ ᓯᐅᕐᓴᖅᑐᕈᑕᐃᓕᓚᓕᓕᒋᑦ, ᐊᑐᐃᓂᓇᐅᕆᕐᖢᓴᑕ • ᓯᖏᑎᐅᑎᓗᑎᖅ ᐊᐅᓕᓂᓕᒋᑦ ᓯᓕᒧᑦ ᖃᐅᓇᓂᖏᓄᑦ ᖃᐅᐅᓴᓴᓂᓕᒋᑦ • ᖃᑎᖅᓯᖃᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᐅᓴᓴᓂᖅᖃᖅ ᐊᓚᒪᓗ ᐅᓂᖅᖃᐅᓯᓇᓗᑎᑦ, ᐊᑐᐃᓂᓇᐅᓕᕆᕐᖢᓴᑕ ᖃᕆᓯᔪᖅᑯᑦ ᓯᐅᕐᓴᖅᑐᕈᑕᐃᓕᓚᓕᓕᖅᖃ ᐊᓚᒪᓗ ᓯᓕᒥᓇᓱᓴᖅᑐᓄᑦ ᐃᒪᐅᔪᓂᖅᑐᓄᑦ ᑎᓯᔪᓂᖅᑐᓄᑦ ᖃᐅᐅᓴᓴᓂᖅᖃᖅ ᐊᓚᒪᓗ ᐅᓂᖅᖃᐅᓯᓇᓗᑎᑦ		
	ᑐᓴᕐᓂᕐᑐᑦ ᐊᓚᒪᓗ ᓴᕆᔨᓂᖅ [ERM5]	· ᐱᓕᕆᓂᐊᓴᑦ ᐃᓄᖅᓄᑦ · ᐱᓕᕆᓂᐊᓴᑦ ᓂᕐᔪᑎᓄᑦ	· ᐊᐅᓕᓪᓚᕆᓇᖅᑐᑦ ᐱᕐᔨᑎᑦ ᓄᓚᒪᑦᑎᐊᖅᑐᓄᖅ ᐃᑲᑦᑐᓂᖅ ᐊᓚᒪᓗ ᓂᓪᐸᐃᓴᐅᑎᑦ; ᐊᓚᒪᓗ ᒪᓕᓪᓗᑎᖅ ᓂᐅᐃᖅᖁᐅᐅᑎᑦ ᐊᑐᕐᔨᓴᕐᑎᑎᒍᑦ ᑲᔪᓯᓂᕐᒪᑦ ᐊᒃᖢᑭᓴᕆᓚᓂᖅ · ᐊᑐᕐᓗᑎᖅ ᒪᑐᓯᖃᐃᓂᖅ ᐃᓕᓴᕐᓄᑦ ᐱᐅᓂᖅᑕᐅᓴᓂᖅ (ᐃᓕᓴᕐᑎᑐᒍ ᓯᕗᓪᓕᖅᑎᑎᓪᓗᑎᑦ), ᐅᐊᖅᒍᕐᖢᓴᑕ, ᐊᓚᒪᓗ >ᓪᓕᓴᕐᖃᐃᓂᖅ ᐱᓕᓴᑎᓪᓗᑎᑦ. ᐱᐅᓂᖅᓴᐅᓴᓄᑦ ᐊᑭᓐᓇᕐᑐᖅᖁᐃᑦ ᐱᐊᓂᕆᑎᐊᖅᑯᓕᖅᑎᑐᖅ ᑭᓴᓕᕐᑐᖅᖢᒥᑉ STC30 ᐅᓴᐅᑎᖅᓂᑦ ᐊᓚᒪᓗ ᕿᓴᓕᓐ ᐃᑯᓕᖃᖅᖁᐃᓕᓴᕐᑐᖅᖢᓂᑕ ᐱᐊᓂᕆᑎᐊᖅᑯᓕᓴᒥᑉ STC30 ᐅᓴᐅᑎᖅᓂᑦ.	· ᐱᐅᓂᖅᓴᐅᓴᓄᑦ ᐃᓄᖅᓄᑦ · ᐱᐅᓂᖅᓴᐅᓴᓄᑦ ᓂᕐᔪᑎᓄᑦ	ᐱᓕᕆᐅᖏᓐᓂᖅᖢᓴᖅ (ᑕᑯᓗᒍ ᓄᓇᒥ ᓂᕐᔪᑎᑦ VECs)

ᓇᔨᕐᓂᐅᔨᔪᓂ	ᓄᓇᒥ ᐅᒪᓲᓂᖅ ᓯᓇᖅᑎᑦᑕᕐᓂ (VEC)	ᐊᔨᕐᓇᖓᑎᖅᓴᐊᖅᑐᖅᑎᑦ ᐱᓕᕆᓚᐅᔨᔪᓂᒃ	ᓯᕗᓕᐅᕆᑕᐃᓚᒥᓂᖅᑎᑦ ᐊᐅᔪᕈᑎᓂᖅᓯᕐᓂ	ᐃᓕᖅᓴᐅᔨᓄᑦ ᐱᓕᕆᓚᐅᔨᔪᓂᒃ	ᐱᒻᒪᓕᐅᓂᖅᓴᓄᑦᓴᓕᐅᓂᖅᓴᒃ
ᐱᑕᖅᓯᐊᑦ ᐊᒻᒪᓗ ᑕᑯᔨᒋᓇᖅᑐᑦ ᓄᓇᐃᑦ ᖃᐅᔨᓴᓐᓂᕐᓂ	ᐱᑕᖅᓯᐊᑦ	· ᐱᑕᖅᓯᐊᖅᑎᖅᑕᓐᓂᖅᓴᖅ	· ᒥᑭᓐᓂᖅᓴᖅᑐᖅᑎᑦ ᓇᔨᕐᓇᖓᑕᐅᔪᓂᒃ ᓴᓇᓕᒃᑐᓂᒃ · ᐱᑦᑕᐃᓕᓂᖅ ᓯᕆᓚᐱᐃᑦᑐᓂᒃ ᓇᔨᕐᓇᖓᐅᔨᓂᖅ ᐊᒻᒪᓗ ᐱᖃᓛᒃᓴᖅᑐᓂᒃ ᐱᑕᖅᓯᐊᓂᒃ ᐱᓕᕆᓚᐱᒍᑦ ᓴᓇᓂᐊᖅᑎᑦᓯᓚᑦ · ᒥᑭᓐᓂᖅᓴᖅᑐᖅᑎᑦ ᐱᑦᑕᐃᓕᓂᖅ ᐱᑕᖅᓯᐊᓂ, ᓄᓇᐅᔨᑦ ᖃᑭᕈᓯᒪᓂᖅᓴᓂᒃ ᐊᒻᒪᓗ ᓴᓚᓂᒃ ᐱᓕᕆᓚᐱᓴᓴᐅᑦ ᓇᔨᕐᓇᖓᖏᓐᓂᒃ · ᐊᐅᖅᑕᓂ	· ᐱᑕᖅᓯᐊᖅᑎᖅᑕᓐᓂᖅᓴᖅ	ᐱᒻᒪᓕᐅᖏᓐᓂᑕᖅᓴᖅ
		· ᐊᓯᖏᓚᖅᑎᑦᑎᓂᖅ ᐱᑕᖅᓯᐊᓂᒃ	· ᐳᓚᕆᑦᖃᖅᑎᑦᑎᓂᖅ ᓯᐅᑦᕋᓂᒃ – ᓯᐅᑦᕋᖅᑎᖅᑕᐃᓕᓚᓂᖅ ᐊᖅᑯᓂᑎᑦ · ᓯᐦᑲᓂᓕᒍᑦ ᐳᓚᕆᖃᖅᑎᑦᓯᓂᖅ ᐊᖅᑯᓂᑎᑦ ᓯᐅᑦᕋᖅᑎᖅᑕᐃᓕᓚᓕᒍᑦ · ᓄᓇᓯᐅᑎᕋᖏᑦᑕᐅᓗᑎᒃ ᐊᖅᑯᓂᑎᓄᑦ ᐊᒻᒪᓗ ᓂᕐᔪᑦᑐᑦ ᐅᓚᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓯᓚᑦᑐᑦ · ᒥᑭᓐᓂᖅᓴᖅᑐᖅᑎᑦ ᓴᓚᓂᒃ ᓯᕗᓕᐅᕆᑕᐃᓚᒥᓂᖅᓴᖅᑐᖅᑎᑦ(ᓯᕗᒃᑲᓐᓂᕆᔨᕐᓇᖓᑦ) ᓴᕋᐸᑎᕐᑎᓗᓐᓂᑎᒃ ᐊᒻᒪᓗ ᐱᐅᓐᓂᕆᔨᕐᓇᖓᑦᓗᓐᓂᑎᒃ ᓯᕗᓕᐅᓐᓂᖅᓴᖅ ᑲᒪᓐᑎᐊᖅᓴᖅ · ᐊᖏᕐᓂᖅᓴᖅᑐᖅᑎᑦ ᐅᑎᖅᑎᓐᓂᑎᓂᖅ ᐊᑐᖏᓐᓂᑐᓂᒃ ᓇᔨᕐᓇᖓᐅᔨᔪᓂᒃ ᐃᓕᐸᓯᒪᔨᔪᓂᒃ ᐱᔨᓴᓐᓇᓂᓂᒃ · ᖃᐅᔨᓴᖅᑎᖅᑐᓂᒃ ᐃᒪᒃᓴ ᖃᐅᔨᓴᖅᑎᖅᑕᐃᓕᓚᓂᒃ ᐊᑐᓂᑎᑦᑐᓗᓂᒃ ᐃᓕᓴᕐᓂᒃᑐᓂᒃ · ᐅᓪᓗᓈᑦᑎᐊᖅᑐᓂᒃ ᐃᓕᓴᕐᓂᒃᑐᓂᒃ ᐊᑐᓂᑎᑦᑐᓗᓂᒃ ᐃᓕᓴᕐᓂᒃᑐᓂᒃ ᓇᔨᕐᓇᖓᐅᔨᔪᓂᒃ ᐱᓕᕆᓚᐱᒍᑦ ᓄᓇᐅᔨᑦ ᖃᑭᕈᓯᒪᓂᖅᓴᓂᒃ	· ᖃᐅᔨᓴᖅᑎᖅᑕᐃᓕᓚᓂᖅᓴᖅᑐᖅᑎᑦ	-

ᓇᓛᕐᓂᐅᔨᓪᓚᑦ	ᓄᓇᒥ ᐅᒪᓚᓂᒃ ᓱᓇᒃᑯᑦᓴᖅᓯᒪᔪᑦ (VEC)	ᐊᐳᕐᓇᖏᑦᑐᒃᓴᐊᖅᑐᒃᑯᑦ ᐱᓕᕆᓚᐅᑦ	ᓱᕐᑕᐅᔨᑕᐃᓚᒪᓂᒃᑯᑦ ᐊᔪᐃᖏᖅᑐᓂᖅᓴᖅ	ᐃᓚᒋᔨᐅᔪᓄᑦ ᐱᓕᕆᓚᐅᑦ	ᐱᓪᓚᑦᐅᓂᖅᓴᓄᕐᓯᐅᔨᓂᖅᓴᒃ
	ᑕᑯᒥᓇᖅᑐᑦ ᓄᓇᐃᑦ ᖃᐅᔨᐃᑎᒋᓂᖅᓴᖅᑐᑦ	· ᐱᖃᑭᓐᓂᕐᓂᖅ ᑕᑯᒥᓇᖅᑐᑎᓂᖅ ᓄᓇᐃᑦ ᖃᐅᔨᐃᑎᒋᓂᖅᓴᖅᑐᑦ	· ᐱᑦᑕᐃᓕᓂᖅ ᐱᖃᓗᐊᖏᑦᑐᒋᑐᖅ ᐊᑦᑕᕐᓇᖅᑐᒋᑐᖅ ᓇᐅᔪᓂᐅᔨᔪᓂᖅ ᐊᒪᓚᓗ ᐱᖃᓗᐊᖏᑦᑐᒋᑐᖅ ᐱᑕᖃᓂᒋᔭᐅᓂᖅ ᐱᓕᕆᐊᓕᓴᓗᑦ ᐊᔪᖁᑎᓪᓗᑦ	· ᐱᖃᑭᓐᓂᕐᓂᖅ ᑕᑯᒥᓇᖅᑐᒋᑐᖅ ᓄᓇᐃᑦ ᖃᐅᔨᐃᑎᒋᓂᖅᓴᖅᑐᑦ	ᐱᓚᒋᐅᖏᑦᑐᒋᑐᖅ
		· ᐊᓯᖏᓪᓕᖅᑐᑦᓴᖅᑐᖅ ᑕᑯᔪᒥᓇᖅᑐᒋᑐᖅ ᓄᓇᐅᑦ ᖃᐅᔨᐃᑎᒋᓂᖅᓴᖅᑐᑦ	· ᑭᓴᕐᕆᖅᑎᑦᓂᒋᑐᖅ ᓱᐅᕐᕆᐅᕐᓂᑐᖅ – ᓱᐅᕐᕆᐅᑎᓄᑦ ᐃᓕᓴᐃᓄᑦ ᐊᖅᑯᓂᑎᒍᑦ · ᓱᓕᑲᓂᕐᒍᑦ ᑭᓴᕐᕆᖅᓴᐅᑐ ᐊᖅᑯᓂᑎᑎᒋᓂᕐᒍᑦ · ᓄᓇᓱᐅᑎᖅᑲᖏᑕᐅᓴᑎᑲᑐᖅ ᐅᔪᕐᓇᐅᔨᔪᓄᑦ ᐊᖅᑯᓂᑎᖏᑕᓄᑦ ᐊᒪᓚᓗ ᐅᔾᕐᕆᐅᑕᕐᓇᕐᓂᓗᑦ ᐅᔪᕐᓇᖏᓪᓗᑐᖅ · ᒥᑭᓂᖅᓴᐅᑯᑦ ᐱᑎᖅᑎᑦᓂᑎᑲᑐᖅ (ᓱᕐᕆᓴᕐᓂᓕᐊᔪᑦ) ᓴᖅᑭᑎᑎᑦᓂᓗᑎᑲᑐᖅ ᐊᒪᓚᓗ ᐱᓕᕆᓂᐊᕐᓂᓗᑎᑲᑐᖅ ᓱᕐᔪᒥᑕᑎᓕᕐᓂᓕᐊᔪᓂᖅᓴᖅᑐᑦ ᑲᓚᑎᐊᕐᓂᖅ · ᐊᖏᑦᓂᖅᓴᐅᑯᑦ ᐅᑎᖅᑎᑦᓂᑎᖅ ᐊᑐᖅᑦᓂᑐᖅ ᐱᓕᕆᔨᓚᔪᓂᖅ ᐱᔪᓐᓇᕐᓂᖓᓂᑦ · ᖃᖅᐅᓵᓚᕐᓂᖅ ᐃᓚᐅᑦ ᖃᖅᐅᓵᐅᓂᖅᓴᖅᑐᑦ ᐅᑎᖅᑎᑦᓂᑎᐅᕐᓂᖅᓴᖅᑐᑦ ᐊᑐᖅᑦᓂᑐᖅ · ᐅᓚᓚᑕᑎᑯᑦ ᐃᓕᓴᐅᕐᕋᓂᖅ ᓇᓗᓇᐃᑦᓂᐊᕐᓂᑐᖅᓴᖅᑐᑦ ᓄᓇᐅᑦ ᖃᓄᐅᔨᔪᓄᑦ ᐅᔪᕐᓇᖏᓪᓗᑐᖅ	· ᖃᖅᐅᓵᓚᕐᓂᖅᓴᖅᑐᑦ	-
ᓄᓇᐅᑦ ᓂᕐᓴᐅᑎᑦ ᐊᓚᒪᓗ ᓂᕐᓴᐅᑎᑦ ᓇᔪᕐᓇᖏᑦᑐᒋᑐᖅ	ᑕᐃᖏᓐ(Dophin) ᐊᓚᒪᓗ ᓴᓂᐊᖏᓐ (Union)	· ᓂᕐᓴᐅᑎᑦ ᓇᔪᖅᑕᕐᖅᑭᓐᓂᕐᓂᖅᑐᑦ · ᐊᐅᑦᓭᓪᓕᖅᑎᑦᓂᐅᑎᔪᓐᓂᕐᓂᖅ · ᓇᔪᕐᓇᓚᒧᐊᖅᑎᑦᓂᐅᑎᖅᑐᖅ · ᑐᕐᔪᑐᐃᓐᓇᖅᑐᑦᓂᖅ	· ᐃᖅᑲᓇᐃᓚᖅᑎᒧᑦ ᖃᐅᔨᔪᓚᓂᖅ/ᐊᔪᕐᑎᐅᑦ ᐊᑐᓕᖅᑎᑦᓂᑎᓂᖅᓗᑦ ᐱᓕᕆᐊᓕᓴᐃᓄᑦ · ᐃᓚᒃᔪᑦ ᐊᒥᐊᕐᔪᐊᓕᕆᓚᑐᖅ ᐱᑕᖃᓂᒋᔭᐅᓂᖅᓴᖅᑐᑦ ᓱᔪᑦ ᑕᐃᖏᓐ ᑐᑐᕐᓂᑦ ᐊᐅᑦᓭᓪᓕᖅᑎᑦᓂᐅᑎᖅᑐᒃᓴᑦ	· ᓂᕐᓴᐅᑎᑦ ᓇᔪᖅᑕᕐᖅᑭᓐᓂᕐᓂᖅᑐᑦ · ᓂᐱᕐᓇᐊᖅᑭᖅᖃᖅᑐᑦ	ᐱᓪᓚᑦᐅᓂᖅᓴᓄᕐᓯᐅᔨᓂᖅᓴᒃ

ᓇᔨᖁᐅᐅᔪᓂ	ᓄᓇᒥ ᐅᒪᔨᔪᓂᒃ ᓯᓇᒃᑯᒋᔭᖏᓂ (VEC)	ᐊᐅᔨᖁᓇᖏᕆᒃᑲᔨᖁᑐᑐᒃᑯᓂ ᐱᕐᓕᓪᓕᐊᔪᓂ	ᓯᕆᑕᐅᔭᑕᐃᓚᒥᓂᒃᑯᓂ ᐊᐠᓴᖏᓐᓂᕆᔭᖏᓂ	ᐃᓕᓴᐅᔪᓂ ᐱᕐᓕᓪᓕᐊᔪᓂ	ᐱᓱᒪᓕᐅᓂᖓᓄᓕᕆᓂᐊᐅᓂᖓᓪᓚ
		· ᐊᖏᑎᓪᓕᕐᓕᓪᓕᐊᑕᐅᔪᓂ ᐃᑲᔪᓂᑐᑯᓂ ᐊᓱᒪᓗ ᐊᖏᔪᓐᓇᕐᓂᕐᒧᑦ ᐊᓯᖏᔪᖅᐸᓪᓕᐊᔪᓂ ᐊᕐᕕᑎᒍᑦ ᖃᐅᔨᓴᓂᑐᐃᓐᓇᓕᓂ	ᑐᑎᐅᔭᓂ ᓯᔨᐊᒍᑦ · ᐸᖃᓇᐅᑎᖃᔪᓂᖅ ᑐᒥᓪᔭᓂᖅ ᐱᑦᑕᐃᓕᓪᓕᐊᑦᑎᒍᑦ ᐊᑦᑕᔪᓇᖅᑐᑐᒃ ᓂᔪᐊᑎᓂᑐ ᓇᔨᖁᐅᐅᔪᓂ · ᒥᐅᓂᖅᐸᑲᔨᑐᑦ ᓴᓇᕐᓚᐅᔭᓪᓕᑐᒥ ᑐᒥᓪᔭᓂᖅ · ᑭᓱᓕᖁᔪᑐᒥ ᓯᐅᔪᖁᔪᓂᖅ – ᓯᐅᔪᐅᑎᓇᓂ ᐃᓕᓴᐱᐃᓕ ᐊᖏᑯᑎᑐᑦ · ᑲᔨᓯᑎᐊᕐᓕᐅᕐᓇᑎᑎ ᐱᔪᖁᑎᓂᑐ ᑭᓱᓕᖁᔪᓇᖅᑐᑐᒃ ᑕᐃᒪᐅᔨᓴᒥ ᑐᑦᓯᐅᑎᓂᑐ · ᖁᑲᐅᔪᖁᓂᖅ ᐱᑎᐊᖏᑲᖏᑎᓐᓇᒥᓂ ᖁᓕᖁᓂᒋᓂᒃ ᑐᑲᑐᐃᓕ ᐱᓪᔨᑎᑎᓕᒥᓂ ᑕᐃᒪᐅᔨᓴᒥ · ᓯᕐᑲᓂᑎᖁᓂᖅ ᑭᑎᓕᖁᓂᑎᑎᓐᓇᓂᖅ ᑐᑦᓯᐅᑎᓂᑐ ᐊᑐᐊᒃᓂᒥ ᑐᑲᖏᔪᖅᑎᓐᓇᓂᖅ ᐱᓕᕆᑎᓕᒥᓂ. · ᓇᓗᓇᐃᔪᓂᖅ ᓇᔨᖁᐅᐅᔪᓂᒥ ᐊᖏᑯᑎᑐᑦᓯᐅᑎᓂᑐ ᐅᑭᐅᒍᓗᑐᑦᓯᖅ ᐃᑲᔨᐊᐅᑐᓗᑎᑲ ᐃᑲᔪᖅᐸᓪᓕᐊᔪᓂᒥ ᑐᑦᓯᐅᑎᓂᑐ. · ᐊᐳᑎᑎᓂᖅ ᐊᐅᓚᕐᑎᓂᖅ ᐊᖏᑯᑎᑐᑦ. · ᕼᐃᓕᒃᑲᔪᑦ ᐱᕐᓕᓪᓕᐊᔪᓂᖅ ᑐᖃᑐᓂᖅ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᔪᑦ ᐊᓱᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖓᓂᕐᔪᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔨᒥ. · ᐊᑦᑭᑲᒃᓯᒪᓗᔪ ᑎᓴᒥᓯᐸ ᐃᓴᑭᖏᓐ ᑲᔨᓯᑎᓐᓇᒥᓂᒃ 610 ᒥᑕᓂᒃ ᖃᔪᑎᓐᓂᖏᓂᒃ ᑭᓯᑎᓐᓂᖏᓂᒃ ᐊᓱᒪᓗ ᐊᐅᑦᓕᓴᖅᑎᑦᓯᔪᓗ ᐊᑦᑕᑦᓇᖅᑕᐃᓕᒥᓂᒃᑯᓂ

ᓇᓴᕐᓂᐅᔨᓴᒃ	ᓄᓇᒥ ᐅᒪᓴᓂᒃ ᓯᓇᑦᑎᐊᑦᑕᕐᓂ (VEC)	ᐊᓴᕐᓇᖏᕐᑲᔪᐊᖅᑐᑦᑎᓂᒃ ᐱᓕᕐᓂᐊᓴᖅ	ᓯᕐᑕᐅᐳᑕᐃᓕᓚᑦᑎᓂᒃ ᐊᑲᐸᖏᕐᓂᓂᕐᑎᑦ	ᐃᓕᑦᑳᐅᓴᓄᑦ ᐱᓕᕐᓂᐊᓴᖅ	ᐱᓚᒪᐅᓂᖏᓚᓄᑦᑲᓴᐳᐅᓂᖏᓚ
			• ᑐᐅᑐᕐᑲᓂᕐᓴᑦ ᒥᑦᑕᕐᓇᐅᑦ ᖃᐅᔨᓴᖅ (250km) ᓄᖅᑲᖅᑎᑕᐅᔪᑎᑲ ᑎᓚᒥᓯᑦ ᑐᐅᑐᐃᑦ ᐊᑦᑕᑲᓴᐅᓂᖏᓚᓄᑦ ᐊᓚᒪᓗ ᐱᑦᑕᐃᓕᒪᓂᔪᑦ, ᐊᑐᐃᓐᓇᐅᓴᕐᖏᓚᑦ		
	ᑎᓴᔾᓕᓗᒃ/ᐊHᐃᐊᐻᒃ ᐊᓯᖏᑦᑕ ᑲᑎᖏᓚᓴᓪᓚᑦ	• ᓂᕐᔨᑎᑦ ᓇᔨᓇᕐᑲᕈᓐᓄᕐᓂᖏᓚᑦ • ᓂᐱᓕᐅᕐᓀᓴᖅᑐᑦ • ᐊᑲᐅᐅᖏᓕᐅᖅᑎᑦᑎᓂᓂᖅ ᐊᐅᑦᓭᓗᖅᑐᑦ • ᖃᑲᐃᑎᑦᑎᐊᓐᓇᓀᓂᖅ ᐱᓕᕐᓂᐊᓴᖅᓯᓚᑦ • ᑐᓀᔪᑐᑦ ᐃᓐᓇᓗᖅᑐᑦ • ᐊᖏᑦᓕᓀᑦᓕᐊᔨᖏᓚᖅᑐᑦᓕᐊᔨᑦ ᐃᐅᒃᓀᑦ ᐊᐸᑎᒍᑦ ᖃᑲᐃᑎᑦ ᐊᓕᒪᓗ ᐊᖏᔪᓀᔨᓂᕐᔪᑦᒍᔨᖏᓚᖅᑐᑦᓕᐊᔨᑦ ᐊᐸᑎᒍᑦ ᖃᑲᐃᓐᓇᓴᓪᓚᓄᑦ	• ᐃᖅᑲᓇᐃᓐᓇᑎᒍᑦ ᖃᑲᐃᓐᓇᓴᖅᑐᑦ/ᐊᐸᑎᑎᐅᐳᑦ ᐊᑐᓕᖅᑎᑦᑎᓂᓕᒍᑦ ᐱᓕᓀᐊᖏᓚᐃᑦ • ᐸᖏᓀᐅᑎᖅᑲᓂᖅᑐᖅ ᐃᓂᓂᒃ ᐱᓕᑦᑕᒪᓂᒍᑦ ᑐᑦᑕᕐᓀᖅᑐᓂᒃ ᓂᕐᔨᑎᓂᒃ ᓇᔨᓇᕐᑲᐅᔪᓂᒃ • ᒥᑭᓕᖅᑲᓂᖅᑐᑦ ᓴᓇᖏᖅᑐᓂᒃ – ᔪᐅᕐᑲᐅᑎᓄᑦ ᐃᓕᓴᕐᓴᐃᑦ ᐊᖅᑲᐅᑎᒃᑯᑦ • ᑲᔪᓯᑎᑦᑎᐊᖏᓚᓀᓀᑎ ᐱᖏᐅᑎᒃᑯᑦ ᑭᓴᓕᖅᑐᒃ ᑭᓴᓕᖅᑐᒃ • ᖃᐅᔨᓴᖅᑐᒃ ᐱᑎᐊᖅᑲᓇᑕᖅᑐᓀᓐᓂᑎᑦ ᖃᐅᔨᓴᖅᑐᒃ ᓴᓇᖅᑲᓂᕐᓂᑎᑦᑎᐊᖏᓚᑦ ᐱᖏᐅᓕᓚᑦᑎᓂᒃ ᑐᓴᐅᑎᒃ ᑕᐃᒪᓕᐅᔨᓂᒃ • ᔪᓴᑲᔪᓂᒃ ᑲᑎᒪᓂᖅᑐᑎᓂ ᒥᑭᓕᖅᑲᓂᖅᑐᑦᑎᓂᒃ ᑐᑦᑕᕐᓀᖅᑐᓂᒃ ᐊᓚᒪᓗ ᑐᓴᕐᓇᖅᑐᓂᒃ • ᓄᓇᔪᐅᑦᑎᓂ ᓂᕐᔨᑎᒪᓄᑦ ᔪᓂᐅᓕᓚᑦᑎᓂᓕᒫᖅᑐᓂᒃ • ᓄᓇᔪᐅᖅᑎᒃᑯᑦ ᓄᓇᔪᐅᑎᒥᐅᓪᓕᓗᑎᒃ ᑐᓴᐅᑎᒃᑯᑦ ᐱᖏᐅᓕᓚᑦᑎᓂᒃ ᑐᓴᐅᑎᒃ • TMAC-ᓂᑦ ᐊᔪᐊᖏᓂᓕᒍᑦ ᐱᖏᓂᔪᐅᓚᕐᓂᑐᑦ ᐃᖅᑲᓇᐃᓐᓇᖅᑎᓄᑦ ᐱᓕᓀᑎᓕᓕᑦᑎᓂᒃ. • ᓇᓗᓇᐃᖏᓂᖅ ᓇᔨᓇᕐᑲᐅᔪᓂᒃ AWR ᐃᓐᓇᓕᓴᕐᓐᓄᑦ ᑐᓴᐅᑎᒃ ᐃᐅᒃᓴᑦᑕᐅᑎᓂᒃ ᐊᐅᒃᑭᖅᑐᓂᒃ ᐃᐅᒃᓴᑦᑕᐅᔪᓂᒃ ᓂᕐᔨᑎᓂᒃ. • ᐊᐳᑎᓂᒃ ᐊᐅᑕᓂᖅᑐᖅ	• ᓂᕐᔨᑎᑦ ᓇᔨᓇᕐᑲᕈᓐᓄᕐᓂᖏᓚᑦ • ᓂᐱᓕᐅᕐᓀᓴᖅᑐᑦ • ᓂᐱᓕᐅᕐᓀᓴᖅᑐᑦ ᐊᐅᑕᓕᓚᑦ	ᐱᓚᒪᐅᓄᖅᑕᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖅᑎᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒋᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕐᑲᔅᓯᐅᓂᖓ
			ᐊᖅᑯᑎᒃᑯᑦ.Hᐃᓕᑳᑉᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᒍᑦ ᐊᒻᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖓᓂᖓᓛᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. · ᐋᖅᑭᒃᓯᒪᓗᒍ ᑎᒻᒥᓲᑉ ᐃᓴᕈᖓ ᑲᔪᓯᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᕐᑯᑦᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓪᓗᒍ ᐊᒻᒪᓗ ᐊᐅᓪᓚᕐᓂᐊᖅᑎᓪᓗᒍ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ.		
	ᐅᒥᖕᒪᐃᑦ	· ᓂᕐᔪᑏᑦ ᓇᔪᕐᕙᕐᑲᕈᓐᓃᕐᓂᖏᑦ · ᓂᐱᓕᐅᕐᑮᔅᓂᖅ · ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ · ᕐᑲᐃᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ · ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ · ᐊᖏᓪᓕᕚᓪᓕᐊᔪᑦ ᐃᑳᕈᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓯᙵᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᕐᑲᓄᐃᓐᓂᖓᓄᑦ	· ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᕐᑲᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᑉ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᓭᐃᑦ · ᐸᕐᓇᐅᑎᕐᑲᕐᓂᖅ ᓴᓇᕝᕕᓄᑦ ᑐᒥᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓂᕐᔪᑎᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ · ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᕐᑲᖅᑐᓂᒃ · ᑭᒡᓕᕐᑲᕐᓗᓂ ᓯᐅᕋᕐᑲᕐᓂᖅ – ᓯᐅᕋᐅᑎᓄᑦ ᐃᓚᔅᓴᐃᑦ ᐊᖅᑯᑎᒃᑯᑦ · ᑲᔪᓯᑦᑎᐊᖏᓐᓇᕈᑎ ᐱᕐᑯᑎᓂᒃ ᑭᒡᓕᕐᑲᕆᐊᕐᓗᒍ ᑐᓴᕐᓃᑦᑐᑦ · ᕐᑲᐅᔨᓴᕐᓂᖅ ᐱᕆᐊᖅᑳᖅᑎᓐᓇᕆᑦ ᕐᑳᖅᔫᓂᕐᒧ ᑭᒡᓕᕐᑲᖅᑎᑦᑎᕆᐊᕐᓗᕆᑦ ᓂᐱᓕᖅᑮᔅᓂᑦ ᐅᒥᖕᒪᕐᑲᕐᓂᖅᐸᑦ · ᓱᒃᑲᔫᒃᑯᑦ ᑭᒡᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑐᓗᖅᓯᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ · ᓄᓇᓯᐅᑎᑦ ᓯᕗᓪᓕᐅᑎᑦᑎᔭᕆᐊᕐᑲᖅᑐᑦ ᓂᕐᔪᑎᓄᑦ · ᓄᓇᓯᐅᖅᑏᑦ ᓄᓇᓯᐅᑎᒥᓃᓪᓗᑎᒃ ᐆᒪᔪᕐᑲᖅᑎᓪᓗᒍ · TMAC-ᑯᑦ ᐊᓯᕙᕐᓂᕐᒧᑦ ᐱᕐᑯᔭᐅᙱᑦᑐᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. · ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᖅᑯᑎᒃᑯᑦ	· ᓂᕐᔪᑏᑦ ᓇᔪᕐᕙᕐᑲᕈᓐᓃᕐᓂᖏᑦ · ᓂᐱᓕᐅᕐᑮᔅᓂᖅ	· ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᓕᕐᓂᐅᕐᓯᓗᒃ	ᓄᓇᒥ ᐅᒪᓕᔪᓂᒃ ᓯᓇᐅᑯᑦᑐᓂᒃ (VEC)	ᐊᔪᕐᓇᖅᑭᖅᑕᐃᔨᖅᑐᑯᑦ ᐱᓕᕆᓂᐊᔪᓂ	ᓯᕗᑦᑕᐅᑦᑕᐃᑦᒪᓂᒃᑯᑦ ᐊᑲᐅᑎᓕᕐᓂᖅᓯᓂᑦ	ᐃᓕᓴᐅᔪᓂᓄᓇᓕᒃ ᐱᓕᕆᓂᐊᔪᓂ	ᐱᓚᒪᐅᓂᖅᓴᓄᑦᓴᓕᐅᓂᖅᓴᒃ
			ᑎᓚᒥᓯᒪᐊᖅᑉᓪᓕᐊᔪᓂ ᐃᓐᓇᒪᓕᕐᓴᖅᑕᐃᑎᑐᖅ ᐊᓚᒪᓗ ᐊᓯᖓᖅᑎᓂᒃ ᐃᑲᔪᑕᓐᓇᖅᑐᓂᒃ ᐃᑲᓴᖅᑉᓪᓕᐊᔪᓂᒃ ᓂᕆᔨᑎᓂᒃ.		
			· ᐊ>ᑎᓂᒃ ᐊᐅᓪᓕᓂᒍᑦ ᐊᖅძᑎᖅძᑦ.		
			· ᕿᐃᓕᑲᑦᑐᒍ ᐱᕆᑕᐃᓕᒪᓂᖅ ᑐᖅᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖖᔪᑦ ᐊᓚᒪᓗ 610 ᒥᑕᓂᒃ ᓴᓂᖖᔪᓂᖖᔪᓂᓂ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ.		
			· ᐊᑦᖁᑉᔪᒍ ᑎᓚᒥᓯᑦ ᐃᓴᑭᖖᔪ ᑲᓇᐅᔪᓂᒃᑐᑦ 610 ᒥᑕᓂᒃ ᖃᓄᐃᓂᖖᔪᓂᒃ ᑭᓯᑎᓐᓂᖖᔪᓂᒃ ᐊᓚᒪᓗ ᐊᐅᑦᓭᓕᖅᑎᑦᓗᒍ ᐊᑕᑦᓇᖅᑕᐃᓕᒪᓂᒃᑯᑦ.		
	ᐊᒃᓱ	· ᓂᕆᔨᑎᑦ ᓇᔨᕕᖅᑭᐅᓂᖖᔪᑦ · ᓂᐱᓕᐅᑦᑭᒋᖅᓂᓂᖖᔪᑦ · ᐊᑲᐅᖏᓕᐅᑲᖅᑎᑦᑎᓂᒃ ᐊᐅᑦᓭᓐᓂᒃᑐᒃ · ᖃᐅᔨᑎᑎᔨᓐᓇᖅᓂᒃ ᐱᓕᕆᓂᐊᔪᓂᑦ · ᑐᖅᑕᐅᑐᓐᓇᖅᑐᒃ · ᐊᖏᑦᓭᓕᖏᓕᐊᔪᓂ ᐃᑲᕈᑎᑦ ᐊᓚᒪᓗ ᐊᖏᔪᓇᓂᑦᓴᓕᐊᔪᓂ ᐊᓕᖓᒍᑦ ᖃᑲᓇᐃᔪᖏᓐᓄᑦ	· ᐃᖅᑲᓇᐃᔾᔨᖅᑎᒍᑦ ᖃᑲᐅᔨᒪᓂᖅ/ᐊᓕᖓᑎᐅᓱ ᐊᑐᓕᖅᑎᑦᑎᓂᓗᑦ ᐱᓕᓚᐊᖏᓐᓇᐃᑦ · ᐸᕐᓇᐅᑎᕐᑲᕐᓂᖅ ᑐᒥᓕᓕᐅᔨᓂᖅ ᐱᑦᑕᐃᓕᒪᓕᕐᓗᑦ ᐊᑦᑕᕐᓇᖅᑐᑯᑦ ᓂᕆᔨᑎᓂᒃ ᓇᔨᕕᖅᑭᐅᓂᒃ · ᒥᑭᓐᓄᖅᓯᖅᑯᑦ ᖏᓇᓕᖅᑐᓂᒃ · ᐳᖅᑕᓕᖅᑐᓂᒃ – ᓯᐅᕐᐅᑎᓇᑦ ᐃᓕᓖᖏᓐᓇᐃᑦ ᐊᖅძᑎᖅძᑦ · ᑲᔨᓯᑎᑎᓐᓂᒃᑯᓕᕆᑎ ᐱᖏᓂᒃ ᐳᖅᑕᓕᖅᑐᓂᒃ · ᕿᐅᑦᑐᓂᒃᑯᑦᓴᓕᐅᓂᖅᓴᒃ ᓴᖅᑭᓯᓚᐅᑦᓴᓕᐅᓂᖅᓴᒃ ᑐᓴᕐᓂᕐᒧᑦᓗ ᐊᖅᑕᓵᖅᑎᓂᖅᓴᑦ ᑕᐃᒪᐅᔨᓂᒃ · ᓯᖅᑲᔨᖅძᑦ ᐳᖅᑕᓕᖅᑐᓂᒃ ᒥᑭᓐᓄᖅᓯᖅᑯᑦ ᑐᓂᓯᖅᑕᐃᓕᒪᓕᕐᓗᑦ ᓂᕆᔨᑎᓂᒃ · ᓄᓇᓯᐅᑦᑎᓂᒃ ᓄᓇᓯᐅᑎᒥᐅᓴᓚᐊᖅᑲᖅᑐᓂᒃ	· ᓂᕆᔨᑎᑦ ᓇᔨᕕᖅᑭᐅᓂᖖᔪᑦ · ᖃᑲᐃᑎᕐᑎᓂᒃ ᐱᓕᕆᓂᐊᔪᓂᑦ ᐊᓚᒪᓗ ᐊᖏᔪᓇᓂᑦᓴᓕᐊᔪᓂ ᐊᓕᖓᒍᑦ ᖃᑲᓇᐃᔪᖏᓐᓄᑦ	ᐱᓚᒪᐅᓐᓂᒋᑐᖅ

ᓇᓴᕐᓂᐅᕐᓴᓪ	ᓄᓇᒥ ᐅᒪᓴᓂᖅ ᓯᓇᑦᑎᐊᕐᓂᓪ (VEC)	ᐊᓴᕐᓇᓐᓴᖅᓄᑕᐊᖅᑐᑦᑎᓂᓪ ᐱᓕᕆᓂᖅ	ᓴᖅᑕᐅᕐᑕᐃᓕᓚᓂᑦᑎᓂᓪ ᐊᖏᔪᒃᓴᓂᓐᓂᑦ	ᐃᓕᓴᐅᕐᓴᓄᓪ ᐱᓕᕆᓂᖅ	ᐱᓚᒪᐅᓂᖅᓱᓄᕐᓴᖅᓯᐅᓂᖅᓱ
			ᓂᕐᔪᑎᕐᖅᑐᖅᑕᓪᓗᑐ · TMAC-ᓄᑦ ᐊᓯᓕᕐᓂᕐᒧᑦ ᐱᕐᔨᐅᖅᓴᑦᑐᑦ ᐃᖅᑲᓇᐃᕐᖅᑎᓄᑦ ᐱᓕᒪᑎᓪᓗᑐᑦ. · ᓇᓗᓇᐃᕐᓂᖅ ᓇᔪᕐᓇᐅᔪᓂᒃ ᐊᖅᑯᓂᑎᑦ ᐊᓚᒪᓗ ᐅᒥᐊᕐᒧᑦᑐᖅᓯᕐᓂᖅ ᐅᑭᐅᒧᑎᓗᒃᑑᑦᖢᖅ ᐊᖅᑯᓂᑎᑦ ᐃᑲᔪᐅᓗᑎᒃ ᐃᓗᖅᓯᕐᓂᖅ ᓂᕐᔪᑎᓂᓪ. · ᐊ>ᑎᓂᒃ ᐊᐅᓕᕐᑎᓂᖅ ᐊᖅᑯᓂᑎᑦ. · ᕿᐃᓕᓂᒃᑐᑦ ᐱᕐᑕᐃᓕᓚᓂᖅ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖓᔪᑦ ᐊᓚᒪᓗ 600 ᒥᑕᓂᒃ ᓴᓂᖓᓂᕐᒫᖓᓂᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐊᑐᐃᓐᓇᐅᔪᒥ. · ᐊᖅᑭᒃᓯᒪᓗᑐᑦ ᑎᓕᒥᓯᑦ ᐃᓴᑐᖓᒐ ᑲᔪᓯᓐᓇᖅᑐᒥᒃ 610 ᒥᑕᓂᒃ ᖃᓄᑎᓐᓂᖓᓂᒃ ᑭᓯᐊᓂ ᒥᓐᓂᐊᖅᑎᓂᓪᓗᑐ ᐊᓚᒪᓗ ᐊᐅᑦᑕᓪᓂᐊᖅᑎᓂᓪᓗᑐ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᓚᓂᒃᑯᑦ. · ᐊᑦᑕᑯᓂᒃ ᐊᐅᓕᕐᑎᓂᖅ, ᑕᓚᒻᖏᓕᐅᑦ ᐊᓇᖏᖓᓂᒃ ᐊᓚᒪᓗ ᐃᖅᑲᓇᐃᕐᖅᑲᑦ ᐃᓕᓐᓄᐊᖅᓂᖅ ᑭᓱᓕᕐᖅᑲᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᖃᖅᑎᑎᑦᑕᐃᓕᓚᓂᓪᓗᑦ ᐱᓕᓕᖓᓚᒻᒪᑦ ᐊᐅᓚᓂᒃ		
	ᒥᖅᑯᓂᖅᑐᑦ (ᖃᖅᖏᖓᒃ)	· ᓂᕐᔪᑦᑎᑦ ᓇᔪᖏᖓᖅᑭᓐᓄᑦᓯᓂᓐᓂᑦ · ᓂᐱᓕᐅᔾᑭᒧᓂᓂᓪᓂ · ᐊᐅᐅᓐᓄᑦᓕᐅᖅᑎᑦᑎᓂᓪᓂ ᐊᐅᑦᓴᒻᒥᒃ ᐊᐅᑦᓴᖅᑐᓂᒃ · ᓂᐅᓂᐅᓕᓐᓄᓪᓂ ᐃᓕᓴᕐᓇᓂᐅᑦᑎᓂᓪᓂ · ᑐᓴᕐᓂᖅᑐᓂᒃ · ᐊᓐᓄᑦᓕᓕᐅᑦᓕᓐᓄᑦ ᐃᐅᑭᑎᓐ ᐊᖅᑯᓂᑎᑦ	· ᐃᓂᐅᓇᓂᒃᑯᑦᑐᑦ ᖃᐅᔨᓴᓕᓂᖅ/ᐊᔪᑎᑎᐅᑦ ᐊᑐᓕᖅᑎᑦᑎᓂᓪᓗᑦ ᐱᓕᒪᔨᓴᓂᖅ · ᒥᑭᓂᓂᖅᓱᑦᑐᑦ ᓴᓇᓐᓕᓕᐅᑦᓕᓐᓄᓪ ᐅᒥᓕᐅᑦᓂᖅ ᐱᕐᑕᐃᓕᓚᓂᓪᓗᑦ ᐊᑦᑕᕐᓇᕐᑐᓂᖅ ᓂᕐᔪᑎᓂᓪ · ᑭᓂᓂᖅᓱᑦᑐᑦ ᓴᓇᓐᓕᓕᐅᑦᓕᓐᓄᖅ ᐅᒥᓕᐅᑦᓂᖅ · ᑭᓚᓕᖅᓴᓕᓐᓄᓪ ᓯᐅᑦᓴᖅᓂᖅ – ᓯᐅᑦᓴᐅᑎᓄᑦ ᐃᓕᓴᐱᐃᑦ ᐊᖅᑯᓂᑎᑦ · ᑲᔪᓯᓐᓇᖅᑐᒥᒃ ᓴᓇᓐᓂᐊᖅᑐᖅ	· ᓂᕐᔪᑦᑎᑦ ᓇᔪᖏᖓᖅᑭᓐᓄᑦᓯᓂᓐᓂᑦ · ᓴᖅᐃᑎᑦᑎᓂᓪᓂ ᐱᓕᒪᔨᓴᓂᖅ	ᐱᓚᒪᐅᓇᖅᑎᑦᑐᖅ

ᓇᓴᕐᓂᐅᕗᓪᓕ	ᓄᓇᒥ ᐅᒪᓴᓂᒃ ᓴᓇᒃᑯᑦᑐᓕᕐᓂᒃ (VEC)	ᐊᓴᕐᓇᖏᑦᑐᒃᓗᐊᖅᑐᒃᑯᓂᒃ ᐱᖓᓕᓪᓚᐊᓴᓂᒃ	ᓴᕐᑐᑕᐅᑦᑕᐃᓕᓪᒪᓂᒃᑯᓂ ᐊᕐᔨᑎᖓᓇᖏᓪᓗᑦᑐᓕ	ᐃᓕᓴᕐᐅᓴᓂᒃ ᐱᖓᓕᓪᓚᐊᓴᓂᒃ	ᐱᓚᒪᐅᓂᖏᓐᓄᓕᕐᓂᑲᓴᓴᐅᓂᖏᓐᓄ
		ᐊᖏᔪᓇᓴᓂᕐᔪᑦᐊᓴᖏᓐᓄᕐᔨᑦᓕᓪᓚᐊᓴᑦ ᐊᖖᑎᔪᑦ ᖃᓄᐃᐃᓂᖏᓐᓄᓕᓂ	ᑭᓱᑕᕐᓂᒃᑲᒪᕐᓗᔪᑐ · ᓴᓇᒃᑲᓴᓂᒃ ᑭᓱᑕᕐᓂᒃᑎᓂ ᒥᑭᓂᒃᓯᒃᑯᑦ ᑐᓗᕐᑕᐃᓕᓪᒪᓂᕐᔪᑦ ᓂᕐᔨᑎᓂᒃ · ᓄᓇᓴᐅᑎᑦ ᓴᐅᑦᓕᓪᓚᑎᑎᓇᒪᐊᖏᒃᖃᑦᑐᓂ ᓂᕐᔨᑎᓄᑦ · TMAC-ᓄᑦ ᐊᓴᖖᕐᓂᕐᔪᑦ ᐱᕐᓄᓴᐅᖏᓐᓄᑦᑐᓂ ᐃᖏᒃᑲᓇᐃᓴᖏᓐᓄᑦ ᐱᓕᕐᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ. · ᓇᑐᓇᐃᕐᓂᖏᓐᓄ ᓇᔨᓴᐃᐅᔨᓂᒃ ᐊᖏᓄᑎᒃᓄᑦ ᐅᑭᐅᔪᑐᒃᑯᑦ ᐅᑭᐅᔪᑐᒃᑯᑦ ᐃᑲᒃᓴᓕᓪᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ ᐃᑲᒃᓴᓕᓪᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ. · ᐊᐳᑎᓂᒃ ᐊᐅᑕᓂᖏᓐᓄ ᐊᖏᓄᑎᒃᓄᑦ. · ᕼᐃᑕᓂᑲᑦᑐᓂ ᐱᑦᑕᐃᑕᓪᒪᓂᖏᓐᓄ ᑐᒃᑐᓂᒃ 300 ᒥᑕᓂᒃ ᒪᑭᑕᓂᖏᓐᓄᒪᔪᑦ ᐊᓪᒪᒪ 610 ᒥᑕᓂᒃ ᓴᓂᖏᓂᐲᖏᓂᒃ ᓇᒥᑐᐃᓇᖅᑕᖏᓐᓄᓕᖏᓐᓄ ᐊᑐᐃᓇᖅᐅᔨᒥ. · ᐊᑦᖁᒃᓱᒪᓕᑐᔪ ᑎᓪᒥᓯᑦ ᐃᓴᑐᖏᓐ ᑲᓪᓚᑦᑐᓂᒃ 610 ᒥᑕᓂᒃ ᖃᓄᐃᓕᓂᖏᓐᓄᒃ ᑭᓯᔪᓇᖅᑎᑦᑕᔪᑦ ᐊᓪᒪᒪ ᐊᐅᑦᑕᓴᓂᓕᖅᑎᑦᑕᔪᑦ ᐊᑦᑕᑦᓇᖅᑕᐃᓕᓪᒪᒃᑯᑦ. · ᐊᑦᑕᑯᓂᒃ ᐊᐅᑕᓂᖏᓐᓄ, ᑕᓪᓕᑦᓴᐃᐅᑦ ᐊᓇᖅᓴᖏᓐ ᐊᓪᒪᒪ ᐃᖏᒃᑲᓇᐃᓴᖏᓐᓄᑦ ᐃᓕᓴᕐᓂᖏᓐᓄᒃ ᑭᓱᑕᕐᓂᒃᑲᑎᑎᓂᖏᓐᓄᑦᑐᓂ ᖃᓄᐃᓂᑦᑐᓂᒃᑲᓇᐃᓕᓪᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ ᐱᓕᕐᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ ᑎᑎᖅᑕᖏᓐᓄᑦ ᐱᓕᕐᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ ᐃᓕᓴᕐᓂᖏᓐᓄᒃ ᑐᑭᓯᓇᖅᑐᒃᑯᑦ	
	ᖃᐅᔨᓴᐃᓕᑦ	· ᓂᕐᔨᑎᑦ ᐊᓴᖏᓇᖏᑦᑕᓂᕐᓂᖏᓐᓄᑦ · ᓂᐱᓕᐅᑦᑭᓱᖏᓂᖏᓐᓄᒃ · ᐊᑲᐅᖖᕐᓕᐅᑦᓄᑦᑎᓂᖏᓐᓄᒃ ᐊᐅᑦᓯᓕᒃᑐᓂᖏᓐᓄᒃ · ᖃᑲᐃᑎᑎᓂᖏᓐᓄᒃ ᐱᓕᕐᓚᑎᑦᑕᐅᓂᖏᓐᓄᑦ	· ᐃᖏᒃᑲᓇᐃᓴᖏᓐᓄᑦ ᖃᑲᐅᖖᑦᑐᓂᒃ/ᐊᖏᓄᑎᐅᑦ ᐊᑐᓕᖏᓐᓄᑦᑎᓂᖏᓐᓄᑦ ᐃᓕᓴᕐᓂᐊᕐᓴᓂᒃ · ᒥᑭᓂᒃᓯᒃᑯᑦ ᓴᓇᖏᓕᓕᐅᖏᓐᓄᒃ ᑐᑭᓕᐅᖏᓐᓄᑦ · ᓱᓇᖏᑲᑕᐃᓕᓪᓚᖏᓐᓄᒃ ᐊᓴᖏᓐᓄᑦ ᐊᑦᑕᑦᓇᖅᑕᐃᑯᑦ ᓇᔨᓴᐃᐅᔨᓂᒃ ᐱᑭᐅᓕᐅᖏᓐᓄᒃ ᖃᓄᐃᑦᑐᓂ	· ᓂᕐᔨᑎᑦ ᓇᔨᓴᐃᖏᓇᖏᑦᑕᓂᕐᓂᖏᓐᓄᑦ · ᓂᐱᖏᒥᓱᖏᓂᖏᓐᓄᒃ · ᓂᐱᓕᐅᑦᑭᓱᖏᑲᑐᑦ ᐊᐅᑕᓴᓂᑦ	ᐱᓕᕐᓚᐅᖖᑦᑕᑐᖏᓐᓄᒃ

ᓇᔪᖕᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕆᑦ (VEC)	ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖃᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖕᒋᓐᓂᖕᒋᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖕᒐᓄᑦᖃᔅᓯᐅᓂᖕᒐ
		• ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᓯᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	ᐱᖁᔾᔭᐅᓯᒪᔪᑦ ᓯᓚᑖᒍᑦ ᐊᑦᑕᕐᓇᕐᓂᖓ ᖃᖓᐅᓂᒃᑯᑦ ᒪᓕᒡᓗᒍ • (ᐱᑭᐅᓕᐅᕐᓂᐊᓕᖅᑎᓪᓗᒋᑦ) ᐅᖅᕙᓘᓐᓃᑦ ᖃᐅᔨᓴᕐᓂᐊᖅᑎᓪᓗᒋᑦ ᐱᑭᐅᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑎᓪᓗᒍ; • ᐱᑦᑕᐃᓕᒪᓂᖅ ᐱᑭᐅᓂᒃ ᐅᖅᕙᓘᓐᓃᑦ ᐱᑭᐅᓄᑦ ᓇᔪᖕᕕᐅᔪᓂᒃ ᖃᖓᑐᐃᓐᓇᖅ ᐊᔪᕐᓇᖏᑦᑐᒃᑯᑦ		
	ᐃᒪᕐᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖕᑲᐅᓐᓃᕐᓂᖕᒋᑦ • ᓂᐱᓕᐅᕐᑭᔫᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ • ᖃᐃᑎᑦᑎᔾᓇᕐᓂᖅ ᐱᓕᕆᕝᕕᐅᔪᒧᑦ • ᑐᕐᑯᑐᐃᓐᓇᖅᑐᑦ • ᐊᖏᓪᓕᕙᓪᓕᐊᔪᑦ ᐃᑳᓯᑏᑦ ᐊᒻᒪᓗ ᐊᖑᓇᓱᖕᓂᕐᒧᑦᐊᓯᙱᖅᐸᓪᓕᐊᔪᑦ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᐸ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓕᐅᕐᓂᖅ • ᐱᕙᓪᓕᐊᓂᖅ ᓄᓇᒥ ᓱᓇᖃᖕᒋᓪᓗᓂ ᓯᓚᑖᒍᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᑭᐅᓕᐅᖅᑐᓂᒃ ᓱᓇᖃᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐃᒪᕐᐅᑕᓄᑦ ᖁᐸᓄᐊᓄᑦ ᓴᓇᔪᓐᓇᖕᒋᐸᑕ ᐱᑭᐅᓕᐅᕐᓇᖕᒋᑎᓪᓗᒍ ᐱᖁᔭᓃᑦᑐᓂᒃ ᐱᖁᔭᐅᖕᒋᑦᑐᓂᒃ ᐊᓯᕙᕐᓂᖅ, ᐊᑦᑕᑯᓕᐅᕐᓂᖅ ᐊᒻᒪᓗ ᓂᕆᑎᑦᑎᓂᖅ ᓂᕐᔪᑎᓂᒃ; • ᓱᒃᑲᔫᒃᑯᑦ ᑭᒡᓕᖅᑲᕐᓂᖅ, ᓂᕐᔪᑏᑦ ᓯᕗᓪᓕᐅᑎᓗᒋᑦ ᐊᒻᒪᓗ ᓯᐅᕋᒧᑦ ᑲᒪᓂᖅ ᐊᖅᑯᑎᓂᒃ; • ᐱᑦᑕᐃᓕᓂᖅ ᓇᔪᖕᕕᐅᔪᓂᒃ ᐊᖏᔪᓂᒃ ᐊᖏᔫᒃᑯᑦ ᒥᔅᐸᓪᓕᐊᔪᓂᒃ • ᐱᑦᑕᐃᓕᓂᖅ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ ᐱᑭᐅᓂᒃ ᐅᖅᕙᓘᓐᓃᑦ ᐱᑭᐅᕝᕕᐅᔪᓂᒃ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖕᑲᐅᓐᓃᕐᓂᖕᒋᑦ • ᓂᐱᓕᐅᕐᑭᔫᖅᑐᑦ • ᓂᐱᓕᐅᕐᑭᔫᖅᑐᑦ ᐊᐅᓚᔪᓄᑦ	ᐱᒻᒪᕆᐅᖕᒋᑦᑐᖅ
	ᓄᓇᒥ ᖁᐸᓄᐊᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖕᑲᐅᓐᓃᕐᓂᖕᒋᑦ • ᓂᐱᓕᐅᕐᑭᔫᕐᓂᖅ • ᐊᑲᐅᙱᓕᐅᖅᑎᑦᑎᓂᖅ ᐊᐅᓪᓛᖅᑐᓂᒃ	• ᐃᖅᑲᓇᐃᔭᖅᑎᒧᑦ ᖃᐅᔨᒪᓂᖅ/ᐊᕙᑎᐅᐸ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᐃᑦ • ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓗᓂ ᑐᒥᓂᒃ • ᒪᓕᖕᓂᐊᖅᑐᑦ ᐱᓂᖅ ᐱᖃᖕᒋᑦᑐᒃᑯᑦ	• ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖕᑲᐅᓐᓃᕐᓂᖕᒋᑦ • ᓂᐱᖅᑭᓕᐅᖅᑎᑦᑎᓂᖅ	ᐱᒻᒪᕆᐅᖕᒋᑦᑐᑦ

ᓇᐅᕐᓂᐃᐅᓪᓚᐅᑦ	ᓄᓇᒥ ᐅᒪᓯᓂᒃ ᓯᓇᒃᑯᓕᖅᑐᖅ (VEC)	ᐊᐅᕐᓇᖏᑦᑐᒃᓗᐊᖅᑐᒃᑯᓕᑦ ᐱᓕᕆᓕᐊᐅᑦ	ᓯᕐᑐᑕᐅᑦᑕᐃᓕᒥᓂᒃᑯᓕᑦ ᐊᐅᔨᖏᖅᑐᓇᓂᖅᑎᑦ	ᐃᓕᓴᐅᔪᓐᓇᑦ ᐱᓕᕆᓕᐊᐅᑦ	ᐱᓚᒪᐅᓂᖏᓐᓄᓕᕐᓂᐅᔪᐅᓂᖏᓐᓄᑦ
		· ᖃᐅᐃᑎᑎᔪᓐᓇᖅᓂᖅ ᐱᓕᓀᖏᐃᐅᔪᒪᑦ · ᑐᖃᑐᐃᓐᓇᖅᑐᑦ · ᐊᖏᑎᓕᖏᓕᓕᐊᔪᑦ ᐃᑲᕈᑎᑦ ᐊᓚᒪᓗ ᐊᖏᔪᓇᖏᓂᖅᖢᓕᕐᓂᓕᕐᓂᐊᔪᑦ ᐊᕐᑎᒪᒍᑦ ᖃᑲᓇᐃᓐᓂᖏᓐᓄᑦ	ᓇᓗᒍᐃᑦᑐᐊᔪᓂᓗᑎᒃ ᐊᑎᑕᑯᓂᖅ ᑲᒪᓂᖅ ᕿᓚᒻᒥᑦ ᐊᓚᒪᓗ ᐱᓕᕆᓂᐊᕐᓂᒪᑦ ᐃᒃᓗᓪᓚᕐᖏᑦ ᐱᔾᔪᑎᒃᓴᓂᖅ ᓂᐅᔾᔨᖅ;	ᐊᑐᐊᒐᐃᑦ ᐱᑦᑯᓴᖏᑐᑐᒃ ᐊᓯᕐᓂᖅᑕᒪ, ᐊᑎᑕᑯᓂᐅᔪᓂᖅ ᐊᓚᒪᓗ ᓂᓕᔨᑎᓂᖅ ᓂᑦᔨᑎᓂᒃ;	ᓯᐅᒃᔨᓂᑯᓂ ᑭᒃᓂᖃᑦᓂᖅ, ᓂᑦᔨᔪᑎᑦ ᓯᐉᓵᓂᐅᑎᒍᑦ ᐊᓚᒪᓗ ᓯᐅᕐᑎᒪᒍᑦ ᐊᖅᑯᑎᓂᒃ;	ᐱᑕᑕᐅᓂᖅ ᖃᐅᐅᓚᐅᔨᓂᒃ ᐱᑭᐅᓂᒃ ᐅᕐᖏᓗᓂᑯᓂ ᐱᑭᐅᕐᓂᖅᑕᒪᑦ

ᓴᖅᑭᑎᑕᐅᓯᒪᔪᓂ 4. ᓇᐃᔅᑐᑲᓂ ᐃᒪᔅᑎᐊᕐᓚᒍᓂ ᐊᒻᒪᓗ ᑕᕆᐅᕐᓴ ᐊᕐᕈᑎᖅᑎᓂ ᐃᓕᑲᒪᓂ ᐱᕐᓕᕐᓂᐊᓯᒪᔪᓂ

ᓇᔪᖏᐅᐅᔪᓂ	ᓄᓇᒥ ᐅᒪᔪᓂᑲ ᓯᓇᑲᓀᖅᑎᑕᓂ (VEC)	ᐊᔪᕐᓇᖅᑐᖅᑲᓗᐊᖅᑐᑲᓀᓂ ᐱᕐᓕᕐᓂᐊᔪᓂ	ᓯᕗᑲᑕᐅᔅᑕᐃᓕᓂᓕᓂᑲᓀᓂ ᐊᐅᔨᐦᖢᖅᑐᓂᖅᑎᓂ	ᐃᓕᑲᒪᐅᔪᓄᓂ ᐱᕐᓕᕐᓂᐊᔪᓂ	ᐱᓚᓗᐅᓂᖅᓴᓄᕐᑲᓚᐅᓂᖅᓴ
ᕿᑲᖅᓴᓕᑐᑕᓂᑲᓂ ᐃᓚᓪᓗᓂᖅ	ᕿᑲᖅᓴᔪᓂ ᐃᒪᐅᐸ ᕿᑲᓄᐃᓐᓂᖅᓴ	· ᐊᕐᑲᕈᑲᓯᓂᖅ ᑯᑲᑐᓂᑲ ᐊᓗᓚᒥ ᐃᒪᑲᑯᖃᖅ · ᐋᕐᑲᕈᑲᓯᓂᖅ ᑯᖅᓂᑲ ᐊᓄᓗᑎᒋᓪᓗᓂ ᐃᒪᑲᑯᖃᖅ · ᐋᕐᑲᕈᑲᓯᓂᖅ ᑯᑲᑐᓂᑲ ᐊᐅᒪᓚᐅᑦᓚᒋᓪᓗᓂ ᐃᒪᑲᑯᖃᖅ	· ᓴᓇᓯᒪᔪᓂᖅ ᐊᑐᓕᑎᑎᓂᑲ ᐊᒻᒪᓗ ᒥᑭᓯᓚᐅᑦᓚᒋᓪᓗᓂ ᐊᒻᒪᓗ ᐱᕐᓕᕐᓂᐊᓯᒪᔪᓂ ᐃᒪᓕᑦᑐᖅ · ᐊᑐᖅᑎᑎᑲᓂᖅᓴᓂᑦᓂᖅ ᐊᒻᒪᓗ ᐊᑐᖅᑲᓂᖅᓴᓂᖅ ᐃᒪᓕᑦᑐᖅ · ᒪᓕᓪᓚᒋᑎᖅ ᐱᔨᔪᑕᐅᔪᓂᖅ ᒪᓕᑌᓴᓴᓂᖅ ᐃᒪᐃᓕᓂᐅᔪᓂᖅᓴᑎᓪᓕᑐᓕᓪᓕᓂᖅ · ᐃᒪᖏᓐᓇᓕᒫᑦ ᓴᓇᓕᐅᔪᓂᖅ ᕿᑎᑎᑦᑐᑲᓀᓂᖅ ᑯᖅᑐᓗᓂᖅ · ᐊᑐᓕᖅᑎᑎᓂᖅ ᓯᑦᓴᓂᓕᒫᑦ ᖃᒪᓕᕐᓂᐊᓂᖅ ᐊᑐᐅᓂᖅ · ᒪᓕᑦᑎᐊᓂᖅ ᒪᓕᑌᓂᖅ ᒪᓕᑎᑦᖃᖅᑐᓂᖅ ᓯᓚᑐᓇᐊᓂᖅ ᖃᖅᑐᖅᑲᓂᖅᓴᓂᖅ ᐃᒪᓕᓪᓚᒋᓪᓗᓂ ᐃᒪᓕᓪᓕᑦᑐᖅ · ᕿᑲᖅᓴᔪᓂᖅ ᑯᑲᑐᓂᑲ TIA · ᐊᑐᑦᓂᖅ ᓄᓇᐅᐸ ᐃᒪᖏᓂᖅ ᒥᑭᓯᓚᐅᑦᓚᒋᓪᓗᓂ ᐃᒪᑦᑎᐊᕐᓂᖅ ᖃᖅᓄᑎᑎᖅ ᐊᑐᖅᓯᕐᓂᖅᓴᓂᑦᓚᒋᓪᓗᓂ	· ᐋᕐᑲᕈᑎᐊᑦᓂᖅ ᑯᖅᑐᓂᖅ ᑐᐊᓚᒥ · ᐃᒪᖏᓐᓇᓕᒫᑦ · ᐋᕐᑲᕈᑎᐊᓂᖅ ᑯᖅᑐᓂᖅ ᐊᓄᓗᑐᔪᓂᖅ ᐃᒪᖏᓐᓇᓕᒫᑦ · ᐋᕐᑲᕈᑎᐊᑦᓂᖅ ᑯᖅᑐᓂᖅ ᐊᐃᒪᐅᖃᑦᑕᓚᒥ ᐃᒪᖏᓐᓇᓕᒫᑦ	ᐱᓚᓗᐅᓂᖅᓴᓂᑦᓂᖅ

ᓇᓕᕐᓂᐅᕐᓂᕐ	ᓄᓇᒥ ᐅᒪᓕᓂᒃ ᓯᓇᒃᑯᑦᖏᑦᑐᑦ (VEC)	ᐊᓕᕐᓇᖏᑦᑐᒃᓴᐊᖅᑐᒃᑯᑦ ᐱᖓᓪᓕᐊᓕᐊᓂᕐ	ᓯᕗᑦᑕᐅᑦᑕᐃᑦᓴᓂᒃᑯᑦ ᐊᐅᔨᖏᖅᑐᓂᕐ	ᐃᓕᓴᕐᕕᐅᓇᓄᑦ ᐱᖓᓪᓕᐊᓕᐊᓂᕐ	ᐱᓕᓚᐅᐅᓂᖓᓄᑦᑎᓄᑦᑐᓂᖓᓪᓕᒃ
ᐃᒪᓕᑕᐅᔨᓂᕐ ᖃᓄᐃᓇᓂᖓᓪᓕᒃ		· ᓇᓕᕐᓇᐅᔨᒥ ᐸᖃᓇᖏᓂᖅ , · ᓴᓇᓂᖅ ᐊᓕᒪᓗ ᐊᑦᑕᑯᐃᐃᓂᖅ ᓇᓕᕐᓇᓕᒥ · ᐊᓕᒪᓗ ᐅᓴᕐᖏᓂᐊᕐᓇᓕᒥ ᐃᒪᓕᖅ · ᐃᒪᕐᒥᒃ ᐊᑐᕐᓂᖅ · ᐅᓴᕐᑕᕐᓇᖅ ᐊᓕᒪᓗ · ᓇᓕᕐᓇᓕᒫᒧᑦ ᐸᖃᓇᖏᓂᖅ, ᓴᓇᓂᖅ · ᓴᐅᓴᐅᓯᒪᔪᑦ ᓇᓕᕐᓇᖅ ᐊᓕᒪᓗ ᖃᖅᑐᖅᑕᕐᑐᑐᑎᑦ ᐊᐅᓚᖅᑕᕐᓇᖅ · ᐅᖅᓯᓂᖅ ᐅᖅᓯᐊᓗᒃ ᐊᓕᒪᓗ PHA ᓴᓗᒪᓴᑕᐅᔨᑦ ᐊᓇᖅᑕᕐᓇᖅ ᓯᐅᕐᓂᒃ ᐃᑎᕐᑎᓂᖅ	· ᓴᓇᓯᐊᓕᐅᑦ ᑕᐃᒪᐅᔨᓂᒃ ᐊᑐᕐᓗᑎᒃ ᑐᐊᓚᐊᒥ ᐱᑕᓚᐊᓴᐅᔨᑦ ᐊᓕᒪᓗ ᒥᑭᓂᖅᐸᒃᑯᑦ ᓴᓇᖏᓂᐊᕐᓇᖅᑐᒃ ᑐᒥᓂᒃ ᐃᒪᓕᖅᑐᒃ ᐅᔨᕐᑐᒃ 2 ᓴᓇᓯᒪᔨᓂᒃ · ᓴᓇᓂᖅ ᑎᓯᔨᑦᑯᑦ ᓄᓇᒥ ᐊᓕᒪᓗ ᓄᓇᕐᑎᐊᖓᒃᑯᑦ ᐊᓕᒪᓗ ᓄᓇᒃᑯᑦ ᑎᓯᓯᖓᓗᓂᑦ ᐊᑐᒃᑯᓂᕐᐅᔪᓂᖓ · ᐊᑐᒃᒃᓂᓂᓂᖅ ᓇᖏᒪᕐᔨᐊᒃᑯᑦ ᐊᓕᒪᓗ ᐅᖅᓯᖓᓂᐊᕐᓇᐅᔪᓂᖓ ᐃᒪᓕᖅᑐᒃ · ᒪᓕᕐᑎᐊᕐᓂᖅ ᑐᖓᒪᓴᔨᐊᒃᑯᑦ ᐊᓕᒪᓗ ᓄᓇᕐᑎᐊᑦ ᒪᓕᑌᖅᑐᓂᒃ ᓯᓚᒧᐊᖅᑎᕐᑎᓂᕐᓂᓕᕐᓇᑦ, ᐃᒪᓕᓚᓂᕐᒧᑦ, ᖃᐅᖅᓯᓂᕐᓇᑦ ᐊᓕᒪᓗ ᐃᒥᖅᑕᕐᑲᑕᕐᓂᕐᓇᑦ ᐊᑐᑎᓂᒃ · ᒪᓕᓐᓄᒍ BMP-ᑯᑦ ᓇᓄᓇᐃᖅᓯᒪᔭᖓᓕ ᐊᐅᓕᓂᖅ/ᐸᖃᓇᐅᑎᑦ ᐱᖅᑎᐅᓯᓄᒍ ᐃᓕᓴᕐᕕᐅᑎᑦ ᐱᓕᕐᓂᐊᕐᓇᓂᖅ ᐸᖃᓇᐅᑎᑦ (AWMP) · ᓴᓄᒪᖅᑲᖅᓂᖅ ᐊᓇᖅᑕᕐᓇᒪᒃ ᐊᓕᒪᓗ ᐃᒪᕐᒥᒃ ᐊᑐᐃᓇᓇᐅᑎᑦᓄᓕᒥ ᐊᓕᒪᓗ ᑯᐃᓯᓂᖅ ᓄᓇᒧᑦ ᐅᓂᒡᓕᓇᓕᒫᑦ ᐃᒪᓕᖅᑐᒃ ᐱᖓᔪᐅᔨᓴᑯᑦ ᒪᓕᑕᑎᒍᑦ ᐊᓕᒪᓗ ᐱᓇᓇᐅᑎᑎᑦᑯᑦ · ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᓴᐅᖅᐅᔨᓂᖅ ᐊᓕᒪᓗ ᓯᑦᖃᑦᓕᓕᐊᓂᖅ ᑲᒪᓇᓂᖅ ᑎᓯᓯᖓᓗᓂᑦ ᐊᐅᓚᑕᐅᔨᓄᑦ ᐊᓕᒪᓗ ᐃᒪᓕᓚᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᔨᓄᑦ ᓴᓇᓯᒪᔨᓂᒃ · ᑐᖓᔪᖓᓯᒪᓂᖅ ᐅᖅᓯᓂᖅ ᐊᓕᒪᓗ ᐅᖅᓯᓯᐊᓗᓐᓂᖅ ᐊᐃᑦᑕᓐᓇᓕᒫᑦ ᑐᖓᔪᖓᓯᒪᔨᓂᒃ · ᑐᖓᔪᖓᓯᒪᓂᖅ ᐅᖅᓯᓂᖅ ᐊᓕᒪᓗ ᓯᑦᖃᑦᓕᓕᐊᓂᖅ ᓴᓇᓯᒪᔨᓂᒃ ᐊᓕᒪᓗ ᐊᑦᑕᕐᓂᖅᐸᒃᑯᑦ	· ᓇᓕᕐᓇᒪᒍᑦ ᐸᖃᓇᖏᓂᖅ, ᓴᓇᓂᖅ · ᓴᐅᖅᐅᓯᒪᔨᑦ ᓇᓕᕐᓇᒃ ᐊᓕᒪᓗ ᖃᐅᖅᓯᑕᕐᑐᑐᑎᑦ	ᐱᓕᓚᐅᐅᓂᕐᑐᑎᑦ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᖕᒋᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᖓᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖕᒋᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᖓᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᖃᔅᓯᐅᓂᖓ
			ᓇᔪᕐᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐱᕐᑯᔭᐅᔪᒃᑯᑦ ᐃᒪᓕᕆᓂᕐᒧᑦ ᓚᐃᓴ.		
ᐃᒪᑦᑎᐊᑦ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᑦᑑᓂᖓ	• ᓇᔪᕐᕕᐅᔪᒥ ᐸᕐᓇᖕᓂᖅ , • ᓴᓇᓂᖅ, ᐃᒋᑦᑎᓂᖅ ᓇᔪᕐᕖᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᒃ ᐃᒪᖅ ᐅᔭᕋᒃᑕᕐᕕᒃ ᐃᒪᖅ • ᐅᔭᕋᕐᑕᕐᕕᒃ ᖄᕐᑲᑦᑕᖅᑐᑦ ᐅᖅᓱᖅ ᐅᖅᓱᐊᓗ ᐊᒻᒪᓗ PHA ᓴᓗᒻᖃᑕᐅᔪᑦ ᐊᓇᖅᑕᕐᕕᒃ ᓱᐅᕋᒥᒃ ᐃᒋᑦᑎᓂᖅ	• ᑕᑯᓗᒍ ᐃᒪᑦᑎᐊᕙᒃ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	• ᓇᔪᕐᕕᐅᔪᒥ ᐸᕐᓇᖕᓂᖅ , • ᓴᓇᓂᖅ, ᐃᒋᑦᑎᓂᖅ ᓇᔪᕐᕖᑦ ᐊᒻᒪᓗ ᐅᔭᕋᖕᓂᐊᕐᕕᒃ ᐃᒪᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
ᐃᒪᑦᑎᐊᕙᒃ ᐃᖃᓗᖕᒋᑦ	ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖓ	• ᐆᒪᔪᓂᒃ ᓇᔪᕐᕕᐅᔪᓐᓃᖅᑐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐋᖅᑭᒃᓯᓂᖅ	• DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖕᒋᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᖕᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖕᒋᓐᓄᑦ • ᐱᕐᑯᔭᐅᙱᑦᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᖃᖓᑐᐃᓐᓇᖅ • ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᓗᒋᑦ ᐊᕙᑎᒧᑦ ᐸᓯᒻᒥᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ • ᓴᓇᓯᒪᔪᑦ ᓇᔪᕐᕕᐅᔪᑦ ᐱᔭᐅᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖃᓐᓄᑦ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐊᔪᕐᓇᖕᒋᓐᓂᖓᓄᑦ • ᓴᓇᓯᒪᔪᑦ ᐋᖅᑭᒃᓯᒪᓂᖕᒋᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᐅᓗᓂ ᑐᒥᓂᒃ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᓂᕐᒧᑦ ᐃᒪᑦᑎᐊᕙᖕᓄᒃ ᐃᖃᓗᓐᓄᑦ ᓇᔪᖅᑕᐅᔪᓂᒃ • ᐋᖅᑭᒃᓯᓂᖅ ᐃᑳᖅᑐᓂᒃ ᓴᓇᓯᒪᔪᓂᒃ ᑲᔪᓯᑎᐊᕈᓐᓇᕐᑯᓪᓗᒍ ᐃᖃᓗᐃᑦ ᐃᑳᕐᓂᕐᒧᑦ ᐃᒪᐅᔪᒃᑯᑦ ᐃᑳᖅᑐᑦ ᐊᖅᑯᑎᒃᑯᑦ • ᑭᒻᒪᕐᑲᖅᑎᑦᑎᓂᖅ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᓯᕐᓂᐅᕐᓯᓂ	ᓄᓇᒥ ᐅᒪᓯᓂᒃ ᓱᓇᒃᑯᑦᖏᑦ (VEC)	ᐊᓯᕐᓇᖅᑐᒃᑲᓕᐊᕐᖁᑦ ᐱᓕᕆᓕᐊᓯᑦ	ᓱᕐᖁᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᐅᔨᖅᑭᕐᓂᒃᖏᑦ	ᐃᓕᓴᕐᕕᓯᓄᑦ ᐱᓕᕆᓕᐊᓯᑦ	ᐱᓱᒪᐅᐅᓂᖅᓄᓇᕐᖁᕐᓂᖅ
			· ᐃᒪᐃᓴᐃᓂᕐᒧᑦ ᐊᑐᐸᓇᓂᕐᓗᑎᑦ ᐃᒪᐃᑦ, ᑭᓪᓕᕐᖁᓂᖅ ᓄᓇᕐᒥ ᐱᒪᕐᓂᒃ ᑯᐸᕐᓴᐅᓂᖅ ᒪᓕᑎᐊᓕᒃᑯᑦ ᐱᕐᑯᔨᐅᒃᑯᑦ ᐃᒪᓕᓚᐅᒃᑯᓇᓂᑦ ᑐᓂᔨᐅᑎᓕᑎᑦ		
			· ᐊᑲᖅᑭᓂᖅ ᐱᑐᐃᓇᐅᔨᓚᐊᖏᖅᑯᓂᖅᑯᑦ ᐊᓚᒪᓗ ᐊᓐᑎᖅᑕᐅᓗᓂ DFO-ᑯᓇᓄᑦ		
		· ᐊᓱᓇᔪᖅᓴᕐᓕᐊᓕᑦ ᐃᒪᕎᐃᐊᓕᒃ ᐃᒪᐅᑦ ᖃᓄᐃᓇᓂᖓ ᐊᓚᒪᓗ/ᐅᕐᓕᓵᓇᓂᑦ ᓴᐅᔨᐅᓂᑯᑦ ᖃᓄᐃᓇᓇᓂᖅᑎᑦ	· Cძᓗᑐ ᐃᒪᕎᐃᐊᓕᒃ ERM6 ᐃᒪᓐᓂ ᖃᓄᐃᓇᑦᓂᖓ ᐊᓚᒪᓗ ᐃᒪᕎᐃᐊᓕᒃ ᓴᐅᔨᐅᓂᑯᐃᑦ ᖃᓄᐃᓇᓇᓂᖅᑎᓂ	ᖃᓄᐅᔨᒪᔨᐅᓕᖅᑎᑕᑐᖅ	-
	ᐃᖃᓗᓕᑦ ᑲᑎᒪᔨᖅ:ᐅᑭᐅᓴᖅᑕᖃᖅᑐᒥ ᑲᕕᓯᓕᖅ	· ᑐᖃᑕᐃᓕᓇᓴᖅᑐᑦ ᐊᒪᓗ ᐊᒥᓱᓂᖅᑎᑦ ᓇᓴᖅᑕᐅᔨᓇᓕᖅᑐᖃᖅᑐᒥ	· DFO-ᑯᑦ ᓇᓗᓇᐃᖃᓂᖅᑎᑦ ᐱᑦᑕᐃᓕᒪᓂᖃᑦᑕᓂ ᐊᑦᑕᖃᓇᖅᑐᓂᒃ ᐃᖃᓗᓐᓂᒃᑯᑦ ᐃᖃᓗᓇᓂᒃᑯᑦ ᐊᒪᓗ ᐃᖃᓗᓐᓂᑦ ᓇᓴᕐᓂᓕᓕᖅᑎᑦ	ᖃᓄᐅᔨᒪᔨᐅᓕᖅᑎᑕᑐᖅ	-
			· ᐱᓕᕆᐊᓕᒃᑯᑦ ᐊᑦᑕᖃᓇᖅᑐᓂᒃ ᐃᓕᓴᕐᓂᒃᑯᑦ		
			· ᑭᖑᓂᖅᐹᓂᖅ ᐊᒪᓗ ᓴᐅᔨᐅᓂᒃ ᖃᓄᐅᔨᓴᓇᐅᓂᒃ ᖁᓕᖅᑐᓂᒃᑯᑦ ᐱᑦᑕᐃᓕᒪᓂᖃᑦᑕᓂ ᐊᑦᑕᖃᓇᖅᑐᓂᒃ ᐱᓵᓚᓂᑦ ᐊᒪᓗ ᓇᐅᑦᓂᑦ ᐃᖃᓗᓐᓂᒃ		
			· ᑐᖃᑕᐃᓕᓇᓴᖅᑐᑦ ᐊᒪᓗ ᓴᐅᔨᐅᓂᑯᑦ ᐊᓯᕐᓇᖅᑐᓂᒃᑯᑦ ᐱᓕᕆᓕᐊᓯᑦ		
		· ᐊᑲᖅᑭᓂᖅᑕᓴᖅᑐᑦ ᐃᒪᕎᐃᐊᓕᒃ ᐃᒪᐅᑦ ᖃᓄᐃᓇᓇᓂᖅᑎᑦ ᐊᓚᒪᓗ/ᐅᕐᓕᓵᓇᓂᑦ ᓴᐅᔨᐅᓂᑯᑦ ᖃᓄᐃᓇᓇᓂᖅᑎᑦ	· Cძᓗᑐ ᐃᒪᕎᐃᐊᓕᒃ ᐃᒪᓐᓂ ᖃᓄᐃᓇᑦᓂᖓ ᐊᓚᒪᓗ ᐃᒪᕎᐃᐊᓕᒃ ᓴᐅᔨᐅᓂᑯᐃᑦ ᖃᓄᐃᓇᓇᓂᖅᑎᓂ	ᖃᓄᐅᔨᒪᔨᐅᓕᖅᑎᑕᑐᖅ	-

ᓇᓱᕐᓂᐅᕐᓴᖅ	ᓄᓇᒥ ᐅᒪᓱᓂᒃ ᓯᓇᒃᑯᑦᓴᖅᑎᑦ (VEC)	ᐊᓱᕐᓇᖅᑐᒃᑲᓗᐊᕐᕆᐊᒃᑯᑦ ᐱᓕᕆᓂᖅᐊᓱᑦ	ᓯᕐᕆᑕᐅᑦᑕᐃᓚᒥᓂᒃᑯᑦ ᐊᐅᔨᖏᖅᑐᓂᖅᑎᑦ	ᐃᓕᓴᕐᕆᐅᔪᓄᑦ ᐱᓕᕆᓂᖅᐊᓱᑦ	ᐱᓘᓚᐅᐅᓂᖅᓱᓄᑦᖃᕐᕆᐅᓂᖅᓱᒃ
	ᐃᖃᓗᐃᓕᑦ ᑲᑎᖅᓱᒋᔭᑦ: ᐃᓱᒪᓕᕐᓂᑦᑎᓐᓄᑦ	· ᑐᑭᑐᐃᐅᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓱᓂᖅᑎᑦ ᓇᔭᖅᑕᐅᔪᓂᒃᑯᑦ	· DFO-ᑯᑦ ᓇᓗᓇᐃᔅᓂᖅᑎᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᐃᓄᖅᓴᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔭᖅᑕᐃᓕᖅᑐᓄᑦ	ᖃᐅᔨᓴᓕᕆᔨᐅᓕᖅᑐᑦ	-
			· ᐱᖃᓐᓇᖅᑐᑦᑐᒃᑯᑦ ᐱᓕᕆᓂᖅᐊᓱᑦ ᖃᐅᔨᓴᖅᑎᑦ		
			· ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑐᑦᓂᒃ ᐊᒻᒪᓗ ᑯᓘᓐᓃᑦ ᐱᑦᑕᐃᑦᓕᓚᐅᒍ ᐱᓵᖅᓯᓂᖅ ᐊᒻᒪᓗ ᐊᓇᐅᑦᓂᖅ		
			· ᑐᑭᓯᓂᕐᒥᑦ ᐊᒻᒪᓗ ᓴᐳᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅᐸᑎᓂᒃ ᖁᑦᓱᕐᓂᕐᒥᓂᕐᒧᑦ ᐱᓕᕆᓂᖅᐊᓱᒃ		
		· ᐊᓯᖏᓐᓄᑦᑕᕐᓂᖅ ᐃᓚᖓᑕᐃᓕᖅᑐᒃ ᐃᓕᐅᑦ ᖃᓄᐃᓕᖅᑐᒃ ᐊᓯᖏᓐᓄᑦᑕᕐᓂᖅ ᐃᓕᓴᕐᕆᐅᑉ ᖃᓄᐃᓕᖅᑐᒃ	· ᑕᑯᓗᒍ ᐃᓕᓴᕐᕆᐊᕐᓂᒃ ᐃᓕᓐᓄᑦ ᖃᓄᐃᓕᖅᑐᒃ ᐊᒻᒪᓗ ᐃᓕᓴᕐᕆᐊᕐᓂᒃ ᓴᐅᔨᐅᓂᑯᓘᓐᓃᑦ ᓇᓗᓇᐃᔅᓂᖅᑎᑦ	ᖃᐅᔨᓴᓕᕆᔨᐅᓕᖅᑐᑦ	-
	ᐃᖃᓗᐃᓕᑦ ᑲᑎᖅᓱᒋᔭᑦ: ᐃᖃᓗᐃᓕᑦ ᑲᑎᖅᓱᒪᓕᒃ (ᐃᓕᓴᕐᕆᐊᕐᓂᒋᑦᑕᒍ ᑎᑎᕋᖅᑕᐅᔨᓪᓗᒥᑦ)	· ᑐᑭᑐᐃᐅᓇᖅᑐᑦ ᐊᒻᒪᓗ ᐊᒥᓱᓂᖅᑎᑦ ᓇᔭᖅᑕᐅᔪᓂᒃᑯᑦ	· DFO-ᑯᑦ ᓇᓗᓇᐃᔅᓂᖅᑎᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᐃᓄᖅᓴᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔭᖅᑕᐃᓕᖅᑐᓄᑦ ᓇᓗᓇᐃᔅᓂᖅᑎᑦ	ᖃᐅᔨᓴᓕᕆᔨᐅᓕᖅᑐᑦ	-
			· ᐱᖃᓐᓇᖅᑐᑦᑐᒃᑯᑦ ᐱᓕᕆᓂᖅᐊᓱᑦ ᖃᐅᔨᓴᖅᑎᑦ		
			· ᖃᐅᔨᓴᕐᓂᖅ ᐃᒥᖅᑕᖅᑐᑦᓂᒃ ᐊᒻᒪᓗ ᑯᓘᓐᓃᑦ ᐱᑦᑕᐃᑦᓕᓚᐅᒍ ᐱᓵᖅᓯᓂᖅ ᐊᒻᒪᓗ ᐊᓇᐅᑦᓂᖅ		
		· ᑐᑭᓯᓂᕐᒥᑦ ᐊᒻᒪᓗ ᓴᐳᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅᐸᑎᓂᒃ ᖁᑦᓱᕐᓂᕐᒥᓂᕐᒧᑦ ᐱᓕᕆᓂᖅᐊᓱᒃ	· ᑕᑯᓗᒍ ᐃᓕᓴᕐᕆᐊᕐᓂᒃ ᐃᓕᓐᓄᑦ ᖃᓄᐃᓕᖅᑐᒃ ᐊᒻᒪᓗ ᐃᓕᓴᕐᕆᐊᕐᓂᒃ ᓴᐅᔨᐅᓂᑯᓘᓐᓃᑦ ᓇᓗᓇᐃᔅᓂᖅᑎᑦ	ᖃᐅᔨᓴᓕᕆᔨᐅᓕᖅᑐᑦ	

ᓇᓯᕐᓂᐅᐅᓯᓄᑦ	ᓄᓇᒥ ᐅᒪᓯᓂᒃ ᓱᓇᒃᑯᑦᖏᑦ (VEC)	ᐊᓯᕐᓇᖏᑎᒃᓴᐊᖅᑐᒃᑯᑦ ᐱᓕᕆᓕᐊᓯᑦ	ᓱᕐᑕᐅᑦᑕᐃᑕᒪᓕᓂᒃᑯᑦ ᐊᐅᐸᖏᖅᓂᖏᖅᑐᑦ	ᐃᓕᓴᐃᐅᔨᓄᑦ ᐱᓕᕆᓕᐊᓯᑦ	ᐱᓪᓚᑕᐅᓂᖏᓐᓄᓕᕐᓴᐅᐅᓂᖏᓐᓄ
	ᐃᕐᒃᓗᐃᑦ ᒃᑎᖏᓐᓄᑦ: ᑯᓘᔪᑯ/ᐃᕐᒃᓗᓄᐃᑦ (Cisco/ Whitefish) (ᐃᓚᕐᑎᐊᕕᒋᑦᑕᑦ ᑎᑎᕐᕆᑦᑕᐅᓱᒪᓂᑯᑦ)	· ᑐᕐᑯᑐᐃᓂᓇᖅᑐᑦ ᐊᒥᓚᓗ ᐊᒥᓱᓂᖏᑦ ᓇᔨᖅᑕᐅᔨᓂᖅᑐᑦ	· DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᕐᑕᐃᓕᒪᓕᕐᓚᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᕐᒃᓗᓄᖓᓄᑦ ᐊᒥᓚᓗ ᐃᕐᒃᓗᓄᐃᑦ ᓇᓗᓇᐃᕐᑎᓂᓄᑦ · ᐱᕐᑯᐅᐸᖏᑎᒃᑯᑦ ᐱᓕᕆᓕᐊᓯᑦ ᕿᒃᖏᓚᑐᓂᖅᑐᒃ · ᕿᒃᐅᐅᓴᓕᕐᓂᖅ ᐃᒥᕐᑕᕐᑐᑐᓂᒃ ᐊᒥᓚᓗ ᑯᐅᓴᓕᓂᒃ ᐱᕐᑕᐃᓕᒪᓕᑐᒍ ᐱᓵᓚᓂᖅ ᐊᒥᓚᓗ ᐊᓇᐅᓕᓂᖅ · ᑐᓴᕐᓂᕿᑎᑦ ᐊᒥᓚᓗ ᓴᓇᒃᑐᑐᓂᒃ ᕿᒃᐅᐅᓴᓕᓂᒃ ᐱᓕᕆᓕᐊᓯᑦ	ᕿᒃᐅᐅᓴᓕᕐᓂᖅᑐᑦ	-
		· ᐊᓯᖏᓚᒃᓴᕐᓕᐊᓯᑦ ᐃᓚᕐᑎᐊᕈᒪ ᐃᓚᐅᑦ ᕿᒃᓇᐃᖅᑐᓂᒃᑯᑦ ᐊᐅᓚᑦᑎᐊᓂᒃᑯᑦ	· ᑕᑯᓗᒍ ᐃᓚᕐᑎᐊᕈᒪ ᐃᓚᖏᓐ ᕿᒃᓇᐃᖅᑐᓂᖏᓐᓄ ᐊᒥᓚᓗ ᐃᓚᕐᑎᐊᕈᒪ ᓴᐅᐅᑦᑐᓂᑯᑦ ᕿᒃᓇᐃᖅᑐᓂᖏᓐᓄᑦ	ᕿᒃᐅᐅᓴᓕᕐᓂᖅᑐᑦ	-
ᑕᕆᐅᕐᒥ ᐃᓚᖏᓐ ᕿᒃᓇᐃᖅᑐᓂᖏᓐᓄ	ᑕᕆᐅᕐᓂ ᐃᓚᖏᓐ ᕿᒃᓇᐃᖅᑐᓂᖏᓐᓄ	· ᐅᒥᐊᕐᔪᐊᑕᕆᓂᖅᑐᒃ · ᓇᔨᖅᓇᖏᓐ ᓯᕐᓇᖏᓂᖅᑐᒃ ᓴᓇᓂᖅᑐᒃ ᐊᒥᓚᓗ ᓄᖅᑲᖅᑎᑎᕐᓂᖅᑐᒃ · ᓇᔨᖅᓇᐅᔨᖅᑐᒃ ᐃᓚᖏᓐ ᐃᓚᖅᑐᒃ · ᐅᖅᓯᖅᑐᒃ, ᐅᖅᓯᐊᓗᐃᑦ ᐊᒥᓚᓗ PHA · ᑯᐃᓯᓂᖅᑐᒃ · ᓯᐅᕐᓂᓂᒃ ᐃᓕᑎᐊᑕᐅᔨᓕᑦ	· ᓴᓇᓯᒪᔨᓂᒃ ᑕᐃᓚᐅᔨᓂᒃ ᐊᑐᕐᓗᑎᒃ ᑐᑭᓯᓚᑎᑦ ᐱᓕᕆᔨᐃᓐᓇᐅᔨᓂᒃ ᐊᒥᓚᓗ ᓴᓇᓂᖅᑐᒃ ᐱᓕᕆᓕᐊᓯᑦ · ᓴᓇᓂᖅᑐᒃ ᑎᓯᓵᑯᑦ ᓄᓇᒥ ᐊᒥᓚᓗ ᓄᓇᕐᑎᐊᕈᒪᑯᑦ ᐊᖅᑯᓂᐅᔨᓕᐊᓂᖅ ᐃᓕᓴᐃᐅᔨᓄᑦ, ᓄᓇᕈᓕᐊᖅᓯᓚᐅᓂᒃ ᐊᒥᓚᓗ ᓴᓇᓯᒪᔨᓂᒃ · ᑯᐃᓯᓂᖅᑐᒃ TIA ᖃᐅᓕ ᑲᖏᖅᑐᓯᐊᓄᓕᕐᓂ ᓱᑯᖅᓯᑎᑎᓕᑐᒍ · ᑯᐃᓯᓂᖅᑐᒃ >ᓕᕐᖏᓚᔨᓇᖅᑐᒃᑯᑦ TIA ᐊᒥᓚᓗ ᐃᓕᓴᐅᓕᕐᓚᑐᒃᑯᑦ ᖃᐅᓕ ᑲᖏᖅᑐᓯᐊᓄᓕᕐᓂ · ᒪᓕᕆᑎᐊᖅᑐᒃ ᑲᓇᒪᓴᐊᖅᑯᑦ ᐊᒥᓚᓗ ᓄᓇᕈᓕᐊᓂᒃ ᒪᓕᕆᑎᓂᒃ ᓱᓕᔪᐊᖅᑐᓂᒃ ᐱᓕᕆᓕᐊᓯᑦ, ᐃᓚᕐᓇᖅᑐᓂᒃ ᐊᒥᓚᓗ DFO-ᓗᑦ ᐊᖏᖅᑕᐅᓱᒪᔨᖅᑯᑦ,	· ᐅᒥᐊᔨᐊᕐᓇᖅᑐᓂᒃ [OC7] ᓇᔨᖅᓇᖏᓐ ᕿᒃᓇᐃᖅᑐᓂᖅ ᓴᓇᓂᖅ ᐊᒥᓚᓗ ᓄᖅᑲᖅᑎᑎᕐᓂᖅᑐᒃ · ᓇᔨᖅᓇᐅᔨᖅᑐᒃ ᐃᓚᖏᓐ ᑯᐃᓯᓂᖅᑐᒃ	ᐱᓪᓚᑕᐅᖅᑕᕐᓂᖅᑐᒃ

ᓇᔪᖅᑲᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᒥᑦ (VEC)	ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᐟᓯᐅᓂᖓ
			ᖄᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐃᒥᖅᑕᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᑑᑎᓂᒃ • ᒪᓕᓪᓗᒍ BMP-ᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᖃᒻᒧᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᔅᓴᓄᑦ ᐸᕐᓇᐅᑎᖏᓐᓂᒃ • ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᓴᐅᔭᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓱᕋᒃᐸᓪᓕᐊᔪᓂᒃ ᑲᒪᔪᓐᓇᕐᓂᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᑰᒃᑐᑦ ᓄᓇᒧᐊᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐃᒪᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᔪᓄᑦ ᓴᓇᓯᒪᔪᓄᑦ • ᖃᐅᔨᓴᕐᓂᖅ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂᒃ ᓴᕗᔅᓴᒧᑦ ᐅᔭᕋᖕᓂᕐᕕᒃ ᐊᑐᐊᒐᖏᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᐅᔨᓴᖅᑎᒃᑯᓐᓄᑦ. • ᒪᓕᓪᓗᒋᑦ ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᑎᑦᑎᓂᖅ, ᐊᐅᓚᓂᖅ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᖅᑲᖅᑐᓂᒃ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐃᖅᑲᓗᓕᕆᔾᒃᑯᓐᓂᑦ ᐊᖏᕈᑏᑦ ᐊᒻᒪᓗ ᐱᔪᓐᓇᐅᑏᑦ • ᑐᖅᑯᖅᓯᓗᓂ ᐅᖅᓱᓂᒃ ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᖕᓂᒃ ᐊᐃᑉᐸᕆᔭᒍᑦ ᑐᖅᑰᓯᕝᕕᓄᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᓴᓗᒪᖅᓴᐅᑎᖃᕐᓗᑎᒃ • ᖃᐅᔨᓴᖃᑦᑕᕐᓂᖅ ᐊᐅᓚᑕᐅᔪᓂᒃ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ.		
	ᑕᕆᐅᒥ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᖓ	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᖅᑲᖓ ᐸᕐᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᖅᑲᐅᔪᖅ ᐃᒪᖓ ᐃᒪᖅ • ᐅᖅᓱᖅ, ᐅᖅᓱᐊᓗᐃᑦ ᐊᒻᒪᓗ PHA • ᐃᒋᑦᑎᓂᖅ	• ᐊᔾᔨᖓ ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ	• ᐊᐅᓪᓚᐃᑎᑦᑎᓂᐊᖅᑐᒧᑦ ᓇᔪᖅᑲᖓ ᐸᕐᓇᖕᓂᖅ ᓴᓇᓂᖅ ᐊᒻᒪᓗ ᓄᖅᑲᖅᑎᑦᑎᓂᖅ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐋᔾᔨᒋᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕐᑲᔾᔨᐅᓂᖓ
		· ᓱᐅᕋᓂᒃ ᐃᓕᓯᓂᖅ			
	ᐃᖃᓗᐃᑦ ᓇᔪᖅᑕᐅᔪᑦ	· ᓇᔪᕐᕕᐅᔪᓐᓃᖅᑐᑦ ᐅᕙᔫᓐᓃᑦ ᐋᖅᑭᒃᓯᓂᖅ	· DFO-ᑯᑦ ᓇᓗᓇᐃᕐᓂᖏᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᖃᓗᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᕐᕕᖏᓐᓄᑦ · ᐃᒪᒥ ᓴᓇᓯᒪᔪᑦ ᐃᓚᓕᐅᑎᓯᒪᔪᑦ ᐃᒻᒥᒃᑯᑦ-ᐄᔪᓐᓇᕐᓂᕐᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᐃᓱᒪᒃᓴᖅᓯᐅᕐᓂᕐᒧᑦ ᐊᑐᕐᓗᑎᒃ ᐊᖏᔪᓂᒃ, ᐱᖑᓱᓂᒃ ᓇᐸᔪᓐᓇᖅᑐᒃᑯᑦ ᐊᑐᐃᓐᓇᐅᔪᖅ ᐊᒻᒪᓗ ᐱᑦᑕᐃᓕᔾᔪᑎᐅᔪᓐᓇᖅᑐᖅ ᐊᑦᑕᕐᓇᕈᑕᐅᔪᓐᓇᖅᑐᓄᑦ ᑕᕆᐅᕐᒥ ᐃᖃᓗᓐᓄᑦ ᐆᒪᔪᓂᒃ · ᐱᔭᐅᑦᑕᐃᓕᒪᔪᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖃᓄᐃᑦᑑᓂᖔᒍᑦ ᒪᓕᓪᓗᑎᒃ · ᐊᐅᓚᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᑦ ᐃᓚᒋᓗᒋᑦ ᐊᕙᑎᒧᑦ ᐸᓯᒻᒥᔾᔪᑏᑦ ᐸᕐᓇᐅᑎᓂᒃ · ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑏᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᒧᑦ ᐅᑦᑐᕋᐅᑎᓂᒃ ᐱᕐᑯᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓗᓂ DFO-ᑯᓐᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
		· ᐊᓯᙵᖅᐸᓪᓕᐊᔪᑦ ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᕆᐅᒥ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	· ᐊᑐᕐᓂᖅ ᓱᕐᑯᒥᑦᑎᑦᔪᑎᒥᒃ ᓴᓇᑎᓪᓗᒋᑦ ᐃᒃᓴᕐᕕᒻᒥ · ᒥᑭᓂᖅᐹᒃᑯᑦ ᐅᒥᐊᒃᑯᑦ ᓱᒃᑲᓂᕐᒧᑦ ᕋᐳᑦ ᑲᖏᖅᓱᐊᓂ · ᑕᑯᓗᒍ ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᑕᕆᐅᑉ ᓴᐅᔭᐅᓂᑯᐃᑦ ᖃᓄᐃᓐᓂᖓ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᓴᕐᓂᐅᕐᓴᓂ	ᓄᓇᒥ ᐅᒪᓴᓂᓄ ᓯᓇᑲᓯᒡᖏᑦᑎᓂᑦ (VEC)	ᐊᓴᕐᓇᙳᖏᑲᓇᐊᖅᑐᑲᓯᑦ ᐱᓕᕆᓕᐊᓴᑦ	ᓯᕐᑲᑕᐅᑕᑐᐃᓕᒪᓂᑲᑯᓯᑦ ᐊᐅᐸᙳᖏᑭᓂᖏᑦᑎᓂᑦ	ᐃᓕᑲᓴᐅᔪᓄᑦ ᐱᓕᕆᓕᐊᓴᑦ	ᐱᓴᒪᐅᑐᙳᓄᑦᑐᑲᓴᓯᐅᑐᙳᑦ
	ᐃᖏᑲᓗᐃᑦ ᑲᑎᙳᑐᙳᖏᑦ: ᐃᖏᑲᓗᑲᓴᒋᐊᑦ (ᑕᙱᐅᖏᒥᙳᒍᖏᑲᑐᑦ ᐃᒪᓕᑎᐊᐅᓪᓚᒍᖏᑲᑐᑦ ᖏᑲᙳᑎᓴᑲᓯ ᖏᑲᓄᐅᑕᐅᖏᑲᑕᖏᓂᖏᑦ)	· ᑐᖏᑐᐃᐃᓐᓇᖏᑲᑐᑦ ᐊᒪᓚᓗ ᐊᒥᓯᓂᖏᑦ ᓇᔨᖏᑕᐅᔨᓐᓂᖏᑲᑐᑦ	· DFO-ᓄᑦ ᓇᓗᓇᐃᖏᓂᖏᑦ ᐱᑦᑕᐃᑕᒪᓂᖏᓪᓚᑦ ᐊᑦᑕᖏᓇᖏᑲᑐᓂᖅ ᐃᖏᑲᓗᓄᙳᓄᑦ ᐊᒪᓚᓗ ᐃᖏᑲᓗᐃᑦ ᓇᔨᖏᑎᐅᙳᓄᑦ	ᖏᑲᐅᔪᒪᔭᐅᙳᖏᑦᑐᑲᖏᓄ	-
			· ᖏᑲᖏᓯᓂᖏᓪᓚᑦ ᐊᒪᓚᓗ ᑐᓴᖏᑲᓂᖏᓪᓚᑦ ᖏᑲᐅᔪᒪᔭᐅᑎᓂᑦ ᐊᒪᓚᓗ ᐃᑕᑎᔭᐅᔨᓄᑦ ᖏᑲᐅᔪᒪᔭᓂᖏᓄ		
			· ᑕᑯᓗᔪ ᐊᐅᑕᓂᖏᓪᓚᑦ ᕿᖏᓇᐅᑎᓂᑦ ᐃᑕᑎᔭᐅᔨᓄᑦ ᐊᐢᖑᑎᐅᑦ ᓴᔭᒪᒥᖏᓪᓚᑦ ᕿᖏᓇᐅᑎᑐ		
		· ᐊᓯᙳᖏᑲᑦᑕᒋᐊᓂᑦ ᑕᙱᐅᑦ ᐃᓕᖏᑦ ᖏᑲᓇᐃᓂᖏᑦ ᐊᒪᓚᓗ ᑕᙱᐅᒥ ᓴᐅᔭᐅᓂᑯᑦ ᖏᑲᓇᐃᓂᖏᑦ	· ᑕᑯᓗᔪ ᑕᙱᐅᑦ ᐃᓕᖏᑦ ᖏᑲᓇᐃᓂᖏᑦ ᐊᒪᓚᓗ ᑕᙱᐅᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖏᑲᓇᐃᓂᖏᑦ	ᖏᑲᐅᔪᒪᔭᐅᙳᖏᑦᑐᑲᖏᓄᑦ ᑐᑲᖏᓄ	-
	ᐃᖏᑲᓗᐃᑦ ᑲᑎᙳᑐᙳᓴᑦ: ᓴᐅᖃᑦ (Saffron) ᐅᑎᖏᓄ	· ᑐᖏᑐᐃᐃᓐᓇᖏᑲᑐᑦ ᐊᒪᓚᓗ ᐊᒥᓯᓂᖏᑦ ᓇᔨᖏᑕᐅᔨᓐᓂᖏᑲᑐᑦ	· DFO-ᓄᑦ ᓇᓗᓇᐃᖏᓂᖏᑦ ᐱᑦᑕᐃᑕᒪᓂᖏᓪᓚᑦ ᐊᑦᑕᖏᓇᖏᑲᑐᓂᖅ ᐃᖏᑲᓗᓄᙳᓄᑦ ᐊᒪᓚᓗ ᐃᖏᑲᓗᐃᑦ ᓇᔨᖏᑎᐅᙳᓄᑦ ᖏᑲᐅᔪᒪᔭᐅᙳᖏᑦᑐᑲᖏᓄ	ᖏᑲᐅᔪᒪᔭᐅᙳᖏᑦᑐᑲᖏᓄ	-
			· ᖏᑲᖏᓯᓂᖏᓪᓚᑦ ᐊᒪᓚᓗ ᑐᓴᖏᑲᓂᖏᓪᓚᑦ ᖏᑲᐅᔪᒪᔭᐅᑎᓂᑦ ᐊᒪᓚᓗ ᐃᑕᑎᔭᐅᔨᓄᑦ ᖏᑲᐅᔪᒪᔭᓂᖏᓄ		
			· ᑕᑯᓗᔪ ᐊᐅᑕᓂᖏᓪᓚᑦ ᕿᖏᓇᐅᑎᓂᑦ ᐃᑕᑎᔭᐅᔨᓄᑦ ᐊᐢᖑᑎᐅᑦ ᓴᔭᒪᒥᖏᓪᓚᑦ ᕿᖏᓇᐅᑎᑐ		
		· ᐊᓯᙳᖏᑲᑦᑕᒋᐊᓂᑦ ᑕᙱᐅᑦ ᐃᓕᖏᑦ ᖏᑲᓇᐃᓂᖏᑦ ᐊᒪᓚᓗ ᑕᙱᐅᒥ ᓴᐅᔭᐅᓂᑯᑦ ᖏᑲᓇᐃᓂᖏᑦ	· ᑕᑯᓗᔪ ᑕᙱᐅᑦ ᐃᓕᖏᑦ ᖏᑲᓇᐃᓂᖏᑦ ᐊᒪᓚᓗ ᑕᙱᐅᑦ ᓴᐅᔭᐅᓂᑯᑦ ᖏᑲᓇᐃᓂᖏᑦ		

ᓇᓯᕐᓂᐅᐅᓯᒃ	ᓄᓇᒥ ᐅᒪᓯᓂᒃ ᓱᓇᒃᑯᒋᓐᓂᒃ (VEC)	ᐊᓯᕐᓇᖏᕐᕋᒃᑲᓐᔅᕋᐊᕐᓂᒃᑯᓯᑦ ᐱᖓᓕᒫᓐᓂᐊᓕᖅ	ᓱᕐᕋᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᓯᑦ ᐊᐅᔨᖏᕐᕋᓂᐅᓂᖓᓂᒃ	ᐃᓕᓴᕐᕋᐅᓯᓄᑦ ᐱᖓᓕᒫᓐᓂᐊᓕᖅ	ᐱᓕᓚᐅᓂᖏᓐᓄᓇᕐᕋᒃᓴᓯᐅᓂᖏᓐᓄᑐ
ᑕᓚᐅᐸ ᓂᕐᔪᐊᑎᓯᑦ	ᓇᕐᓯᑎᑦ	· ᓇᓯᕐᓇᖏᕐᔪᓂᒃᑯᑦ	· ᓴᓇᓯᒪᔪᓂᒃ ᐊᑦᕋᑭᓯᒪᔪᓂᒃ ᐊᓕᒪᓗ ᒥᑭᓂᒃᑯᓯᑦ ᓴᓇᖏᑕᐅᕐᕋᓗᑎᒃ ᐊᓕᒪᓗ ᐃᓚᒋᑦᐅᑕᐅᓂᒃ ᐃᓚᖓᑕᐃᓕᓗᑎᒃ ᐃᓚᒋᑦᐅᑕᐃᑦ ᓂᕐᔪᐊᑎᓯᑦ ᓇᔪᕐᓇᖏᓐᓄᓂᒃ	ᕿᑎᐅᓂᖏᓐᓄᓇᕐᕋᒃᓴᓯᐅᓂᖏᓐᓄᑐ	-
			· ᓯᓂ ᐊᐅᒃᓯᒪᑎᓕᓪᓗᒍ ᐊᓚᕐᔪᕋᒃᑐᐃᓐᓂᕐᓄᒃ ᑭᓯᒥ (ᐅᑭᐅᒃᓂᑯ ᐊᓚᕐᔪᕋᒃᑐᐃᓐᓇᖅᑐᑦᑐᑦ)		
		· ᑐᓴᕐᓂᕐᕿᓯᑦ	· ᑕᓚᐅᐸ ᓂᕐᔪᐊᑎᖅᓄᓂᒃ ᕿᒃᐅᓂᕐᓂᕐᕋᒃᑎᒍᑦ ᐃᓕᓴᕐᕋᐅᓯᓄᑦ 200 (m) ᒥᑕᓂᒃ ᓇᔪᕐᓇᓚᒃ	ᕿᒃᐅᓂᖏᓐᓄᓇᕐᕋᒃᓴᓯᐅᓂᖏᓐᓄᑐ	-
			· ᓄᕐᒃᑯᕐᓂᕐᒃ ᐊᐅᑕᓂᕐᒧᑦ ᑕᓚᐅᕐᒥᐅᑕᕐᒃᑯᓂᕐᓂᒃᓴᑦ ᐃᓗᑐᐊᓂ		
			· ᐊᑐᕐᓂᕐᒃ ᓱᒃᑲᓂᕐᕋᓵᑦᑕ ᐊᐅᑦᓭᕐᓂᕐᒃ ᐱᕐᕋᑭᓗᑦᑐᒧᑦ ᐊᔪᕐᓇᖏᑕᐃᓕᓗᑎᒧᑦ		
			· ᓴᕐᒃᑭᑎᓂᐊᓗᑎᒃ ᐃᓚᐅᓴ ᐊᑕᓂ ᓂᐱᕐᕋᒃᑯᑐᓂᒃ ᓄᕐᒃᑯᕐᓂᕐᒃᑐᑎᓂᓂᕐᒃ ᐱᕐᕋᕐᔪᕐᒃᑯᑐᓂᒃ ᐱᓕᕐᓂᕐᕋᒃᑐᓂᒃ ᐃᓕᓴᕐᕋᑎᓗᑎᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐱᔪᕐᒃᑯᓂᕐᒃᑐᑦ ᓄᕐᒃᑯᕐᓂᕐᒃᑐᓂᒃ ᕿᒃᑐᖅᑎᑦ		
			· ᓴᕐᒃᑭᑎᓂᐊᓗᑎᒃ ᐊᑲᐅᔨᒃᑯᑦ ᐱᕐᕋᓕᐊᓂᕐᒃ ᐱᐅᓯᕐᓂᕐᒃᑐᑎᓂᓂᕐᒃ		
		· ᑐᓴᕐᒥᑕᐃᓐᓇᕐᒃᑯᑦ	· ᓇᑭᕐᓂᕐᓗᑦ ᑭᒃᓴᕐᒃᓂᕐᒃ ᕿᑦᓂᕐᒃ ᕿᐊᓂᕐᒃᑯᑦ ᕿᓚᒻᒥᐅᑦᑐᓂᒃ ᐃᓕᓴᕐᕋᐅᓯᓄᑦ ᐱᖓᓕᒫᓐᓂᐊᓕᖅ	ᕿᒃᐅᓂᖏᓐᓄᓇᕐᕋᒃᓴᓯᐅᓂᖏᓐᓄᑐ	-
			· ᐊᐅᓚᓂᕐᓗᑦ ᐊᖏᑐᓂᒃᑯᓯᑦ ᐊᐅᓚᓗᑎᒃ		

ᓇᓛᕆᐃᐅᓪᓚᕆᓂ	ᓄᓇᒥ ᐅᒪᓱᓂᒃ ᓯᓇᒃᑯᑦᓱᑎᓂ (VEC)	ᐊᓱᕆᓇᖏᕐᕋᒃᑲᐊᕋᖅᑐᑯᑦ ᐱᓕᑦᓂᓕᐊᓱᑦ	ᓯᕆᒃᑕᑦᑕᐃᑐᒪᓂᒃᑯᑦ ᐊᐅᔨᖏᕐᓂᓂᖅᓱᑦ	ᐃᓕᖏᒃᑯᐊᓄᑦ ᐱᓕᑦᓂᓕᐊᓱᑦ	ᐱᓪᒪᓚᐅᓂᖏᓄᑦᑎᓄᕆᐊᑐᓂᖏᓐᓄᑦ
			ᐅᕋᓯᓂᒃ, ᓯᑎᕆᓇᖏᑐᓂᒃ ᑯᐃᕈᑕᐃᓕᓚᒪᓕᕆᔨᑦ, ᐊᓪᒪᓗ ᓴᓗᒪᕆᑎᐊᕆᔨᓗᑎᒃ ᐊᓪᒪᓗ ᓴᓗᒪᖏᓪᓴᔨᓗᑎᒃ ᑯᐃᔪᓂᒃ ᑕᓚᐅᑦ ᐊᐅᑎᖏᓐᓄᓂ		
	· ᑕᓚᐅᑦ ᖃᑦᑕᓄᐊᖏᑦ	· ᓇᕆᖏᐃᐅᔪᓐᓇᖅᑐᑦ	· ᓴᓇᓯᒪᔪᑦ ᐋᖏᕈᓯᓯᒪᓕᖏᓂᑦ ᒥᕈᓂᖏᓵᑦᑐᑯᑦ ᓴᓇᖕᒪᑕᐅᕆᓂᖏᓐ ᑕᓚᐅᒥ ᓇᕆᖏᐃᐅᖏᑦᑕᖏᑐᑯᑦ	ᖏᐅᐅᓵᒪᕆᐅᖕᖏᑎᑦᑐᖅ	-
		· ᑐᓴᖏᓐᓂᕈᕐᔪᑦ	· ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᒪᓕᐊᖏᑐᑦ ᐊᖕᑎᔪᒃᑯᑦ ᑕᓚᐅᖏᒥᐅᑕᓂᒃ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐊᒃᑕᐅᓂᒃ ᖃᑭᑎᖏᓐᓄᓂ 25 ᕿᓚᒋᑕᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ, ᐅᒥᐊᖏᔪᐊᑦ ᐊᔪᖏᓇᖕᑎᑎᓂᑦ, ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᓂᐊᖏᑐᑦᑎᓄᖅ ᖏᑲᐅᔨᒪᕆᐅᔪᓂᒃ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ 500 ᕿᓚᒋᑕᓂᒃ, ᐅᒥᐊᖏᔪᐊᑦ ᐊᔪᖏᓇᖕᑎᑎᓂᑦ, ᐅᒥᐊᖏᔪᐊᑦ ᖏᑲᐅᔨᓴᓂᐊᖏᑐᑦᑎᓄᖅ ᐊᖕᑎᔪᒃᑯᑦ ᑲᑎᖕᒪᔨᓂᒃ ᑕᓚᐅᖏᒥᐅᑕᓂᒃ ᖃᑦᑕᓄᐊᓂᒃ ᐊᓪᒪᓗ ᐱᑎᑕᐃᑕᓂᓗᑎᒃ, ᐅᒥᐊᖏᔪᐊᑦ ᐊᔪᖏᓇᖕᑎᑎᓂᑦ	ᖏᐅᐅᓵᒪᕆᐅᖕᖏᑎᑦᑐᖅ	-
		· ᑐᓴᐅᑐᓇᖏᑦ	· ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᒪᓕᐊᖏᑐᑦ ᐊᖕᑎᔪᒃᑯᑦ ᑕᓚᐅᖏᒥᐅᑕᓂᒃ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐊᒃᑕᐅᓂᒃ ᖃᑭᑎᖏᓐᓄᓂ 25 ᕿᓚᒋᑕᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ, ᐅᒥᐊᖏᔪᐊᑦ ᐊᔪᖏᓇᖕᑎᑎᓂᑦ · ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᒪᓕᐊᖏᑐᑦᑎᓄᖅ ᖏᑲᐅᔨᓴᓂᐊᖏᑐᑦᑎᓄᖅ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ 500 ᕿᓚᒋᑕᓂᒃ, ᐊᑎᑕᖏᓇᖕᑎᑕᐃᑕᒪᓗᓂᒃ · ᒥᕐᕿᓴᑦ ᖏᑲᐅᔨᓴᖏᑕᐅᓕᐊᖏᑐᑦᑎᓄᖅ ᐊᐅᑦᓭᖏᑲᒃᑎᖕᒪᓭᑎᑦ ᐊᓪᒪᓗ ᒥᖏᑲᖏᑲᒪᖕᓭᑎᑦ	ᖏᐅᐅᓵᒪᕆᐅᖕᖏᑎᑦᑐᖅ	-
		· ᑐᓴᐅᔨᓴᖏᑦ	· ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᒪᓕᐊᖏᑐᑦᑎᓄᖅ ᐊᖕᑎᔪᒃᑯᑦ ᑕᓚᐅᖏᒥᐅᑕᓂᒃ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ 25 ᕿᓚᒋᑕᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ, ᐅᒥᐊᖏᔪᐊᑦ ᐊᔪᖏᓇᖕᑎᑎᓂᑦ · ᐅᒥᐊᖏᔪᐊᑦ ᐱᑎᑕᐃᑕᒪᓕᐊᖏᑐᑦᑎᓄᖅ ᖏᑲᐅᔨᓴᓂᐊᖏᑐᑦᑎᓄᖅ ᖃᑦᑕᓄᐊᓂᒃ ᑲᑎᖕᒪᔨᓂᒃ ᐅᖕᓴᓯᓂᖏᓐᓄᑐᓗᓂ 500 ᕿᓚᒋᑕᓂᒃ, ᐊᑎᑕᖏᓇᖕᑎᑕᐃᑕᒪᓗᓂᒃ · ᒥᕐᕿᓴᑦ ᖏᑲᐅᔨᓴᖏᑕᐅᓕᐊᖏᑐᑦᑎᓄᖅ ᐊᐅᑦᓭᖏᑲᒃᑎᖕᒪᓭᑎᑦ ᐊᓪᒪᓗ ᒥᖏᑲᖏᑲᒪᖕᓭᑎᑦ	ᖏᐅᐅᓵᒪᕆᐅᖕᖏᑎᑦᑐᖅ	-

ᓇᓕᕆᐃᐅᔨᓪᓚᖅ	ᓄᓇᒥ ᐅᒪᓕᓂᒃ ᓯᓇᒃᑯᑦᓱᑎᓪᓗᒍ (VEC)	ᐊᓕᕆᓇᖅᑐᒃᑲᓗᐊᕐᓗᒃᑯᑦ ᐱᓕᕆᓪᓕᐊᓕᒍ	ᓯᕆᒃᑕᐅᕆᑕᐃᓚᒥᓂᒃᑯᑦ ᐊᐅᔾᔨᖅᑐᓂᒃᑎᓪᓗᒍ	ᐃᓚᒪᕆᐅᓕᔪᓄᑦ ᐱᓕᕆᓪᓕᐊᓕᒍ	ᐱᓕᓚᐅᐅᓂᖏᓐᓄᑦᑎᒃᓴᐅᓂᖏᓐᖓ
			· ᓯᒃᑲᓴᒃᑯᑦ ᑭᒃᓯᕐᓂᒃᑎᓪᓗᐊᕐᓗᒃᑐᑦ ᐊᑦᓱᑭᑕᐅᓯᓕᓴᓂᒃ ᐱᓯᓚᖓᓂᒃᓴᑦ ᐊᖏᓂᒃᑯᑦᓴᖅᑐᓂ · ᓂᕆᔨᑎᑦ ᓯᐅᑦᓯᓚᐅᑎᑕᐅᓂᒃᑎᓪᓗᒃᑐᑦ ᐊᖏᓂᒃᑯᒃᑯᑦ · ᐊᐅᓚᑕᐅᔪᑎᒃ ᐱᓯᖏᐃᐅᔨᓪᓚᑦ ᐊᑐᑕᕆᓇᖅᑐᓂᒃᑯᑦ ᐊᐅᓚᓂᕆᔭᑦ ᐅᖃᓗᓂᒃ, ᐊᑎᑕᕆᓇᖅᑐᒃᑐᓂᒃ ᐱᕆᐊᒃᑎᖏᓐᓄᑦᓂᒃ ᐊᐅᓚᓂᕆᔭᑦ, ᐊᑎᑕᕆᓇᖅᑐᒃᑐᓂᒃ ᐱᕆᐊᒃᑎᖏᓐᓄᑦᓂᒃ ᑯᐃᕆᑕᐃᓚᑕᓂᕆᔭᑦ, ᐊᑎᓪᓚᖅ ᓴᓗᒪᖅᓴᕆᓗᐊᖅᑐᒃ ᑯᐃᐊᕐᓴᖅᕆᓂᖅᓯᑦ ᐱᑐᐃᓐᓇᖅᓴᖅᑐᒃ ᑕᑯᐅᑦ ᐊᐳᑎᖓᓂᒃ		

ᓴᖅᑭᑕᐅᓯᒪᔪᑦ **5.** ᓇᐃᑦᑐᒃᑯᑦ ᐅᓂᒃᑳᓕᐊᑦ ᐃᓄᐃᑦ ᐊᕙᑎᖓ ᐃᓚᔅᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᖏᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᖅᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔾᔨᐅᓂᖓ
ᐃᑦᑕᕐᓂᑕᓕᕆᓂᖅ	ᐃᑦᑕᕐᓂᑕᐃᑦ ᓇᔪᕕᖓᑦ	· ᐱᕐᑲᕈᓐᓃᕐᓂᖅ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᓐᓂᒃ	· ᑎᑎᕋᖅᓯᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᓇᓄᓇᐃᕈᑏᑦ ᖃᖓᓃᑦᑐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᓱᓇᐅᔪᓂᒃ · ᐃᓱᒪᒋᔭᐅᔪᑎᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ ᓴᓇᑎᓪᓗᒋᑦ · ᐃᓱᒪᒋᔭᐅᔪᑎᒃ ᓴᐳᒻᒥᔾᔪᑎᓂᒃ ᖃᓄᐃᓕᐅᖅᑑᕐᓂᖅ · ᖃᐅᔨᓴᖃᑦᑕᕐᓗᑎᒃ ᐃᓚᖏᓪᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ · ᐱᓕᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᒃᑯᓐᓂᒃ · ᑲᔪᓯᒋᐊᖅᐸᓪᓕᐊᓂᒋᐊᖓᒍᑦ ᐊᐅᓚᔪᓂᒃ ᒪᓕᒐᔅᓴᓂᒃ	· ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
		· ᐱᕐᑲᕈᓐᓃᕐᓂᖅ ᑎᑎᕋᖅᓯᒪᙱᑦᑐᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᓐᓂᒃ	· ᖃᐅᔨᓴᕐᓂᖅ ᑐᓴᕿᑎᑦᑎᖅᑳᖅᑎᓐᓇᒋᑦ · ᖃᐅᔨᓴᕐᓂᖅ ᑐᙵᕕᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᙶᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᓕᖅᑯᓯᓕᕆᓂᕐᒧᑦ ᑐᑭᓯᐊᔾᔨᑎᓂᒃ · ᖃᐅᔨᓴᕐᓂᖅ ᐊᑯᓂᐅᙱᑦᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᖅᓯᒪᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᖁᑦᑎᑦᑐᒃᑯᑦ ᐃᑦᑕᕐᓂᑕᕐᕕᐅᓯᒪᔪᑦ ᐊᔪᕐᓇᙱᒃᑳᓪᓗᐊᕐᓂᖓᓄᑦ ᓇᔪᕐᕕᐅᔪᑦ · ᐱᓕᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᒃᑯᓐᓂᒃ · ᑲᔪᓯᒋᐊᖅᐸᓪᓕᐊᓂᒋᐊᖓᒍᑦ ᐊᐅᓚᔪᓂᒃ ᒪᓕᒐᔅᓴᓂᒃ	· ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᙱᑦᑐᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ · ᐱᕙᓪᓕᐊᔪᑦ ᑎᑎ?ᖅᓯᒪᙱᑦᑐᑦ ᐃᑦᑕᐃᓂᑕᓕᕆᓂᕐᒧᑦ ᓇᔪᕐᕕᖏᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
		· ᐱᕙᓪᓕᐊᔪᑦ ᐃᓕᖅᑯᓯᒃᑯᑦ ᑐᑭᓯᐊᔾᔨᔪᑏᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᓇᔪᕐᕕᐅᔪᓄᑦ	· ᖃᐅᔨᓴᕐᓂᖅ ᑐᙵᕕᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᙶᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐃᓕᖅᑯᓯᓕᕆᓂᕐᒧᑦ ᑐᑭᓯᐊᔾᔨᑎᓂᒃ · ᐱᓕᒪᖅᓴᕐᓂᖅ ᖃᐅᔨᓴᖅᑎᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᒃᑯᓐᓂᒃ · ᑲᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓕᖅᑯᓯᐅᔪᒃᑯᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ ᐱᔾᔭᐅᔾᔭᕆᐊᕐᑲᖅᑐᓂᒃ · ᐱᓯᒪᑦᑎᓂᖅ ᑲᑎᖅᓱᖅᑕᐅᔪᓂᒃ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᑕᑯᒐᓈᒐᕐᑲᕐᕕᒻᒥ	· ᐃᓕᓐᓂᐊᒃᑲᓐᓂᕐᓂᑦ ᐃᓕᖅᑯᓯᕆᔾᔭᐅᔪᓂᒃ ᑐᑭᓯᐊᔾᔪᑎᓂᒃ ᐃᓗᓕᖏᓐᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕆᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᓕᕆᐊᔪᑦ	ᓱᕋᒃᑕᐅᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᕆᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᓕᕆᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᕐᒐᓄᑦᖃᕐᓯᐅᓂᕐᒐ
	ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ ᐱᓕᕆᐊᓂᕐᒥᑦ	· ᐊᓱᙳᖅᐸᓕᐊᓂᖅ ᑮᓇᐅᔭᓕᐅᕐᓂᕆᔭᐅᔪᑦ · ᐊᕐᒥᓕᕆᓕᐊᓂᕐᒥᓄᑦ	· ᑮᓇᐅᔭᓕᕆᓂᕐᒧᑦ ᐃᑲᔫᑏᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᓐᓄᑦ ᓇᒍᓇᐃᖅᓯᒪᔫᒃᑯᑦ ᓄᑖᓄᑦ ᐱᓕᕆᐊᓯᐅᑉ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᕐᒥᑎᒍᑦ ᐊᕐᒥᕈᑎᐊᓂ ᐊᒻᒪᓗ IIBA ᐱᖃᑎᒋᓗᒍ ᕿᑎᖅᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᕐᒥᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᓇᒻᒥᓂᖃᖅᓂᖅᒧᑦ ᐃᓱᐊᓈᕝᕖᔅᐃᑦ	· ᐊᓱᙳᖅᐸᓖᓕᐊᔪᑦ ᓄᓇᓖᑦ ᐊᒻᒪᓗ ᓇᒻᒥᓂᖃᖅᑐᑦ ᐊᕐᒥᓕᕆᓕᐊᓂᕐᒥᑦ	· IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒍᑦ ᐃᓄᐃᑦ ᐃᓗᓕᕆᓐᓂᒃ ᐊᑐᐊᒐᕆᓐᓂᒃ, ᐃᓚᒋᓗᒍ ᐱᔭᕇᐊᖃᖅᑐᑦ ᐱᓕᕆᐊᓂᖅᒧᑦ ᕿᑎᖅᒥᐅᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᓂᖅ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᓂᖅᒧᑦ, ᒪᓕᒋᐊᖃᖅᑐᒃᑯᑦ ᐱᖁᔭᐅᔪᓂᒃ, ᓇᒻᒥᓂᖃᖅᓂᖅᒧᑦ ᐱᓕᕆᐊᓂᖅᒧᑦ ᐃᑲᔫᑎᓂᒃ TMAC-ᑯᑦ ᑐᓴᖅᑎᑦᑎᓂᖅ ᐃᑲᔫᑎᔅᓴᓂᒃ ᕿᑎᖅᒥᐅᓂᒃ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖃᖅᓂᖅᒧᑦ ᐱᓕᕆᐊᓂᖅᒧᑦ ᓇᓗᓇᐃᖅᑐᕆᑦ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐱᔪᒪᓇᔭᖅᑐᓂᒃ ᐱᓕᕆᐊᓂᖅᒧᑦ ᐃᓱᐊᓈᕝᕖᔅᐃ ᑐᓂᓯᓗᑎᒃ ᐃᑲᔪᖅᑕᐅᓂᖅᒧᑦ, ᐅᖃᐅᔾᔪᐃᓂᖅᒧᑦ, ᑐᑭᓯᐊᔾᔪᑎᓂᒃ ᐊᒻᒪᓗ ᓇᓗᓇᐃᖅᑐᑎᒃ ᐊᕐᒥᖅᑲᑎᖃᖅᓯᒪᓂᒃᑯᑦ ᐱᓕᕆᔾᔪᑎᒃᑯᓐᓂᒃ ᕿᑎᖅᒥᐅᑦ ᓄᓇᕐᒑᓐᓄᑦ ᓇᓕᖅᑲᖏᑎᔅᓴᓂᒃ ᐊᒻᒪᓗ ᓇᓕᖅᑲᖅᓂᖅᒧᑦ ᐊᑐᐊᒐᓂᒃ · ᐱᖃᕇᐊᖃᖅᑐᖅ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᓂᖅ ᓄᓇᕆᔭᐅᔪᒥ ᐃᓗᐊᓂ ᐸᕐᓇᐅᑎᕆᓐᓂᒃ ᓇᓕᖅᑲᖅᓂᖅᒧᑦ · ᑐᓂᓯᓂᖅ ᐅᑭᐅᒃᑯᑦ ᓇᒻᒥᓂᖃᖅᑐᓂᒃ ᐃᓱᐊᓈᕝᕖᔅᓂᒃ ᓇᓗᓇᐃᖅᑎᑦᑎᓂᖅ ᖃᓄᐃᓕᐅᖅᐸᓕᐊᔪᓂᒃ · ᖃᐅᔨᒃᑲᐃᑎᑦᑎᓂᖅ ᐱᓕᕆᐊᔪᓂᒃ ᐃᓱᐊᓈᕝᕖᔅᐅᔪᓂᒃ ᕿᑎᖅᒥᐅᑕᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-
	ᐃᖅᑲᓇᐃᔭᖅ	· ᐊᓱᙳᖅᐸᓖᓕᐊᔪᑦ ᐃᖅᑲᓇᐃᔮᒧᑦ ᐃᓱᐊᓈᕝᕖᔅᕆᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕐᓂᔭᐅᔪᑦ ᐊᓱᙳᖅᐸᓖᓕᐊᓂᕐᒥᑦ ᐱᓕᕆᐊᔅᓴᒧᑦ	· IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒍᑦ ᐅᑭᐅᒧᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᑐᕌᕐᒐᔪᓂᒃ · ᓯᕗᓕᕆᐅᔪᑦ ᐃᓱᐊᓈᕝᕖᔅᐃᑦ ᕿᑎᖅᒥᐅᑕᓄᑦ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ, ᒪᓕᒡᓗᒍ ᐃᓅᙱᑦᑐᓂᒃ · ᐱᓕᕆᐊᓂᖅ ᐃᓚᖅᑯᓯᐅᔪᒃᑯᑦ ᐊᒻᒪ ᑐᑭᓯᐊᔪᓐᓇᖅᓂᖅ ᓄᓕᐊᖅᓂᕆᕝᕕᐅᓂᖅᒧᑦ ᐊᑐᐊᒐᓂᒃ · ᖃᐅᔨᒃᑲᐃᓂᖅ ᐃᖅᑲᓇᐃᔮᔅᓴᓂᒃ ᐃᓱᐊᓈᕝᕖᔅᓂᒃ	· ᐊᓱᙳᖅᐸᓖᓕᐊᔪᑦ ᐃᖅᑲᓇᐃᔮᔅᓴᒧᑦ ᐃᓱᐊᓈᕝᕖᔅᓯᐃᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᖅᑕᐅ ᕘᒃᑐᓂᒃ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᓇᓯᕐᓂᐅᔨᓪᓚᑦ	ᓄᓇᒥ ᐅᒪᓯᓂᖅ ᓯᓇᐅᔨᑕᖅ (VEC)	ᐊᓯᕐᓇᖏᑎᒃᓴᐃᖅᑐᒃᓗᐊᖅᑐᒥᑦ ᐱᓕᕆᓂᖅ	ᓯᕗᑦᑕᐅᕐᑕᐃᓕᓕᓂᒃᑯᒥᑦ ᐊᐅᔪᓐᖏᑦᑐᓂᖅ	ᐃᓕᓴᐅᔨᓯᓄᑦ ᐱᓕᕆᓂᖅ	ᐱᓪᓚᕆᐅᓂᖅᓱᓄᕐᓇᒃᓴᓯᐅᓂᖅᓱ
		ᐊᖏᑕᓂᖅᓱᓄᓄᑦ ᓇᓪᓕᒡᕐᔪᓂᖅ ᓄᓇᓕᖏᓂᖅ ᐱᓕᕆᓇᐸᓴᓄᑦ	ᕿᑎᕐᕕᐅᑕᓄᑦ • ᐱᓕᕆᓚᐊᓂᖅ ᐊᓚᒪᓗ ᓴᖅᑭᑎᕐᑎᓂᖅ ᐃᓄᖏᓄᑦ ᐱᓪᓗᐊᑎᓴᓂᖅ <ᕐᓇᐅᑎᓂᖅ • ᐱᓕᕆᓚᐊᓂᖅ ᐊᓚᒪᓗ ᓴᖅᑭᑎᕐᑎᓂᖅ ᐱᓕᕆᓚᐊᓂᖅ ᐊᓯᖏᓐᓄᑦᑐᑦ <ᕐᓇᐅᑎᓂᖅ ᒪᑐᐊᕐᓇᖅᑐᓪᓗᒍ	• ᓇᓪᓕᒡᕐᔪᓂᖅ ᓄᓇᒥᓴᒧᑦ ᐱᓕᕆᓂᖅᓱᑦ	
	ᐃᓕᓴᐅᔨᓯᓂᖅ ᐊᓚᒪᓗ ᐃᓕᓴᐱᓴᓕᐅᑎᓂᑦ	• ᐊᓯᖏᓐᓄᓴᐸᓪᓕᐊᔪᑦ ᐱᔪᒪᔨᓄᑦ ᐃᓕᓴᐅᔨᓯᓂᖅᓱᑦ ᐊᓚᒪᓗ ᐃᓕᓴᐱᑎᕐᑎᓂᖅᓱᑦ ᐃᓕᓴᐅᔨᐸᕐᑐᓄᑦ • ᐊᓯᖏᓐᓄᓴᐸᓪᓕᐊᔪᑦ ᐃᓯᒪᒋᔭᐅᓴᒃᑯᑦ ᐃᓕᓴᐅᔨᓯᓂᖅ ᐃᓄᖏᓄᑦ • ᐃᓄᖏᓄᓴᐸᓪᓕᐊᔪᑦ ᐃᓄᖏᓄᓴᐅᓪᓚᖅᑐᑦ	• IIBA-ᓄᑦ ᐋᓴᐳᒃᑕᐅᓯᒪᔪᖅᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐅᑭᐅᒧᑦ ᐊᒪᓂᐅᔪᖅᓄᑦ ᐃᓄᐃᑦᑎᑦ ᑐᑭᓯᐅᓴᑦ ᐊᒪᓚᓗ ᐊᐅᓪᓚᕆᐊᓂᖅ ᐃᓄᐃᑦᑎᑦ ᐊᒪᓚᓗ ᐃᓕᓴᐅᔨᓯᓂᖅᓱᑦ ᑭᓇᐅᔭᓕᖅᑐᑦ ᐃᑲᔪᖅᑐᑦ • ᐃᑲᔪᖅᑐᑎᓪᓗᒍ ᕿᑎᕐᕕᐅᑕᓄᑦ ᐃᓄᐃᑦᑎᑦ ᑲᑐᔾᔨᖏᑦᑐᖅ, ᓴᓇᒪᔭᓄᑦ ᐊᒪᓚᓗ ᐃᓕᓴᐅᔨᓯᓂᖅᓱᑦ • ᐱᓕᕆᓚᐊᓂᖅ ᐃᓄᖏᓄᑦ ᐱᔪᒪᔨᓄᖅᑎᒍᑦ <ᕐᓇᐅᑎᓂᖅ ᐱᓕᕆᓚᐊᓂᖅᓱᖅᑐᓂᒃᑯᓂᖅ ᐃᓕᓴᐅᔨᓯᓂᖅᓱᑦ • ᐃᓅᖅᑲᓇᐃᔭᒍᑦ ᐊᓯᖏᓐᓄᓴᐸᓪᓕᐊᔪᑦ <ᕐᓇᐅᑎᓂᖅ ᐃᓄᐃᑦᑎᑦ ᐃᓅᖅᑲᓇᐃᔭᒍᑦ ᓴᖅᑭᑎᕐᕕᐅᑕᓄᑦ ᑲᑎᕐᕕᐅᑕᓄᑦ ᐃᓅᖅᑲᓇᐃᔭᒍᑦ	ᓴᖅᑭᑦᓴᒪᓕᐅᖅᓯᒪᔪᑦᑐᒍ	-
	ᐊᐅᓪᓚᑦᓯᓂᖅ, ᐃᓪᓗᓕᕆᓂᖅ ᐊᒪᓚᓗ ᓴᓇᔨᒪᓴᓕᒃ ᐱᓕᕆᓂᖅᑐᑎᒍᑦ	• ᓄᑉᓯᒪᓂᓕᒃ ᓴᑭᑎᕐᕕᐅᓄᑦ • ᐊᓯᖏᓐᓄᓴᐸᓪᓕᐊᓂᖓ ᐱᔪᒪᔨᓄᑦ ᐃᓗᓕᕆᓂᖅᓱᑦ • ᐊᓯᖏᓐᓄᓴᐸᓪᓕᐊᓂᖅ ᐱᔪᒪᔨᓄᑦ ᓄᓇᓕᖏᓂᖅ ᐱᓕᕆᓂᖅᑐᑎᒍᑦ	• ᐊᒥᓱᓄᑲᓖᓴᓕᒃᑯᑦ ᐃᓅᖅᑲᓇᐃᔭᓴᖅᑎᑕᐅᓂᖅ ᐊᒪᓚᓗ ᐊᐅᓪᓚᑦᓯᓂᖅᑐᒍᑦ ᐃᓄᖓᓄᑦ ᐃᓅᖅᑲᓇᐃᔭᒍᑦ, ᓴᑭᑎᕐᕕᐅᑕᐅᔪᓂᖅ ᐃᓅᖅᑲᓇᐃᔭᓕᓴᖅᑎᓪᓗᑎᒍᑦ ᐊᒪᓚᓗ ᐱᓕᕆᓚᐊᓕᒍᑦ ᓇᓪᓕᒡᕐᔪᓂᖅ • ᑲᔪᓯᓄᑦᑐᓂᒃᑯᑦ ᓄᓇᓕᖏᓐᓄᑦ ᐃᓕᓴᐅᔨᓯᓂᖅᓱᓕᒫᓂᑦ <ᕐᓇᐅᑎᓂᒃ	ᓴᖅᑭᑦᓴᒪᓕᐅᖅᓯᒪᔪᑦᑐᒍᓴᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᑎᑦ (VEC)	ᐊᔪᕐᓇᙱᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕋᒃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᕐᑎᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᕐᑲᔅᓯᐅᓂᖓ
	ᓄᓇᒥ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖅ ᐊᒻᒪᓗ ᐃᓅᑦᑎᐊᕐᓂᖅ	· ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᒃᑐᓄᑦ ᑐᙵᕝᕕᖓ · ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᑦ ᐱᕐᑲᑎᒌᓐᓂᖅ · ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᓂᕿᓄᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑭᖏᑦ ᐃᓅᓂᕐᒧᑦ	· IIBA-ᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᒃᑯᑦ ᑎᑎᕋᖅᓯᒪᓂᑎᒍᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᒧᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ ᐃᑲᔫᑎᓂᒃ ᐱᓕᕆᐊᔅᓴᐃᑦ; ᓂᕆᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᓂᕿᕐᑎᓐᓂᒃ ᓇᔪᕐᕕᒻᒥ; ᑲᔪᓯᑦᑎᐊᕐᓂᕐᒧᑦ ᓱᔮᕐᓗᕐᓂᕐᓄᑦ ᐊᒻᒪᓗ ᐃᒥᐊᓗᕐᒧᑦ ᐊᑐᐊᒐᓂᒃ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ "ᐱᕐᑲᓇᐊᕐᑲᒻᒪᓇᙱᑦᑐᑦ"; ᑐᓂᓯᓂᖅ ᓇᔪᕐᕕᐅᔪᒥ ᐅᕐᑲᕐᑲᑎᒌᒍᓐᓇᕐᓂᕐᒧᑦ ᐱᔪᓐᓇᕐᓂᖅ ᐅᕐᑲᕐᑲᑎᒌᔪᓐᓇᕐᑯᓪᓗᑎᑦ ᐃᓄᐃᑦ ᐃᖅᑲᓇᐃᔭᖅᑏᑦ ᐱᕐᑲᑎᒋᔭᕐᑎᓐᓄᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ; ᐊᒻᒪᓗ ᑐᓂᓯᒪᓂᖅ ᐃᓄᐃᑦ ᓂᕿᕐᑎᓐᓂᒃ ᓂᕆᕝᕕᒻᒥ ᐊᒻᒪᓗ ᐃᓪᖅᑯᓯᒃᑯᑦ ᐱᙳᐊᕐᓂᖅ ᐱᓕᕆᐊᔅᔅᑯᑦ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᐱᒻᒪᒃᓴᖅᑐᓕᕆᔾᑯᓂᑦ ᖃᐅᔾᔭᖅᑎᕐᑎᓐᓂᑦ · TMAC-ᑯᑦ ᓇᓗᓇᐃᕐᓂᐊᖅᑐᑦ ᐃᖅᑲᓇᐃᔮᖅᑐᒧᑦ ᐃᑲᔪᖅᑕᐅᔭᕆᐊᕐᑲᕐᓂᖅᐸᑦ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ; ᐱᕙᓪᓕᐊᓂᖅ ᑲᔪᓯᔪᒃᑯᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᖅ ᐃᓄᕐᓄᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᓇᓗᓇᐃᕐᓗᕐᑎᑦ ᐱᔪᒪᔭᕐᑎᓐᓂᒃ, ᐊᑲᐅᙱᑎᓕᐅᕈᑎᓂᒃ ᐊᒻᒪᓗ ᐃᓱᒫᓘᑎᕐᑎᔭᕐᑎᓐᓂᒃ; ᐃᑲᔪᕐᓂᖅ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᕙᓪᓕᐊᓂᖅ ᐃᓅᑦᑎᐊᕐᓂᕐᒧᑦ ᐃᑎᐊᖅᑎᑦᑎᓂᕐᒧᑦ	• ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᐃᓚᒌᒃᑐᓄᑦ ᑐᙵᔾᕕᕐᑎᑦ • ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᒌᑦ ᑲᑎᙵᙵᔪᓂᒃ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ
ᓄᓇᒧᑦ ᐊᑐᕐᓂᖅ	ᐱᓕᕆᕝᕕᐅᔪᓄᑦ ᓄᓇᐃᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᑦ	· ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᓄᓇᒧᐊᕈᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᕐᑎᑦ · ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᖕᓂᕐᒧᑦ ᐱᐊᓂᕐᓂᖅ/ᐊᖑᓇᓱᕐᓂᖅ · ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᓄᓇᒧᑦ	· ᐸᕐᓇᐅᑏᑦ ᒥᑭᔪᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᕐᒧᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᓂᕐᔪᑎᓄᑦ ᓇᔪᕐᕕᐅᔪᓄᑦ · ᒥᑭᓂᖅᐹᒃᑯᑦ ᓴᓇᕝᕕᓕᐅᕐᓂᖅ · ᓱᒃᑲᔪᒃᑯᑦ ᑭᒡᓕᖅᑲᖅᑎᑦᑎᓂᖅ ᐱᑎᑦᑎᓂᐊᖅᑐᖅ ᒥᑭᔪᒃᑯᑦ ᑐᓗᕐᓂᕐᒧᑦ ᓂᕐᔪᑎᓂᒃ. · TMAC-ᑯᑦ ᐱᕐᑲᖅᑐᑦ ᐊᓯᕙᕐᑯᔾᔭᙱᓐᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓗᒃᑖᓄᑦ ᐱᓕᕆᑎᓪᓗᑎᑦ ᓇᔪᕐᕕᒻᒥ. · ᓄᖅᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᕐᕕᐅᔪᓂᒃ ᑐᓴᕐᓃᑦᑐᓂᒃ-ᐊᐅᓚᔪᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐸᑲᓪᓚᒃᑐᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᖅᑐᒃᑯᑦ · ᓴᓇᓂᖅ ᐊᖅᑯᑎᓂᒃ ᑲᔪᓯᔪᙱᑦᑐᒃᑯᑦ ᐅᕕᖓᔪᒃᑯᑦ ᓄᓇᒥ ᐃᑳᖅᑕᐅᔪᓐᓇᖅᑲᑦᑕᕐᓂᕐᒧᑦ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓄᑦ	ᖃᐅᔨᒪᔭᐅᙱᑦᑐᖅ	-

ᓇᔪᕐᕕᐅᔪᑦ	ᓄᓇᒥ ᐆᒪᔪᓂᒃ ᓱᓇᒃᑯᑖᕐᒥᑦ (VEC)	ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᓱᕐᖃᑕᐅᑦᑕᐃᓕᒪᓂᒃᑯᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᑦ	ᐃᓚᒃᓴᐅᔪᓄᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᓂᖓᓄᑦᑲᔾᔨᐅᓂᖓ
			· ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᒥ (IIBA) ᐱᕆᑎᒋᓗᒍ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᕐᑲᑎᒌᖏᑦ, ᐃᓚᒋᔭᕐᑲᖅᑐᑦ; ᐊᓯᖓᒍᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᑦᓯᒪᓂᑎᒍᑦ, ᐱᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᐊᕐᓴᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᓂᒃ · ᐱᔪᓐᓇᖅᑎᑕᐅᓂᖅ ᓄᓇᒧᑦ ᐊᑐᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖏᑦᑐᒃᑯᑦ ᐃᖆᕐᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᔫᓄᑦ ᐊᕙᑎᖓᓂ · ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐊᕙᑎᒧᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ · ᓴᖅᑭᑎᑦᑎᓂᖅ ᓄᓇᒋᔭᐅᔪᑦ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐃᓚᒋᔭᕐᑲᖅᑐᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᓄᓇᕐᑲᖅᑐᓄᑦ		
ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᓂᖅ	· ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᓄᓇᒧᐊᕈᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᐅᔪᓐᓇᕐᓂᖏᑦ · ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᙵᓂᕐᒧᑦ ᐱᐊᓂᙵᓂᖅ/ᐊᖑᓇᓱᙵᓂᖅ · ᐊᓯᙳᖅᐸᓪᓕᐊᔪᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᓄᓇᒧᑦ	· ᐸᕐᓇᐅᑎ ᐃᓂᓕᐅᕐᓂᕐᒧᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᓂᕐᔪᑎᓄᑦ ᐊᕙᑎᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐃᓂᓕᐅᕐᓂᖅ ᓴᓇᕗᑦᕕᐅᔪᓂᒃ TMAC-ᑯᑦ ᐱᑕᕐᑲᖅᑐᑦ ᐊᓯᕙᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓄᒃᑖᓄᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ. · ᑭᒡᓕᕐᑲᖅᑎᑦᑎᓂᖅ ᓇᔪᕐᕕᐅᔪᓄᑦ ᑐᓴᕐᓃᑦᑐᓂᒃ-ᐊᐅᓚᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᔪᕐᓇᖏᓐᓂᖓᓄᑦ · ᓴᓇᓂᖅ ᐊᖅᑯᑎᓂᒃ ᑲᔪᓯᔪᙱᑦᑐᒃᑯᑦ ᐅᕝᕙᓘᒃᑯᑦ ᓄᓇᒥ ᐃᑳᖅᑕᐅᔪᓐᓇᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᓂᕐᔪᑎᓄᑦ · ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐃᑲᔫᑎᓂᒃ ᐊᖏᕈᑎᒥ (IIBA) ᐱᕆᑎᒋᓗᒍ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᕐᑲᑎᒌᖏᑦ, ᐃᓚᒋᔭᕐᑲᖅᑐᑦ; ᐊᓯᖓᒍᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᑎᑎᕋᑦᓯᒪᓂᑎᒍᑦ, ᐱᔪᓐᓇᕐᓂᖅ ᐱᓕᕆᐊᕐᓴᐅᑉ ᓴᓇᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐊᖅᑯᑎᓂᒃ · ᐱᔪᓐᓇᖅᑎᑕᐅᓂᖅ ᓄᓇᒧᑦ ᐊᑐᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᖏᑦᑐᒃᑯᑦ ᐃᖆᕐᓂᖅ ᐱᓕᕆᐊᕆᔭᐅᔫᓄᑦ ᐊᕙᑎᖓᓂ · ᓴᖅᑭᑎᑦᑎᓂᖅ ᐃᓄᐃᑦ ᐊᕙᑎᒧᑦ ᐅᕐᑲᐅᔾᔪᐃᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ · ᓴᖅᑭᑎᑦᑎᓂᖅ ᓄᓇᒋᔭᐅᔪᑦ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐃᓚᒋᔭᕐᑲᖅᑐᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔪᓂᒃ ᐃᓚᒋᔭᐅᓂᕐᒧᑦ ᓄᓇᕐᑲᖅᑐᓄᑦ	· ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖅ ᐊᖑᓇᓱᙵᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᑦ	ᐱᒻᒪᕆᐅᙱᑦᑐᖅ

ᐊᔾᔨᖓᒍᑦ TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᔪᑦ ᐊᑐᕐᓗᑎᒃ ᓴᐳᒻᒥᔾᔪᑎᔅᓴᓂᒃ ᑐᒃᑐᓂᒃ ᐊᒻᒪᓗ ᐊᒃᖤᓂᒃ – ᓯᖅᑯᐃᓂᕐᒧᑦ ᐊᑐᒪᑦᑕᐃᓕᓂᖅ, ᐊᓯᑯᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᖑᓇᓱᒃᑕᐃᓕᒪᓂᕐᒧᑦ ᒪᓕᒐᓂᒃ, ᐊᖅᑯᑎᒃᑯᑦ ᓱᒃᑲᔪᓂᒃ ᓇᓗᓇᐃᖅᓯᒪᓂᖅ, ᐊᒻᒪᓗ ᓂᕐᔪᑎᓂᒃ ᓯᕗᓪᓕᐅᑎᑦᑎᓂᖅ ᐊᖅᑯᑎᒥ – ᓴᐳᒻᒥᖅᑲᑕᐅᓂᐊᖅᑐᑦ ᐅᒥᖕᒪᓂᒃ, ᖃᕝᕕᓂᒃ ᐊᒻᒪᓗ ᐊᒪᕈᓂᒃ.

ᖃᓄᐃᑦᑑᓂᖓ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓯᖓ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᖅ ᐱᔪᓐᓇᙱᑦᓗᒍ ᐱᐊᓛᖅᑖᖅᐸᓪᓕᐊᔪᓂᒃ. ᐊᑕᐅᓯᑐᐊᖅ ᐱᑭᐅᖅ, ᑭᒡᒐᕙᐊᕐᔪᐊᑦ ᓇᔪᕐᕕᖓᑦ ᐊᒥᓱᓂᒃ ᐱᑭᐅᖅᑲᖅᑐᑦ, ᓇᓂᔭᐅᓯᒪᔪᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᑉ ᖃᓂᒋᔭᖓᒐᓃᑦᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᓯᒪᒋᔭᐅᔪᑦ ᑖᒃᑯᐊᒃ ᖁᐸᓄᐊᑦ ᐊᑐᓲᓂᖅᒋᓐᓂᒃ ᐱᑭᐅᓂᒃ ᓇᔪᕐᕕᒋᔭᖅᒋᓐᓂᒃ ᓄᓇᒋᔭᖅᒋᓐᓂ. ᐃᓚᖏᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐅᔭᕋᖕᓂᐊᕐᕕᐅᔪᑦ ᐅᓂᒃᑳᓕᐅᖅᓯᒪᔪᑦ ᐃᓐᓇᕐᒥ ᖁᐸᓄᐊᑦ ᐊᒻᒪᓗ ᓴᐅᔭᐅᓯᒪᔪᓂᒃ ᐅᕐᓂᒃᑕᐅᕙᓂᖏᑦ ᐱᑭᐅᒧᑦ. ᑭᓯᐊᓂ, ᐱᓕᕆᐊᔅᓴᐅᔪᑦ ᓇᔪᕐᕕᖏᑦ ᐊᒥᓲᙱᑦᑐᓃᑦᑐᑦ ᐃᓐᓇᕈᖅᑲᖅᑐᒥ, ᐅᑉᐱᓇᔭᐅᙱᑦᑐᑦ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᐅᑉ ᓇᔪᕐᕕᐊᓂ. ᖁᐸᓄᐊᓂᑦ ᖃᐅᔨᔪᖅᑲᖅᓯᒪᙱᑦᑐᑦ ᐱᑭᐅᓕᐅᕐᓂᕐᒧᑦ ᑐᐊᓂᔅᒥ ᐱᓕᕆᐊᒃᓴᓂᓴᐅᔪᓂᒃ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒥ ᐊᒥᓲᙱᑦᑐᑦ ᐱᑭᐅᓕᐅᖅᑕᐅᓯᒪᔪᓂᑦ ᓇᔪᕐᕕᐅᑦ, ᖃᐅᔨᓴᕐᕕᒋᓴᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᔪᑦᑯᑦ ᓂᕿᒃᓴᐅᖅᐸᒃᑐᑦ ᑭᒡᓕᖅᑲᖅᓂᐊᖅᑐᑦ ᖁᐸᓄᐊᓄᑦ ᓂᕿᒃᓴᐅᓂᕐᒧᑦ.

ᐊᒥᓱᒃᑯᑦ ᖁᐸᓄᐊᓂᖅᑲᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐊᒻᒪᓗ ᓄᓇᒃᑯᑦ ᐱᐊᓛᖅᑖᖅᑲᑦᑕᖅᑐᓂᒃ (ᐃᙱᓲᑦ). ᐱᑭᐅᖕᒍᔪᑦ ᐱᑦᑕᐃᓕᔭᐅᓂᐊᖅᑐᖅ ᓴᓇᑎᓪᓗᒋᑦ ᓄᑖᓂᕐ ᓴᓇᔭᐅᓂᐊᖅᑐᓂᒃ ᑭᓯᐊᓂ ᐱᑭᐅᓕᐅᖅᑐᓂᒃ ᓯᓚᑖᓂ ᐱᑭᐅᓕᐅᖅᑲᑦᑕᓕᖅᑎᓪᓗᒋᑦ, ᐅᕝᕙᓘᓐᓃᑦ ᖃᐅᔨᓴᖅᑲᑦᑕᖅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᖅᑮᓗᑎᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᐱᑭᐅᑉ ᖃᓂᖅᒥ ᓴᓇᕙᒃᑎᖃᓗᒃᑐᑦ ᐊᐅᔭᒃᑯᑦ. ᐊᖅᑯᑎᒃᑯᑦ ᒪᓕᒐᔅᓴᓂᒃ ᓇᓗᓇᐃᒃᑯᑕᓂᒃ ᑭᒡᓕᖅᑲᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᖁᑦᑐᒋᑦ ᓄᓇᓯᐅᑏᑦ ᐱᓂᕐᓗᓐᓂᕐᒧᑦ ᖁᐸᓄᐊᓄᑦ.

ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᒻᒪᓗ ᓯᐅᕋᖅ ᐊᐅᓚᑕᐅᓂᐊᖅᑐᑦ ᓂᕐᔪᑏᑦ ᓴᐳᒻᒥᖁᑦᑐᒋᑦ. ᐅᖅᓯᐃᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑐᑦ ᐃᓚᔅᓴᐃᑦ ᐊᐅᓚᑕᐅᑎᐊᕐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᑯᕕᔭᖅᑲᕐᓂᖅᐸᑦ ᓴᓗᒻᒪᖅᑕᐅᓪᓚᒃᓯᒪᓪᓗᓂ ᑯᕕᑎᓪᓗᒍ ᑐᐊᕕᕐᓗᑎᒃ

TMAC-ᑯᑦ ᐋᖅᑭᓯᒪᔪᑦ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖅ, ᐃᓚᒋᓗᒍ ᓱᖅᑲᑕᐃᓕᒪᑎᑦᑎᓂᖅ ᐱᖁᑎᕕᒥᓂᕐᓂᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᕐᒧᑦ ᐊᔾᔨᐅᙱᑦᑐᓂᒃ, ᐱᑦᑕᐃᓕᒪᓗᑎᒃ ᐊᖏᔪᒃᑯᑦ ᐱᖁᓯᐊᓂᕐᒧᑦ ᓄᓇᒧᑦ ᓂᕐᔪᑎᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓂᕐᔪᑏᑦ ᓇᔪᕐᕕᖏᓐᓂ.

ᐃᒪᖅᑎᐊᕙᑉ ᐊᕙᑎᖓ

TMAC-ᑯᑦ ᐸᕐᓇᕐᓯᒪᔪᑦ ᐊᒥᓱᒃᑯᑦ ᐊᔾᔨᐅᙱᑦᑐᓂᒃ ᒥᑭᓂᖅᐹᒃᑯᑦ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᓇᔭᐅᔪᓂᒃ ᐊᔾᔨᐅᙱᑦᑐᓂᖅᓯᕗᐊᖕᒍᓄᑦ ᐱᖅᑯᑎᒋᔭᐅᔪᓂᒃ ᐃᒪᒃᑯᑦ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ, ᐃᒪᑦᑕᐅᖅ ᐊᒻᒪᓗ ᑕᓇᐅᑉ ᐃᖅᑲᓄᖅᑎᒥ ᓇᔪᕐᕕᒋᔭᕐᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᐃᖅᑲᓄᕐᓂᕐᓂᒃ ᓇᔪᕐᕕᒋᔭᕐᓂᖓᓄᑦ.

ᐱᓕᕆᐊᔅᓴᖅ ᐊᑐᕐᓂᐊᖅᑐᖅ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐃᒪᕐᓂᒃ ᐊᑐᐃᓐᓇᐅᔪᒃᑯᑦ ᐊᒻᒪᓗ ᐊᑐᑦᑎᐊᕐᓗᒍ ᐊᑐᓇᐊᖅᑲᖅᑕᕐᓂᖓᓂᒃ ᐅᑎᖅᑎᑕᐅᖅᑲᖅᑎᓐᓇᓱᒃᑐᓂᒃ ᓇᔪᕐᕕᒋᓗᒋᑦ. ᐊᓇᖅᑕᕐᓴᒪᒃ ᓴᓗᒻᒪᖅᓴᕐᓂᖅ ᓴᓇᕐᕕᐅᑉ ᐱᓕᕆᐊᓇᔭᐃᑦ ᐅᑎᖅᑎᑕᐅᓗᒋᑦ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐊᑐᖅᑕᐅᖁᓪᓗᒍ ᓯᕗᓂᖓᓄᑦ ᐊᑐᐃᓐᓇᐅᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᐊᐅᓚᑕᐅᓂᐊᖅᑐᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᒪᓕᒋᐊᖃᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᒃ ᐊᑐᐃᓐᓇᐅᓂᖓᓂᒃ, ᐃᒪᑦᑕᐅᖅ ᑲᑎᒪᔨᑦ ᑲᑎᖅᓱᐃᓂᖓᓄᑦ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ, ᐊᒻᒪᓗ ᓯᓚᑖᓄᑦ ᑲᓇᖅᓯᒪ. ᐃᒪᖅ ᑲᑎᖅᓱᐃᓂᖓ ᐅᖅᓯᓕᓴᖅᑕᐅᔪᒃ ᐊᒻᒪᓗ ᓴᓇᕙᒃᑕᐅᓂᖓᓂᒃ ᓇᔪᕐᕕᒋᔭᕐᓂᖓᓂᒃ, ᐊᒻᒪᓗ ᐊᓇᖅᑕᕐᓴᒥᒃ ᓄᓇᓯᐅᑎᓄᑦ ᐊᐅᓚᓂᖓ ᓴᓇᕙᒃᑕᐅᓂᖓ ᒪᓕᒐᓂᒃ ᒪᓕᒃᓯᓂᒃ ᐅᑎᖅᑎᑕᐅᖅᑲᖅᑎᓐᓇᓱᒃᑐᓂᒃ.

ᐃᓚᖓ ᐱᓕᕆᐊᔅᓴᖅ ᐊᔾᔨᐅᙱᑦᑐᓕᒃᑲᓐᓂᖅᓯᒪᓂᖓᓄᑦ ᐱᖅᑯᑎᓂᑯᓄᑦ ᐅᖃᐅᓯᖅᑕᐅᔪᓄᑦ ᑯᕕᔭᐅᓂᖓᓄᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᒃᓴᓂᖓᓄᑦ, ᐃᓚᒃᓴᐃᑦ ᑲᑎᖅᓱᐃᓯᒪᓂᖏᓐᓄᑦ, ᐅᖃᐅᓯᕆᓂᖅ ᐅᔭᖅᑲᑎᒋᔭᐅᓂᖓᓄᑦ ᒥᑭᓂᖓᓄᑦ, ᐊᒻᒪᓗ ᐊᐅᓚᓂᖓ ᓇᓄᐃᑦᑐᓂᒃ ᐃᒪᒥ ᖃᐅᔨᓴᖅᑕᐅᓗᓂ ᒪᓕᒃᓯᓗᒍ ᐃᒪᐅᑉ ᓄᖅᑲᖅᓯᒪᓂᖓᓂᒃ ᑯᕕᔭᐅᓂᖓ ᐊᕙᑎᖓ.

ᐃᖃᓗᐃᑦ ᓇᔪᖅᕕᖓ ᓴᐳᒥᔭᐅᓂᐊᖅᑐᑦ ᓴᓇᑎᓪᓗᒋᑦ ᐃᑳᖃᑦᑕᖅᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐅᒥᐊᖅᓱᐊᖅ ᑐᖃᑦᑕᖅᑎᓪᓗᒍ ᓄᓇᒧᑦ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ ᒪᓕᓪᓗᒍ ᒪᓕᒐᔅᓴᐅᔪᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐃᒪᓕᕆᔨᒃᑯᓂᑦ ᑲᓇᑕᒥ. TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᐱᓕᕆᐊᔅᓴᐅᑉ ᐱᑦᑕᐃᓕᒪᓂᖏᑦ ᐃᖃᓗᓐᓂᒃ ᓇᔪᖅᕕᐅᔪᓂᒃ ᐊᖏᓂᖅᐹᒃᑯᑦ ᐱᔪᓐᓇᖏᓐᓂᒃᑯᑦ. ᐃᖃᓗᐃ ᓇᔪᖅᕕᖓᑦ ᐱᔭᐅᔭᕆᐊᖃᙱᓐᓂᖓ ᐱᔾᔪᑎᒋᓪᓗᒍ, ᓇᔪᖅᕕᐅᔪᑦ ᐊᔾᔨᒋᔭᖅᑲᓪᓚᙱᑦᑐᑦ ᐸᖅᓇᐅᑎᓄᑦ ᐊᖏᖅᑕᐅᓯᒪᓗᓂ ᐃᒪᓕᕆᔨᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ. ᖃᑎᖏᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᒻᒪᓗ ᑭᒃᑯᑐᐃᓐᓇᐃᑦ ᓄᓇᖃᖅᑐᑦ ᐃᓚᒋᔭᐅᓂᐊᖅᑐᑦ ᐱᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐃᓱᐊᓈᖅᕙᔅᓴᖅᑐᑎᒃ ᐅᖃᐅᓯᕆᔪᒪᔭᖏᓐᓂᒃ.

TMAC-ᑯᑦ ᐋᖅᑮᓯᒪᔪᑦ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖅ, ᐃᓚᒋᔭᖅᑲᖅᑐᓂ ᓯᕿᖅᑎᑦᑎᑦᑕᐃᓕᒪᓂᖏᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖏᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ, ᐱᑦᑕᐃᓕᒪᓗᓂ ᐊᖏᔫᒃᑯᑦ ᐱᕚᓪᓕᐊᔪᓂᒃ ᐃᒪᑦᑎᐊᕙᐅᑉ ᐊᕙᑎᖓᓄᑦ.

ᑕᕆᐅᑉ ᐊᕙᑎᖓ

ᐅᖅᓱᕆᒃ ᐊᔾᔭᖅᓯᖅᑲᑦᑕᕐᓂᖅ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᒪᓕᖕᓂᐊᖅᑐᑦ ᑲᓇᑕᒥ ᐃᖏᖅᖃᔾᔨᑎᓕᕆᔨᓪᒪᕆᒃᑯᖏᓐᓂᑦ ᒪᓕᒐᖏᓐᓂᒃ. ᐲᖅᑕᐅᕙᒃᑐᑦ ᐊᑦᑕᖅᑕᐅᓂᑯᑦ ᑭᓱᒃᓴᐃᑦ ᐊᑐᖏᓐᓂᖏᑦ ᓇᔪᖅᕕᖓᑦ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓄᑦ ᑲᑎᖅᑲᖅᑲᓇᐊᖅᑲᖅᑐᑦ ᓴᕙᕋᔭᐃᑦ ᐅᔭᕋᖕᓂᐊᖅᕕᖕᒐᓄᑦ ᒪᓕᒐᖏᓐᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᐊᕙᑎᓕᕆᓃᑦ ᐊᒻᒪᓗ ᓯᓚᓕᕆᓃᑦ ᑲᓇᑕᒥ, ᐊᔾᔨᒃᓴᐃᑦ ᐅᔭᕋᖕᓂᐊᖅᕕᐅᔪᓂᒃ ᑲᓇᑕᒥ. ᐃᓚᒋᐊᖅᓗᒍ, TMAC-ᑯᑦ ᐱᖁᔭᐅᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᖁᔭᐅᓗᑎᒃ ᐊᕙᑎᒥᒃ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ ᓇᓗᓇᐃᑦᑎᐊᖅᓗᒍ ᐲᖅᑕᐅᕙᓪᓕᐊᔪᑦ ᐊᑦᑕᖅᓇᖅᑕᐃᓕᒪᓂᖓᓄᑦ ᐃᒪᖅᒥᐅᑕᓂᒃ ᐆᒪᔪᓂᒃ.

ᓴᓇᓂᖏᑦ ᐅᒥᐊᖅᓱᐊᒃᑯᑦ ᑐᖃᑦᑕᖅᑐᓂᒃ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ, TMAC-ᑯᑦ ᑭᒡᓕᖅᑲᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᑕᕆᐅᑉ ᐃᖃᓗᖕᒋᓐᓂᒃ ᒪᓕᓪᓗᒍ ᐃᒪᖅᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥᑦ ᒪᓕᒐᖏᓐᓂᒃ ᐱᑦᑕᐃᓕᒪᖁᓪᓗᒋᑦ ᐊᑦᑕᖅᓇᖅᑐᓂᒃ ᐃᖃᓗᓐᓄᑦ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᖅᕕᖏᓐᓂᒃ. ᐃᓚᒋᐊᖅᓗᒍ ᐊᓯᖏᓐᓄᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᑐᓴᕐᓃᓐᓂᖅ, ᐳᓪᓚᖅᑲᖅᓂᖅ ᐊᒻᒪᓗ ᓴᔪᖕᓂᖅᒥᒃ (ᐆᑦᑑᑎᒋᓗᒍ, ᓄᓇᓯᐅᑎᒃᑯᑦ, ᓯᖅᑯᖅᑎᑦᑎᓂᒃᑯᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐅᒥᐊᖅᓱᐊᒃᑯᑦ ᐊᓯᖅᑐᐃᓂᒃᑯᑦ). ᐱᓕᕆᓗᓂ ᐃᒪᖅᒥ ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ ᒥᑭᓐᓂᖅᐹᒃᑯᑦ ᐊᑦᑕᖅᓇᖅᑕᐃᓕᒪᔫᒃᑰᖅᑐᑎᒃ ᐃᖃᓗᖕᓄᑦ, ᐊᒻᒪᓗ ᓇᔪᖅᕕᐅᔪᖅ ᐊᑐᖅᑕᐅᓐᓂᖅᐸᑦ ᐊᓯᖅᑐᐃᑎᓪᓗᒋᑦ ᐱᖁᑎᓂᒃ ᑐᓚᒃᑲᐊᓂ ᒥᑭᓐᓂᖅᐹᒃᑰᕿᓯᐊᖅᓂᐊᖅᑐᑦ ᓯᕿᑕᐃᓕᒪᓂᖅᑯᑦ. ᐆᒪᔪᓂᒃ ᓄᖑᕚᓪᓕᐊᓂᖓᓄᑦ ᐱᔾᔪᑎᖅᑲᖅᑐᓂᒃ, ᐃᒪᓕᕆᔨᒃᑯᑦ ᐱᔭᓇᐊᒃᑲᓐᓂᖅᓴᖅᑐᑦ ᑐᙵᓂᖅᑲᑦᑎᐊᖅᓂᖅᑯᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕖᓕᖅᓂᖅᑯᑦ ᐅᕙᑦᑎᐳᙳᖅᑎᓪᓗᖕᒍ.

ᖃᐅᔨᓴᖅᓂᖅ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᓇᑦᑏᑦ ᓇᔪᖅᕕᖅᑲᙱᓂᖕᒋᓐᓂᒃ (ᐅᕝᕙᓘᓐᓃᑦ ᓄᖅᑲᖓᓂᖏᑦ ᓯᒡᔭᒥ ᐅᕝᕙᓘᓐᓃᑦ ᓯᑯᒥ) ᐊᐅᔭᒃᑯᑦ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ. ᐅᑭᐅᒃᑯᑦ, ᑕᑕᓐᓂᖓ ᐊᐅᓗᐊᑦ ᓯᑯᒥ ᕿᐳᑦ ᑲᖏᖅᓱᐊᓂ ᐊᒻᒪᓗ ᐃᓚᖓ ᐅᖅᓱᕆᐊᒥ ᒥᑭᓐᓂᖅᓴᐅᔪᖅ ᑐᒃᑐᒃᓯᐅᖅᕕᒻᒥᑦ, ᓲᖑᓇᓯᕆᔭᐅᔪᖅ ᓇᑦᑏᑦ ᐱᔪᒪᑦᑕᐃᓕᓂᖓᓄᑦ ᓄᓇᒥᙵᖅᑐᓂᒃ ᓂᖅᔪᑎᓂᒃ ᐆᑦᑑᑎᒋᓗᒍ ᐊᒃᓴᐃᑦ ᐊᒻᒪᓗ ᖃᖅᑳᑦ. TMAC-ᑯᑦ ᐅᒥᐊᖅᓱᐊᓕᕆᖃᑦᑕᖅᓂᐊᖅᑐᑦ ᐊᐅᓯᒪᑎᓪᓗᒍ ᓯᑯ, ᓇᑦᑎᖅᑲᙱᑎᓪᓗᒍ ᐊᒻᒪᓗ ᑐᒃᑐᓂᒃ ᐃᑳᖅᕕᐅᙱᑎᓪᓗᒋᑦ.

ᖃᓂᓐᓂᖅᐹᑦ ᑕᕆᐅᖅᒥᐅᑕᐃᑦ ᖁᐸᓄᐊᑦ ᒫᑦᕆᑦ-ᐹᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖓᑦ ᖃᓂᓐᓂᖅᐹᖑᔪᒧᑦ ᒥᑭᑦᑐᓂᑦ ᖁᑭᖅᑕᓂᑦᑐᓂᒃ ᑐᒃᑐᒃᓯᐅᖅᕕᒻᒥ ᐊᒻᒪᓗ ᐃᓘ ᑲᖏᖅᓱᐊᓂ ᑲᖏᐊᓂ ᐅᖅᓱᕆᐊᑉ. ᓇᓂᓯᔪᖅᑲᐅᙱᑦᑐᖅ ᐊᖏᔪᓂᒃ ᑕᕆᐅᖅᒥᐅᑕᓂᒃ [illegible]

TMAC-ᑯᑦ ᐋᖅᑭᒃᓯᒪᓂᖓ ᒫᑦᓇᓪ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓴᖅ, ᐃᓚᒋᖃᑕᐅᓗᒍ ᓱᕋᖅᑕᐅᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᖏᔫᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖏᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ, ᐱᔭᐅᑦᑕᐃᓕᒪᓂᐊᖅᑐᑦ ᐊᖏᔫᒥᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᑕᓇᐅᔅ ᐊᕙᑎᖓᓂ.

ᐃᓅᔫᓄᑦ ᐊᕙᑎᖓ

50-ᓂᒃ ᐃᑦᑕᕐᓂᑕᓕᓇᓂᕐᒧᑦ ᓇᔪᕐᕕᐅᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ ᒫᑦᓇᓪ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓯᓴᖓᓂ. TMAC-ᑯᑦ ᐸᕐᓇᒃᓯᒪᓂᐊᖅᑐᑦ ᐱᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓗᑎᒃ ᓇᔪᕐᕕᐅᔪᓂᒃ ᐱᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᐱᓕᕆᐊᓯᓂᒃ ᐊᒻᒪᓗ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓕᕆᔾᒥᒃ ᐃᓕᓴᐃᓗᓂ ᓇᓂᓯᓂᕐᒥᒃ ᐃᑦᑕᕐᓂᑕᕐᑲᕐᑲᕐᒥᓂᕐᓂᑦ ᓇᔪᕐᕕᐅᕙᓚᐅᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᒪᓕᒃᑕᐅᔭᓇᐊᕐᑲᖅᑐᓂᒃ ᒪᓕᖓᓂᕐᒥᑦ ᓇᓂᓯᓐᓂᕈᒥᒃ ᓂᓇᐅᒋᖖᒋᑕᒃᑯᑦ. ᓇᓂᓯᓐᓂᖅᐸᑕ ᓇᔪᕐᕕᐅᔭᐅᕐᑲᑦᑕᖅᑐᒥᓂᕐᒥᒃ, TMAC-ᑯᑦ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᐸᓯᒻᒥᔭᐅᒐᓯᒥᒃ ᖃᐅᔨᓴᕈᑎᒥᒃ ᓇᔪᕐᕕᐊᓂ. ᐃᑦᑕᕐᓂᑕᕐᑲᕐᕕᒃ ᓇᔪᖅᑕᐅᔪᖅ ᐱᔪᓐᓇᕐᓂᖅ ᐊᔪᕐᓇᕐᓂᖅᐸᑦ ᐱᓯᕝᕕᐅᓗᓂ ᒫᑦᓇᓪ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓯᓴᖅ, ᓇᔪᕐᕕᐅᔪᖅ ᓱᕋᖅᑕᐅᑦᑕᐃᓕᒪᓂᐊᖅᑐᖅ ᐱᕐᑯᑎᒥᓂᐅᔪᓂᒃ; ᑕᐃᒫᒃ ᐱᔪᓐᓇᐅᑎᓯᓂᒃ ᑐᒃᓯᕋᐅᑎᓂᒃ ᐱᔭᓇᐊᕐᑲᕐᓂᐊᖅᑐᑦ ᓄᓇᕗᑦ ᒐᕙᒪᖓᓂᑦ, ᑐᑭᓯᐊᕝᔪᑎᓗᒃᑖᑦ ᓇᔪᕐᕕᒋᔭᐅᔪᒥ ᑎᑎᕋᖅᑕᐅᔭᓇᐊᕐᑲᖅᑐᖅ ᐊᒻᒪᓗ ᐱᕐᑯᑎᒥᓃᑦ ᑎᑎᕋᖅᑕᐅᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᔫᑯᑦ ᐊᒻᒪᓗ ᐱᓯᒪᑦᑎᔭᐅᓗᑎᒃ ᓯᕗᓂᓴᒧᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓂᐊᖅᑐᓂᒃ ᓄᓇᕗᒻᒥᐅᓄᑦ. ᑭᓯᐊᓂ ᓇᔪᕐᕕᐅᔪᖅ ᐋᖅᑕᐅᓯᒪᓂᖓ, ᐃᓱᒪᒋᔭᐅᔪᑦ ᑐᑭᓯᐊᔾᔪᑏᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐱᓯᒪᑦᑎᔭᐅᓯᒪᔪᑦ ᐱᒻᒪᕆᐅᔪᖅ ᐃᓕᖅᑯᓯᐅᔪᒧᑦ. ᐊᖏᔫᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᕐᑲᓚᖀᑦᑐᖅ ᐃᑦᑕᕐᕕᑕᕐᕕᐅᔪᒥ ᐊᑐᐃᓐᓇᐅᒐᓯᓂᒃ ᒫᑦᓇᓪ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓯᓴᖓᓂ ᐱᒃᑲᓐᓇᐊᕐᓗᒍ, Hᐆᐸ ᖃᖏᓯᐊ ᐱᓕᕆᐊᓯᓴᖓ ᐃᑲᔪᖅᑕᐅᓯᒪᓂᖓᓄᑦ ᖃᐅᔨᒪᔨᓂᑦ ᑐᑭᓯᑎᑦᑎᕚᓪᓕᖅᑕᐅᔪᓂᒃ ᐱᓐᓂᑯᒥᓂᕐᓂᑦ ᓄᓇᒥᒃ ᐊᒻᒪᓗ ᐃᓅᓯᓇᔭᐅᓚᐅᖅᑐᓂᒃ ᖃᖓᒐᓴᖅ

ᒫᑦᓇᓪ-ᐹᓯᑕᓐ ᐱᓕᕆᐊᓯᓴᖅ ᓂᓇᐅᒋᔭᐅᔪᖅ ᐃᑲᔫᑎᓯᓂᒃ ᐱᕙᓪᓕᐊᓗᓂ ᑮᓇᐅᔭᕐᑲᕐᓂᓇᔭᐅᕙᒃᑐᒃᑯᑦ ᐱᕈᖅᐸᓪᓕᐊᓗᓂ ᐊᒻᒪᓗ ᐊᖏᓪᓕᕙᓪᓕᐊᓗᓂ ᐃᑲᔪᖅᑕᐅᓂᒃᑯᑎᑦ ᐊᕐᕌᒍᐸ ᐃᓗᐊᓂ ᑲᓇᑕᓕᒫᕐᒥ ᓴᖅᑭᑎᑕᐅᕙᒃᑐᑦ ᑲᑎᓕᒫᕐᓗᒋᑦ ᐊᒻᒪᓗ ᒐᕙᒪᓕᓇᔫᔪᐊᒃᑯᓐᓄᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᓂ ᒐᕙᒪᓄᑦ ᑖᒃᑯᔭᕐᓂᕐᒧᑦ. ᑕᒪᒃᑯᐊ ᐱᕙᓪᓕᐊᔪᑦ ᓂᓇᐅᒋᔭᐅᔪᑦ ᐃᐸᐱᒋᔭᐅᓗᑎᒃ ᓄᓇᖃᖅᑐᓂᒃ, ᓄᓇᒋᔭᐅᔪᓂᒃ, ᓄᓇᕗᑦ ᐊᒻᒪᓗ ᑲᓇᑕᒥ ᑕᒪᒃᑮᓂᕐᒧᑦ ᐱᓕᕆᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑎᓪᓗᒋᑦ. ᐱᓕᕆᐊᓯᓴᖅ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐃᑲᔪᖅᑐᐃᓂᖅ ᑮᓇᐅᔭᕐᑲᕐᓂᓇᔭᐅᕙᒃᑐᒃᑯᑦ ᕿᑎᕐᒥᐅᓄᑦ ᐱᐅᔫᒃᑯᑦ ᐊᒻᒪᓗ ᑐᑭᖃᑦᑎᐊᖅᑐᒃᑯᑦ, ᐱᕙᓪᓕᐊᕐᑯᓪᓗᒍ ᐃᑲᔪᖅᑐᐃᓂᒃᑯᑦ ᐊᖏᔫᒃᑯᑦ ᐱᕙᓪᓕᐊᓂᕐᒥᒃ ᐊᔾᔨᙳᕆᑦᑐᒃᑯᑦ. ᓄᓇᒋᔭᐅᔪᒥ ᓇᒻᒥᓂᕐᑲᖅᑐᑦ ᐊᖏᓂᖓ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᖏᖅᑕᐅᓯᒪᔫᒃᑯᑦ ᐱᓕᕆᔾᔪᑎᒃᑯᑦ ᕿᑎᕐᒥᐅᓄᑦ ᐊᔪᙱᑦᑐᓂᒃ ᓇᒻᒥᓂᖅᑲᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐃᓄᐃᑦ ᐊᒻᒪᓗ ᖃᓪᓗᓈᓂᒃ ᓇᒻᒥᓂᖅᑲᖅᑐᓂᒃ ᕿᑎᕐᒥᐅᑕᐅᔪᓂᒃ. ᐃᓚᖓ 2 ᐱᓕᕆᐊᓯᓴᖅ ᐊᖏᓪᓕᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐃᖅᑲᓇᐃᔮᓯᒧᑦ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕐᓂᖅ ᐊᔾᔨᙳᕐᓂᖏᑦ ᕿᑎᕐᒥᐅᑕᓄᖅ ᐊᒻᒪᓗ ᓄᓇᕗᒻᒧᑦ, ᐊᒻᒪᓗ ᓇᒥᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ.

ᐱᓕᕆᐊᓯᓴᖅ ᐊᔪᕐᓇᙱᒃᑕᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑲᐅᙱᓕᐅᕈᑎᖅᑲᖅᓯᓐᓇᓇᐊᓕᒃ ᐱᔪᒪᔪᓂᒃ ᐃᖅᑲᓇᐃᔮᓯᒧᑦ ᐊᖏᓂᖅᓴᒃᑯᑦ, ᖃᐅᔨᒪᓂᒃᑯᑦ ᐱᔾᔪᑎᖏᓐᓂᒃ; ᑭᓯᐊᓂ, ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᓂᓇᐅᙱᑦᑐᑦ ᐊᖏᔫᒃᑯᑦ. ᐃᓕᓐᓂᐊᖅᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᒥᒃᑯᑦ ᑐᓂᔭᐅᔪᓐᓇᖅᑐᑦ, ᐃᓱᒪᒋᔭᐅᔪᑦ ᓄᓇᓕᖕᓄᑦ ᐃᓕᓐᓂᐊᕐᓂᕐᒧᖅ ᐊᒻᒪᓗ ᐃᓕᕙᓪᓕᐊᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᓯᓂᒃ ᐊᖏᓪᓕᕚᓪᓕᑐᐃᓐᓇᓇᐊᓕᒃ. ᐃᑲᔪᖅᑎᑏᑦ ᓴᖅᑭᑎᑕᐅᓯᒪᔪᑦ ᓴᓇᓂᕐᒧᑦ, ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖅᑲᑎᒌᖕᒋᑦ, ᐊᓯᖏᑦ ᑲᑐᔾᔨᖅᑲᑎᒌᑦ ᑐᓂᓯᓗᑎᒃ ᐃᓕᓐᓂᐊᕈᑎᓯᓂᒃ ᐊᒻᒪᓗ ᐃᓕᓯᕐᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᕈᑎᓯᓂᒃ ᐊᔪᕐᓇᑲᓯᕋᔭᖅᑐᖅ TMAC-ᑯᓐᓄᑦ ᐱᔪᒪᒐᓗᐊᕐᓗᑎᒃ.

ᐱᓕᕆᐊᓯᓴᖅ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᓯᙶᖅᐸᓪᓕᐊᓗᓂ ᐃᓚᑏᕐᑲᑎᒌᒃᑐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᙶᖅᐸᓪᓕᐊᓂᖅ ᐃᓚᑏᒃᑐᓄᑦ ᑑᒐᓂᕐᑲᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᑮᓇᐅᔭᓕᐅᕐᑲᑦᑕᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᙶᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᐃᓚᒌᒃᑐᓄᑦ ᖃᓄᐃᑦᑑᒐᔭᙶᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐱᖃᑎᒌᒃᑐᒃᑯᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐱᓕᕆᐊᓴᐅᔪᒧᑦ. TMAC-ᑯᑦ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐱᕖᓪᓕᕐᑯᓪᓗᒍ ᐱᐅᔫᒃᑯᑦ ᐊᒻᒪᓗ ᒥᑭᓪᓕᕖᓪᓕᕐᓂᕐᒧᑦ ᐱᐅᙱᑦᑐᓂᒃ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᔾᔪᑎᒋᓗᒍ ᐊᓯᙶᖅᐸᓪᓕᐊᓂᖓᓄᑦ. ᐆᑦᑑᑎᒋᓗᒍ, ᖃᐅᔨᒃᑲᐃᑎᑦᑎᔪᓐᓇᕐᓂᕐᒧᑦ ᐃᑲᔫᑎᓂᒃ

ᑲᔪᓯᔪᓐᓇᕐᓗᒍ ᐅᕐᑯᕐᑲᑎᒌᖕᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓄᑦ ᐊᒻᒪᓗ ᐃᓚᒌᒃᑐᓄᑦ ᑕᐃᒪᐅᓂᐊᖅᑐᑦ ᓇᔪᕐᕖᑦ ᐅᔪᒥ. ᐃᓚᒋᐊᕐᓗᒍ, TMAC-ᑯᑦ ᖃᐅᔾᒃᑲᖅᑎᑦᑎᔾ ᐱᔭᕆᐊᕐᑲᖅᑐᖅ ᑲᔪᓯᔪᓂᒃ ᖃᐅᔾᒃᑲᐃᓂᕐᒥᒃ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓇᐃᔭᖅᑐᓂᒃ ᓇᓗᓇᐃᖅᓯᓗᑎᒃ ᖃᓄᐃᑦᑑᓂᖕᒐᓄᑦ ᐃᖅᑲᓇᐃᔭᔅᓯᖕᒐᓄᑦ ᐱᔭᕆᐊᕐᑲᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑐᓂᓯᓗᑎᒃ ᐃᑲᔫᑎᔅᓴᓂᒃ ᐊᑲᐅᙱᓕᐅᕈᑎᑦᑲᕐᓂᕐᑲᑉᑦ.

ᐃᓱᒪᒋᔭᐅᔪᖅ ᐱᓕᕆᐊᔅᓴᖅ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᖏᔪᒃᑯᑦ ᐱᐅᔪᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᕿᑎᕐᒥᐅᑕᓄᑦ ᐊᒻᒪᓗ ᐱᐅᓂᑎᖏᑦ ᐊᒻᒪᓗ ᐊᑲᐅᙱᓕᐅᕈᑎᑦᑲᕐᓂᖅᐸᑦ ᐋᖅᑭᑕᐅᔪᓐᓇᖅᑐᖅ TMAC-ᑯᓐᓄᑦ ᐊᒻᒪᓗ ᐱᓕᕆᐊᒃᓴᓇᔭᐅᔪᑦ ᓄᓇᓖᑦ ᒐᕙᒪᖏᓐᓂᒃ. ᒫᑦᓇᓪ-ᐋᔅᑕᓐ ᐱᓕᕆᐊᔅᓴᖅ ᐊᖏᓪᓚᕙᓪᓕᐊᓂᐊᖅᑐᖅ ᐊᐅᓚᑎᓪᓗᒍ ᐱᓕᕆᐊᔅᓴᖅ ᐱᒋᐊᒃᑲᓐᓂᕐᓗᒍ ᐱᔮᑎᕋᐅᑎᓂᒃ ᐃᓱᐊᓈᖅᕕᔅᓴᒃ ᐊᒥᓱᓄᑦ ᓴᓇᓂᕐᒧᑦ ᓄᓇᕆᔭᐅᔪᓂᑦ ᐅᖓᑖᓄᑦ ᐊᕐᕕᓂᓕᖕᓂᑦ ᐅᑭᐅᓄᑦ ᐱᓕᓇᐊᓴᐅᑉ ᒫᓐᓇᐅᔪᒃᑯᑦ ᐱᔪᓐᓇᐅᑎᑦᑲᕐᓂᖕᒐᓄᑦ. ᐃᓄᐃᑦ ᐱᕙᓪᓕᐊᓂᖕᒐ ᐊᒻᒪᓗ ᐃᑲᔫᑎᖕᒋᑦ ᐊᖏᕈᑎ ᕿᑎᕐᒥᐅᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔾᑲᑎᒌᖕᒋᑦ ᐃᑲᔪᕐᓂᐊᖅᑐᑦ ᓇᓗᓇᐃᖅᓯᓗᑎᒃ ᐱᓕᕆᐊᔅᓴᖅ ᐃᑲᔪᕐᓂᐊᕐᓂᖕᒐᓄᑦ ᐃᓅᔪᓄᑦ.

ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖕᒐᓄᑦ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᖅᑐᖕᒋᓐᓂᒃ ᖃᐅᔨᓴᖅᑐᕐᑲᓚᐅᖅᑐᑦ ᐱᓕᕆᐊᔅᓱᑦ ᐊᒻᒪᓗ ᐃᓚᒋᑎᑕᐅᓪᓗᑎᒃ ᐊᒥᓯᒃᑯᑦ ᑐᑭᓯᐊᓇᖅᑐᒃᑯᑦ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖕᒐᓄᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᓇᓗᓇᐃᓂᕐᒧᑦ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᔅᓴᐅᑉ ᐊᕙᑎᖕᒐᓂᒃ ᐊᒻᒪᓗ ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖕᒐᓄᑦ. ᖃᐅᔨᓴᖅᑕᐅᔪᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᑎᒋᐊᓖᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᑕᐃᒪᐅᔪᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᓱᕋᕐᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑐᔅᓵᓐᓂᖕᒐᓄᑦ ᓄᓇᒋᔭᐅᔪᒥ ᐊᒻᒪᓗ ᓄᓇᖃᒥ ᖃᐅᔨᓴᕐᓂᖅ ᓇᔪᕐᕖᔪᓂᒃ ᐱᓕᕆᐊᔅᓱᒧᑦ ᓴᖅᑭᑦᑎᒋᐊᕐᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᖅᑐᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖕᒐᓄᑦ ᓯᕗᓂᔅᓱᒧᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐱᓕᕆᐊᔅᓱᒧᑦ ᐊᒻᒪᓗ ᓇᓗᓇᐃᕐᓗᒋᑦ ᐊᑲᐅᙱᓂᐅᕈᑎᓂᒃ ᖃᓄᐃᑦᑐᓂᒃ ᐱᔾᔪᑎᒋᓗᒋᑦ ᐅᑎᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ.

ᐃᓚᒋᓗᒍ ᐃᓅᑉ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᖕᒐ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᖕᒐᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ, ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᓯᓚᐅᑉ ᖃᓄᐃᓐᓂᖕᒐᓄᑦ, ᐊᒻᒪᓗ ᓴᐅᔭᐅᔪᑦ ᖃᓄᐃᓐᓂᖕᒐᓄᑦ (ᐃᒪᑦᑎᐊᕙᒃ ᐊᒻᒪᓗ ᑕᓇᐅᖅ); ᐃᕐᑲᓗᐃᑦ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᕐᓂᑦ ᓇᔪᕐᕖᔪᓂᒃ (ᐃᒪᑦᑎᐊᕙᒃ ᐊᒻᒪᓗ ᑕᓇᐅᖅ); ᓄᓇ ᐊᒻᒪᓗ ᐃᒪᕐᒥᐅᑕᐃᑦ; ᓄᓇᕐᖅ ᐊᒻᒪᓗ ᐱᕈᖅᓯᐊᑦ; ᐃᓄᖕᓄᑦ ᓂᕿᒋᔭᐅᕙᒃᑐᑦ; ᐊᒻᒪᓗ ᑐᓵᓐᓂᖕᒐ. ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑕᐃᒪᐅᔪᓂᒃ ᐊᒻᒪᓗ ᓇᓚᐅᑦᑖᕐᓂᒃᑯᑦ ᓱᕋᕐᓇᖅᑐᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᒃᑯᑦ ᖃᓄᐃᑦᑐᓂᒃ ᐊᒻᒪᓗ ᐊᒥᓱᑦ ᐊᔪᕐᓇᙱᒃᑲᓗᐊᕐᓂᖕᒐᓄᑦ ᐊᖅᑯᑎᕐᑲᖅᑐᓂᒃ ᐱᕐᑲᖅᓯᓐᓇᓇᐊᕐᑲᖅᑐᓂᒃ. ᐱᔾᔪᑕᐅᔪᓗᒃᑖᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ, ᐱᓕᕆᐊᔅᓴᖅ ᑐᓂᓯᕙᔭᙱᑦᑐᖅ ᐊᑲᙱᓕᐅᕈᑎᔅᓴᓂᒃ ᐊᑕᖏᕐᓗᒍ ᐃᓄᖕᓄᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ.

ᐋᓐᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙳᕆᑦᑐᑦ

TMAC-ᑯᑦ ᐱᔪᒪᑦᑎᐊᖅᑐᑦ ᓴᐳᒻᒥᑎᑦᑎᓂᕐᒧᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᓂᒃ, ᓄᓇᓕᖕᓄᑦ, ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐊᒻᒪᓗ ᐆᒪᔪᓂᒃ ᓄᓇᒥ, ᐊᒻᒪᓗ ᒪᓕᑦᑎᐊᖅᑐᑦ ᒪᓕᒐᓕᐅᖅᓯᔪᓂᒃ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᖃᖅᑐᓂᒃ, ᐊᒻᒪᓗ ᐃᒥᒃᑯᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᒪᓕᒋᐊᓕᖕᓂᒃ ᐊᒻᒪᓗ ᐊᑐᐊᒐᓂᒃ.

ᐋᓐᓂᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙳᕆᑦᑐᑦ ᖃᖓᑐᐃᓐᓇᖅ ᐱᓕᕆᑎᓪᓗᒋᑦ ᐱᓕᕆᐊᓵᐅᔪᒥ. ᓯᕗᓪᓕᐅᔪᖅ ᐊᕙᑎᒧᑦ ᐃᓱᒫᕈᑎᒋᔭᐅᔪᖅ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙳᕐᓂᕐᒧᑦ ᐱᑐᐃᓐᓇᕆᐊᖅᑲᖅᑐᒃᑯᑦ ᑯᕕᓂᖅ ᐅᖅᓱᓂᒃ ᐅᙱᕘᓐᓃᑦ ᐃᒋᑦᑎᓂᖅ ᐃᓚᔅᓴᓂᒃ ᐅᙱᕘᓐᓃᑦ ᐅᖅᓯᐊᓗᖕᓂᒃ ᓄᓇᒧᑦ ᐅᙱᕘᓐᓃᑦ ᐃᒪᕐᒧᑦ. ᐃᑭᑦᑐᑦ ᐊᑦᑕᕐᓇᖅᑲᑕᐅᔪᖅ ᐋᓂᖅᑐᖅᑲᕈᓐᓇᖅᑐᒃᑯᑦ ᓄᓇᓯᐅᑎᒃᑯᑦ, ᓱᕋᐃᓂᖅ ᐃᑯᒪᓄᑦ ᐋᖅᑭᒃᓯᒪᔪᓂᒃ, ᐅᙱᕘᓐᓃᑦ ᓯᖅᑯᕐᕖᔪᒃᑯᑦ.

ᐊᐅᓚᓂᖅ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᖃᓄᐃᑦᑐᕐᑲᑳᓪᓚᖕᓂᖅᐸᑦ ᐸᕐᓇᐅᑎᑎ ᐱᒻᒪᕆᐅᔪᖅ TMAC-ᑯᓐᓄᑦ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ. ᓱᓇᒃᑯᑖᒧᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐱᔭᕇᐊᕐᑲᖅᑐᑦ ᑲᑎᕐᑲᑎᕐᑲᕐᓂᐊᕐᓗᓂ ᐱᕐᑯᔭᓂᒃ, ᐊᒻᒪᓗ TMAC-ᑯᑦ ᐋᓐᓂᐊᖅᑕᐃᓕᒪᓂᕐᒧᑦ, ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᐅᑉ ᐱᔾᔪᑎᖏᓐᓂᒃ. ᑕᐃᒪᐅᒐᓗᐊᖅᑎᓪᓗᒍ ᐱᑎᐊᕐᑲᑐᐃᓐᓇᕐᓂᖓᓄᑦ ᐋᓐᓂᕐᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᓂᒃ, TMAC-ᑯᑦ ᑐᕌᖅᓯᒪᔭᖏᑦ ᒥᑭᓂᖅᐹᒃᑯᑦ ᐱᑐᐃᓐᓇᕆᐊᕐᑲᖅᑐᓂᒃ ᖃᓄᑐᐃᓐᓇᖅ ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᔪᓂᒃ ᑕᐃᒪᐃᓂᖓᓄᑦ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᓂᒃ ᐃᓄᖕᓄᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ. TMAC-ᑯᑦ ᐊᐅᓚᓂᖓ ᐋᖅᑭᒃᓯᒪᔪᑦ ᐱᓯᒪᑦᑎᑦᑎᔪᑦ ᐱᕙᓪᓕᐊᒍᑕᐅᔪᓂᒃ ᐊᓯᙳᖅᑐᓂᒃ ᐊᐅᓚᓂᕐᒧᑦ ᐃᓕᓐᓂᐊᖅᓯᒪᓂᖅ ᐊᒻᒪᓗ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐊᑦᑕᕐᓇᖅᑕᐃᓕᒋᐊᕐᓗᒍ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑭᒡᓕᕐᑲᖅᑐᑎᒃ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ. ᑕᒪᒃᑯᐊ ᐸᕐᓇᐅᑏᑦ ᐃᓚᒋᔭᕐᑲᖅᑐᑦ ᐃᖅᑲᓇᔭᖅᑎᕐᑲᕐᓗᓂ ᐃᓚᓴᐃᓂᕐᒧᑦ, ᐃᓕᓐᓂᐊᕐᓂᕐᒧᑦ, ᖃᐅᔨᖅᑎᒥᒃ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ, ᐊᒻᒪᓗ ᑲᔪᓯᑦᑎᐊᕈᓐᓇᕐᓗᓂ ᐱᕐᑯᑎᓂᒃ, ᐊᒻᒪᓗ ᐃᓚᑦᑎᕙᓪᓕᐊᓂᖅ ᖃᓄᐃᓕᐅᖅᑐᓂᒃ ᐱᕚᓪᓕᕐᑯᓪᓗᒍ ᐊᐅᓚᓂᖓ.

ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐋᖅᕿᓯᓂᖅ ᐊᑐᖅᑕᐅᓚᐅᖅᑐᖅ ᐋᖅᑭᒃᑕᐅᓚᐅᖅᑐᑦ 18-ᓄᑦ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᕐᓂᖓᓄᒃ ᐋᓐᓂᖅᑐᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᓂᒃ ᒪᓕᓪᓗᒍ ᑕᓪᓚᒪᓂᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ; ᐊᔾᔨᒌᙱᓐᓂᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᓪᓗᑎᒃ ᑕᒪᒃᑭᓐᓄᑦ ᖃᓄᐃᓕᐅᕆᔭᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᐱᔪᕐᑲᕐᓂᖅᐸᑦ. 18-ᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᕐᓂᑦ, ᐊᕐᕕᓂᓕᑦ ᒪᕐᕈᒃ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ, "ᒥᑭᓐᓂᖅᐹᒃᑯᑦ" ᐊᑦᑕᕐᓇᖅᑐᑦ, ᐊᕐᕕᓂᓖᑦ "ᒥᑭᔫᒃᑯᑦ" ᐊᒻᒪᓗ ᑕᓪᓕᒪᑦ "ᐊᑦᑕᕐᓇᓗᐊᙱᑦᑐᑦ". ᓇᓗᓇᐃᒃᑯᑕᕐᑲᙱᑦᑐᖅ ᐃᓱᒪᒋᔭᐅᓂᒃᑯᑦ "ᖁᑦᑎᑦᑐᒃᑯᑦ" ᐅᕝᕙᓘᓐᓃᑦ "ᐊᖏᔫᒃᑯᑦ" ᐊᑦᑕᕐᓇᖅᑐᓂᒃ. ᑕᐃᒪᐃᒐᓗᐊᖅᑎᓪᓗᒍ ᐊᔾᔨᒌᙱᑦᑐᑦ ᐊᑦᑕᕐᓇᖅᑐᓂᒃ ᐃᓚᒋᔭᐅᔪᑦ ᐋᓐᓂᖅᑐᒧᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐊᙱᑦᑐᒧᑦ, TMAC-ᑯᑦ *ᑐᐊᕕᖅᓇᖅᑐᒃ ᐱᕙᓪᓕᐊᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᖏᑦ* ᑕᐃᒪᐅᔪᑦ ᐋᓐᓂᖅᑐᖅᑲᖅᐸᑦ ᐊᒻᒪᓗ ᐊᐅᓚᔪᕐᑲᑦᑎᐊᙱᑉᐸᑦ.

ᐱᕙᓪᓕᐊᔪᑦ ᐊᕙᑎᒥ ᐱᓕᕆᐊᕐᓴᐅᔪᒥ

ᐊᖏᔫᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ, ᐆᑦᑑᑎᒋᓗᒍ ᐱᖅᓯᖅ, ᓂᐸᓗᒡᔪᐊᕐᓂᖅ ᐅᕝᕙᓘᓐᓃᑦ ᖃᓐᓂᕐᔪᐊᕐᓂᖅ, ᐃᒃᐱᕐᓇᕐᓂᒃᑯᑦ, ᓴᔫᒃᑐᕐᑲᓕᖅᐸᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᒥ ᐊᒻᒪᓗ ᐅᕕᖓᕙᓪᓕᐊᓂᖓᓄᑦ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᑦ ᐃᓚᖓ 2 ᐱᓕᕆᐊᕐᓴᒥ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᐊᐅᓚᔪᓐᓇᐅᑎᓄᑦ ᐊᒻᒪᓗ ᐃᓄᖕᓄᑦ ᐋᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ. ᐱᑎᐊᒃᑲᓐᓂᖅᑐᖅ, ᓯᓚᐅᑉ ᐊᓯᙳᖅᐸᓪᓕᐊᓂᖓ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᕐᓂᖓᒍᑦ ᐱᕙᓪᓕᐊᔪᓐᓇᖅᑐᖅ ᐱᓕᕆᐊᕐᓴᐅᔪᒧᑦ.

ᐋᖅᑭᒃᑕᐅᓯᒪᔫᒃᑯᑦ ᐱᓕᕆᐊᕐᓴᖅ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᕙᑎᒧᑦ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᔪᓐᓇᕐᓂᖓ ᐱᓕᕆᐊᕐᓴᐅᑉ ᓴᓇᓂᕐᒧᑦ, ᖃᓄᐃᓐᓂᖓᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ. ᐱᔾᔪᑎᒋᓗᐊᖅᑕᖓ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ-ᓴᓇᕈᑏᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑲᔪᓯᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᐱᕙᓪᓕᐊᓂᐊᖅᑐᑦ ᑎᑎᕋᖅᓯᒪᑦᑎᐊᖅᑐᒃᑯᑦ ᐋᖅᑭᐸᑕ ᐃᑲᔫᑎᒋᔭᐅᓗᑎᒃ ᐋᖅᑭᓂᕐᒧᑦ ᓇᓗᓇᐃᕐᒧᑦ ᐃᓱᓖᓗᒍᑎᒋᔭᐅᔪᓂᒃ ᓄᓇᐅᑉ ᕿᕿᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᓄᓇᒧᑦ-ᓱᖁᕐᓇᖅᑐᓂᒃ ᐱᕚᓪᓕᖏᑕᐅᔭᕐᓇᖅᑐᓂᒃ ᐱᓕᕆᐊᕐᓴᖅ ᓄᓇᖓᓐ ᐊᑐᖅᐸᒃᑕᕐᒋᑦ ᐊᐅᓚᔭᕐᓇᓂᖓᓄᑦ. ᑕᐃᒪᐅᔫᒃᑯᑦ, ᓇᔪᕕᐊᑕ ᐊᑐᖅᑕᐅᕙᒃᑐᑦ ᐊᐅᓚᔭᕐᓇᐅᑎᒧᑦ ᐱᐅᓂᖅᐹᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ (ᐆᑦᑑᑎᒋᓗᒍ ᓄᓇᐅᑉ ᖄᖓᓃᑦᑐᓂᒃ, ᓇᒥᑐᐃᓐᓇᐅᔭᕐᓇᖅᑐᓂᒃ) ᐱᑦᑕᐃᓕᒪᒍᑎᑦ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᕐᓂᖓᓄᑦ ᐊᑲᐅᙱᑦᑐᕈᑎᓂᒃ ᐊᖏᓂᖅᐹᒃᑯᑦ ᐱᔭᕐᓇᕐᓂᕐᒧᑦ. ᐊᑲᐅᙱᑦᑐᕈᑎᑕᕐᑲᖅᐸᑦ, ᐊᑐᖅᑕᐅᔪᑦ ᐊᐅᓚᔭᕐᓇᕐᓂᕐᒧᑦ ᓴᓇᔭᐅᓂᐊᖅᑐᑦ ᐃᓚᒪᓯᖕᓂᒃᑯᑦ ᐋᖅᑭᒃᑐᓂᐊᖅᑐᒃᑯᑦ ᓄᓇᐅᑉ ᕿᕿᓯᒪᓂᖓᓄᑦ ᓴᐳᒻᒥᓂᖅ ᐊᒻᒪᓗ ᐆᓇᖅᓯᖅᑲᑦᑕᖅᑐᓂᒃ. ᖃᐃᕙᓪᓕᐊᔪᒥᒃ ᓇᓗᓇᐃᖅᓯᒪᔫᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᖏᑦ, ᐃᓚᒋᐊᕈᑏᑦ ᖃᓄᐃᑑᓂᐊᕐᓂᖏᑦ ᐊᒻᒪᓗ ᖃᐅᔨᓴᕐᓂᖏᑦ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᕆᐊᕐᑲᖅᑐᑦ ᐊᑲᐅᓈᖅᓯᖅᐹᓪᓕᕐᑯᓪᓗᒋᑦ ᑐᑭᓯᐊᔪᑎᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ-ᓴᓇᕈᑏᑦ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓄᑦ ᐊᔪᕐᓇᖏᒃᑲᓗᐊᖅᑐᒃᑯᑦ ᐱᕙᓪᓕᐊᔪᓂᒃ ᐊᕙᑎᒧᑦ.

ᑕᑯᖏᐅᓐᓇᐃᒪᑎᖅ ᐃᓕᒋᐊᕈᑎᑦ ᐊᒻᒪᓗ ᐊᐅᑦᓭᔅᓂᖓᓕᑦ ᑭᖑᓪᓕᓭ ᐱᓕᕆᔨᑦ ᐱᓪᓚᕆᓂᖅᐳᑦ

ᐃᓱᒪᒋᐅᓵᖅᑯᑦ ᑐᓂᔅᐳᓕᔪᑦ ᐊᔪᕐᓇᖅᑭᑐᐊᖅᑐᖅᑯᑦ ᑕᑯᖏᐊᓐᓇᐅᑕᑎᖅ ᐃᓕᒋᐊᕈᑎᑦ ᐱᓪᓚᕆᓂᔪᓂᖅ ᐱᓕᕆᐊᖏᓪᓗᓂᑦ ᖃᓄᖅᓱᖅᓯᒪᔪᓂᖅ ᐊᓱᖅᑭᓐᓄᑦ ᐱᓕᕆᐊᖏᑎᒃᓵᔪᓂᖅ, ᐊᒻᒪᓗ ᑕᐃᖅᑯᓄᖅᓱ ᐱᓪᓚᕆᐊᔪᓄᑦ ᐅᖅᑲᒋᑭᓐᓇᖅᑐᖅᑯᑦ ᐱᔪᓐᓇᕐᓂᖅᑐᖅᑎᑦ ᑭᖑᓕᕆᓄᑦ ᐊᓱᖅᑭᓐᓄᑦ ᑲᓇᑕᐅᑦ ᐃᓗᐊᓂ (ᖃᐅᐅᔨᒪᕗᔪᓂᑦ ᐊᐅᑦᓭᔅᓂᖓᓕᑦ-ᑭᖑᓕᓂ ᐊᐅᑦᓭᔅᓂᖓᓕᑦ ᑭᖑᓕᕆᓂ ᐱᓪᓚᕆᓂᖅᐳᑦ). ᐊᖏᕐᕕᒋᔭᖅᑐᑐᖅᓯᒪᓕᖅ ᐱᔪᓐᓇᕐᓂᖅᑐᖅᑎᑦ ᐅᕙᓪᓕᐊᓂᓕ ᐊᐅᑦᓭᔅᓂᖓᓕᑦ-ᑭᖑᓕᕆᔪᓄᑦ ᐱᓪᓚᕆᐊᔪᓄᑦ ᖃᐅᐅᔨᔪᖅᑐᖅᓯᒪᓕᖅᐳᑦ, ᐱᕐᔪᑎᑎᕐᔭᓪᓗ ᐱᓕᕆᐊᕐᓂᖅ ᐅᖅᑲᒋᑭᓐᓇᖅᑐᖅᑎᑦ ᐅᕙᓪᓕᐊᓂᓕ ᐅᖅᑲᒋᑭᓐᓇᖅᑐᖅᑎᑦ ᐱᓪᓚᕆᐊᔪᓄᑦ ᐅᕙᓪᓕᐊᓂᓕ ᐱᓪᓚᕆᓂᖅᐳᑦ ᐅᖅᑲᓱᓕᕐᓂᖅᓴᖅᑐᓂᖅ.

ᐱᐊᓂᖅᐸᓪᓚᐊᓂᓯᒪᑦ ᐊᐢᑎᒪᑦ ᐱᓪᓚᕆᓂᐊᓕᔪᓂᖅ ᐅᖅᑲᐅᓂᖅᑐᖅ ᐅᖅᑲᐅᓂᒃ

TMAC-ᓄᑦ ᐊᐢᑎᒪᑦ ᐱᓪᓚᕆᓂᐊᓕᔪᓂᖅ ᐅᖅᑲᐅᓂᖅᑐᖅ ᐱᐊᓂᕆᐊᖅᑲᓕᔪᓂᑦ ᐃᓕᓴᕐᓂ-ᐸᔭᑕᓐ ᐱᓚᕆᐊᔭᖅᓴᖅ ᐱᔨᔪᑎᑕᖅᓴᖅᑐᖅᑎᖅ ᐊᖏᕐᕕᒋᑦ ᐊᑲᐅᖓᓂᐅᑕᐅᔪᓂᖅ ᐊᐢᑎᒪᑦ, ᐃᓅᓵᖅᑎᑎᒃᓴ-ᑭᓇᐅᔨᓂᐅᓴᖅᑐᓂᖅᑐᖅᑯᑦ ᐃᓕᓴᕐᓂᖅᑐᖅᑎᑦ ᓇᓇᕐᓂᖅᑐᖅᑎᑦ.

TMAC-ᓄᑦ ᐊᑦᑲᑭᓕᔪᓂᑦ ᐱᓪᓚᕆᔭᓚᑦ ᒥᑭᓂᖅᐸᑲᓄᑦ ᓯᕿᐃᓂᓪᓕᑦ ᐊᐢᑎᒪᑦ. ᐱᓪᓚᖏᓐᓄᑦ ᐱᔪᓕᔪᓂᑦ ᐱᓕᕆᐊᓗᓂᖅ ᐃᓕᓴᕐᓂ-ᐸᔭᑕᓐ ᐱᓪᓚᕆᐊᔭᖅᓴᖅ ᐊᖏᕐᕕᒋᑦ ᐃᓕᓴᕐᓂᖅᑐᖅᑎᑦ ᐃᔨᓪᓚᕆᓂᖅᑐᖅᑎᑦ ᐃᔨᓕᓴᕐᓂᖅᑐᖅᑎᑦ ᓇᓇᕐᓂᖅᑐᖅᑎᑦ ᐊᖏᕐᕕᒋᑦ ᐊᐢᑎᒪᑦ. ᑲᓕᑕᑎᐊᖅᓂᖅᑐᑦ ᓯᕿᐃᑕᐅᑕᐃᓕᓚᓂᖅᑐᑦ ᐱᔨᓄᑎᓂᓂ ᐊᔪᓕᓗ ᐊᐅᓚᓂᖅ, ᐱᓪᓚᕆᐊᔪᖅ ᑐᖏᖅᓴᖅᑐᖅ ᐊᖏᕐᕕᒋᑦ ᐱᓕᕆᐊᓂᖅᑐᑦ, ᑐᓂᔨᑐᑎᓂ ᐸᓇᖅᓯᒪᓕᖅᑐᖅᑎᑦ ᐃᑲᔪᑎᓂᖅ ᐃᓇᖅᑐᖅᑯᑦ, ᓇᓇᓚᑦ, ᓇᓇᕐᓂᖅᑐᖅᑯᑦ ᐊᔪᓕᓗ ᑲᓇᑕᒥ ᑲᑎᒪᓂᖅᑯᑦ.

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.

Hamna Madrid-Boston 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 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 Madrid-Boston 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), angiqhimayangit 25-milian liters-nik uqhuqhat tutquumaviinik, hiqupluqtuivingmik, hanaviqaqhutiklu aulapkaiyaami uyaraghiuqtut havaangit.

Madrid-Boston Havaaghanit quulliriiktitauniaqtut havaaghanut Havaaghaq 1-mit talvani Doris havakvianit. Qanittuungmat Madrid-mi havakviat Doris Havakvianut, hiqupluqtiqvingmut, TIA-mullu talvuuna 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 Madrid-Boston Havaangit.

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), uumani ilaurutainnaanit hiqupluqtuilutik Doris-mi Havakvianit Ukiut 4, 5, 6-milu, talvanilu Boston-mi hiqupluqtuivianit havaangit pihugvingillu havaarilluaqtangit, naahuriyauyut kinguani uumani Ukiuq 6-mi. unalu
- Uyaraghiuliqlutik Madrid Hivuraanit Ukiuq 11-mi (2029) aularaaqlutik Ukiumut 14 (2032), hiqupluqtuilutik Doris-mi talvanilu/unit Madrid Tununngaani havakviinit.

Havaangit, aulattitiyangillu nutqarutikhangillu ilagiyait uumani havaariyakhanut uumani ihuaqhaqhimayumik pivallianikkut ihivriuqtangit kihimi ikayuqhimavlugillu hamna FEIS nit.

Havakvighaq Hanayauyughamut Ihumagiyaghat

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 Madrid-Boston Havaaghangillu. Naunaitkutaittumik, ihuilutillu naunaittumik, TMAC-kut amirinahuaqhutik havagahuaqpaktut taimaa aanniqtailiplutik ahiruqtiqtailiplutiklu.

Naunaitkutat Madrid-Boston Havaangit 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.

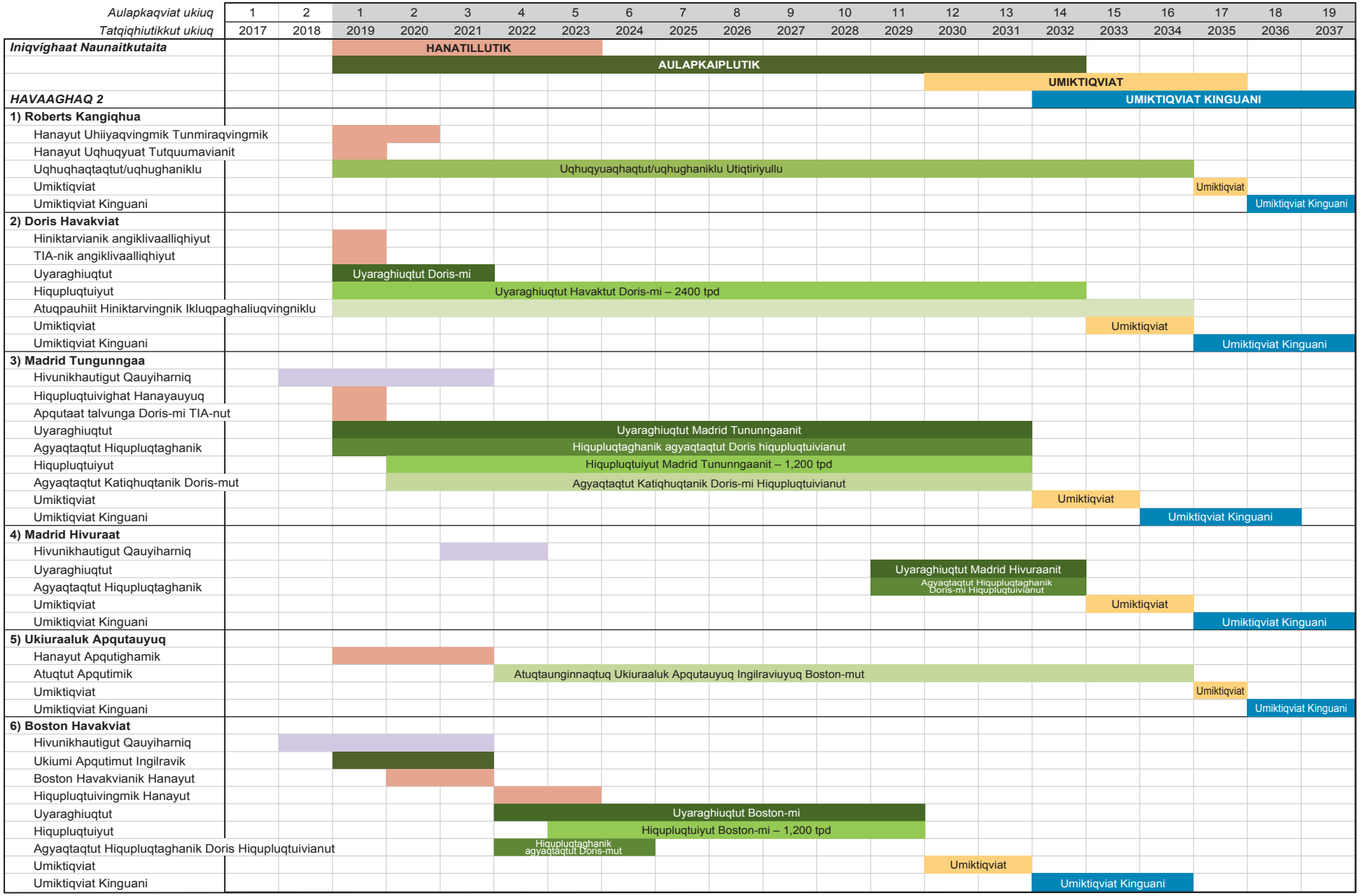
Naahuriyauyut Hivunighami Havaaghat

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 5-mut), atauttikkuuqhutik taapkualu havaaghalraat 14-nik ukiunik Aulapkaivighaat (Ukiuq 1 Ukiuq 14-mut). Umiktiriyut utiqtiriyullu nunanik pitquhianut havaaghat aullaqtitauniaqtut ukiuq 24-mi, aularaaqlutik hitamanik ukiunik naallugit. Umiktiriyut-kinguani havaaghait aviktuqtauvaktullu, aullaqtitauplutik Ukiuq 14-mi. Naunaitkutaq 2-1 ilittuqhitiuyuq Havaaghat iniqvighainik qaffiuyunut Havaakhaq havaaghanit.

Naunaitkutaq 2
Havaaghanut Naunaitkutaq



Ahiit Havauhighat

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

Pilaariaghait/Pilaitaaghainikluuniit

Malruuyut inirutaulaaqtut taapkuninnga pilaariaghait/pilaittaaghainikluuniit ihumaliuqtaghat Madrid-Bosotn Havaaghanit:

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

TMAC-kut ukpiruhuktut taimaa Havaaghaq havaaghanit aulattiaqniarahugiyaat havaaghaq aullaqtitauyughaq ikayuutighait tamangnik ilauyut taapkualu KIA-kut NTI-kullu. Hapkua inirutighat ilittuqhitilgit taimaa Madrid-Bosotn Havaaghanit havaaghaniutingniaq hanayaghanit nutaanik uyaraghiuqvighanik Kanatam Ukiuqtaqtuanit. Kapihiliktuumi Nanminianit uyaraghiuqtaghalik, Kapihiliktuumilu piqutait nutaangutqiyauyut. Amiqnautit ikighivaalliqtauhimayut 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 Madrid-Bosotn Havaaghanit 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 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, Madrid-Bosotn Havaaghanit Havaaghanit havaaghaniktittiniaqtuq haniani 11,764 inukkut-ukiunik havaaghanik Kanatami tamaat. Talvani 2,281 inukkut-ukiunik havaaghanik hanayinit havaktunit (7,018 inukkut-ukiunik naallugit [piniaqhimaplutik, pittailiplutik, havaaghaniktitauyunikllu] havaaghanik), imaalu 9,484 inukkut-ukiunik havaaghanik (26,513 inukkut-ukiunik naallugit havaaghanik) talvani uyaraghiuqviit havakviinit. Ukunani havaktittiniat havaktiqaqlutik upluq tamaat 175-nik (FTE) havaktinik Ukiuq 1-mi, amigaiqpallialugit amigaittunit uumani 1,287 Ukiukhanut 10 nut,ikivallialunilu naitqiyaanit uumani 281 iniqpiaqtumik ukiungat Aulattittivlutit.

Nunavunmi, 321-nik inukkut-ukiunik havaaghat naahuriyauyut Hanatillugit imaalu 111-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 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]	7,018	567	390	26,513	1,973	1,517
• Havaaghakkut (inukkut-ukiunik)	2,281	321	289	9,484	1,110 (tamangnik Qitiqmiuniittut)	
GDP ($ milian)	$808	$68.4	$41.0	$3,191.1	$245.4	$202.3
Akiligaghanit Manighat ($ milian)	$146.2	$9.3	$5.7	$587.0	$33.8	$29.2
• Kavamatuqait	$80.0	$6.7	$4.2	$319.3	$24.7	$21.5
• Aviktuqhimayunit/Aviktuqhimayumi	$66.3	$2.6	$1.5	$267.7	$9.1	$7.7
Havaktinit Manighat ($ milian)[2]	$608.1	$59.9	$38.2	$2,456.7	$223	$190.6
• Havaaghakkut Manighat	$304.2	$42.6	$34.1	$1,403.7	$163.8 (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 Havaaghait nakurutauniaqtut havaktighaqhiurniqmut Qitiqmiuni Nunavunmilu taimaalu havaaghaniktittivaallirniat hivunighami Nunavunmiunut.

Havaktiit Hiniktarviit Ingilratjutiillu

Naahuriyauyuq taimaa naallugit havaktiit Madrid-Boston (hanayut aulapkaiyullu havaktiit) amigaiqpaalliqniat qaffiuyungnaqhiyuq 650-ngulutik inuit. Doris-mi hiniktarviat aklivaalliqtaunahuaq inighaqaqluni 400-nik inungnik taamnalu nutaaq 300-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 1week 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 400-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 Havaaghanit atuinnariaqaramik ikluqpaliuqviit Doris-mi, talvuuna akighivaalliutivaktuq mighivaalliqhugulu hanavighat. Naunaitkutaq 2-mi ilittuqhitivaktuq parnaiyaqtauhimayunik nutaat hanayaghat imaalu/unit aklivaalliqtiqlugit ikluqpaliugait Madrid-Boston Havaangit.

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 irininaqtut 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 20 ML-nik imaqtalingnik tutquumavighainik (taapkuatut hitamat 5 ML qattaqyuit). • Ilaaqtuqlugu apqutit/itiqtarviit uhiiyarvingmut.
Doris-mi Havakvit	• Aklivaalliqhiyut hiniktarvingnik. • Aklivaalliqhiyut Doris-mi Hiqupluqhimayut Kuvvianik (TIA), kingighivaalliqlugulu hivuraaniittuq haputiliuqhimayuq hanalugulu uataaniittuq haputighaq. • Ikittumik ahinunngaqhimayangit haffumani qagalaaqtumi tutquumaqarvik • Havakhugit malrurnik anurimut nappaqhimayumi • Havakhugit uvani Windy tahiani tunun'ngaa halumayumik imarmik iluanit
Madrid Tununngaa	• Iniqtiqtaghat Madrid Tununngaani uyaraghiuqviit nunap ataani havaangit. • Aviktuqhimayukkut ilaaqtuqpangniaqtaat qaangani ikluqpaliuqvighat Madrid Tununngaani uyaraghiuqtut hannavighaat hiqupluiyarningit, uhiiyaqvingmik, taapkuninngalu, hiqupluqhimayut kuvviit. • Havakhugit malrurnik anurimut nappaqhimayumi • 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. • 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 (300-nik hinikviqaqluni) ihuaqutighallu havakviit (kuvviqnik amirnaiyaiyut, ikulavik, imiqtautainik), hiqupluqtaghat tunngaviat, qagalaaqtut tutquumaqarvik, hiqupluqtaaqhimayut tunngaviat, katiqhuivik, paniumayuniklu halummarvikhaq tunngavinga unalu munaqtauviat (TMA), uhiiyaqvik, ahiqquiyaiviit hannaviit, imautighallu tahiqqat. • Hanayaghat Boston Havakvianit hiqupluqtuivighaq. • Havakhugit malrurnik anurimut nappaqhimayumi • Hanayaghat qulliliqivighaq uqhuqhanullu tutquumaviit. • Hanayaghat kuvviqnik imaqnik halummaqhivingmik anittivighainiklu Aimaukkataaluk Tahianut. • Ahiit ikluqpaghaliuqtaghat ihariagiyauyut ihuaqutighat aulapkainiqmik uyaraghiuqtunik Boston-mi.

Hauvikhait Uyaraqtarviuyullu Havaangit

Una pivallianingit havaaraaqpaktangillu Havaanut havagviannut uyaraqtarvingillu pivalliayukhat uyarainnit uuminngalu hiquplugvikhainlu. Una Havaangit tiliuqhimayut naunaiqhiivlutik tamainnit

uyaraqtarvikhait ihuaqutikhangillu nunaup pitquhirinahuaqhimalugu. Naahimalugu 5Mt hautaaqhimayumik uyarait atuqtakhainit haffumani Havaaghaq 2 Havaangit uyaraqtarvikhaq.

Taryurmiunit Agyaqtuiffaaqtut Agyaqhiiyullu

Roberts Bay tuniyauhunnguyut uqhuryuanit, ingilrutikhangit ihuaqutikhainiglu parnautikhait Havaaghap uyaraqtarviuyakhait unalu aulattitiyakhangillu parnautikhamaat ilangit tingmiakkut agyaqtauniaqtut. Tamarmik havaangit, TMAC naahuriyait tuniyauhunnguyut pingahunit uqhuryuanut agyaqtuiyut, unalu pingahuit hitamangiluuniit umiakkut agyaqtaulunit (umiakkut parnautikhait, ihuaqutikhait, niqikhait himmauhingillu) taryuq angmaruvit.

Havaanguyuq atuqpangniaqtut qaffinik atatariiktunik hannavingnit apqutilluanik. Kayummaaqtailivangniallu aanniqtailiplutik atuqtakhait aanniaqtailinahuarutikhanut. 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 Havaagnguyuq Havaaghainit. Apqut hanayauhimayuq atauhiinnaqmik aghaluutituqvighalik nutqaqviqaqhuni taimaa ahiit qaangiutiyumaaqtut. Agyaqtautit aghaluutit atuqtauvangniat hanayughanik apqutimik ingilravangniaqhugu apqutit agyaqtaqhutik hiqupluqtaghanik katiqhuqtaniklu Aulapkaqtitaugumik. Hauvikhautait atuqtakhait uyararnik qanilruaniittut uyaraqqat qaangani.

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

Hamna Havaakhaq, uyararaaluit hiqupluqtauniaqtut uvani Madrid Tunun'ngaa, Madrid Hivuraa unalu Boston havagviata. Havaariyangit Doris'ip hiquplurvingit havaariyauyuq aulattittiyuq atuqhimmaaqtakhangillu Havaanguyauyuq; una Doris'ip uyaraqtarviuyuq huli atuqtauhimmaarniaqhunilu. Una 1,200 tpd hiquplurvikhangit hanayauniaqhuni uvani Madrid Tunun'ngaa unalu 2,400 tpd hauvikharavik hanayauhunnguyuq Boston-mi. Uyaraqtarviuyuq uvani Doris, Madrid

Tunun'ngaa, unalu Boston havagviannit; tamaita uyarait hauhimayut uvani Madrid Hivuraanit agyaqtauhunnguyut akhaluutikkut uvunga Doris hiquplurvingmi uuminngalu Madrid Tunun'ngaa Hiquplurvikhaq.

Una uyaraqtarvingit uuktuutingit uvani Madrid Tunun'ngaa naahurihimayauyuq havaanut uvanngat 3,200 tpd avatquumayangit uyaraqtarvingni amihurningit haffumani Madrid Tunun'ngaa hiquplurvikhami. Amiakkungit uyarait akhaluutikkuurniaqtut uvunga Doris uyaraqtarvingmi. Uyarait qiplarikhimayut uvanngat Madrid Tunun'ngaa hiquplurvingmi akhaluutikkuurahuaqtut uvunga Doris'ip hiquplurvingmi kuulunit qiniqhialutik. Una Boston uyaraqtarvingit ihuaqhainiaqtangit iluani uvaniluuniit 2023 nguqtinnagu aulapkaridjarikhiniaqhunilu uvani 2024 uyaraqtarviannit. Inikhanut pingahut ukiunganit, ilainnaa uyaraqtarviuhimayut Boston-mit akhaluutikkuuqtukhat Doris uyaraqtarvingmut. Hamna Boston'ip uyaraqtarviuhimayut havaariyaugumik (2024 mi), tamaita Boston uyarait uyaraqtarviuniaqtut nunguanit uyarait agyaqtaulutik Doris-mut.

Kuvvikurnik Munaqhiyut

Kuvvikuit talvanngat Madrid Tununngaanit hiquplurvingit 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 (Doris unalu Madrid Havagviannit). 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 uvungaluuniit Aimaokatalik Tahia.

Kuvviqnik Munaqhiyut

Amiqnaittut kuvviit aviktuqtauniaqtut ikulattiyaulutik ikulattivingmit, iqqakuqtaulutik uumanilunniit kuvviqmut, angmaumayumik ikulattivingmi. 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. Unguvaqhimayangit amiriyauhimayut iqqakuut manirarmi iluaniluuniit Aimaokatalik Tahirmi uumaniluuniit aahiit kuvvirningit. 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 Havaanguyumi (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 tukhiutigiyauyuq ihivriuqhiyut tuklighaallu uqhuqyuakkut aulapkaqtitauyunut havakvingmi tamaat.

Uqhughat agyaqtauniaqtut Roberts Kangiqhuani tutquumalutik qattaqyuit tunngavianit Roberts Kangiqhuani (45 ML tamatkiumayut), tutquumayaqaqlutiklu talvani Doris-mi uqhuqhait qattaqyuingnit (7.5 ML) nutaaniklu uqhuqhanik tutquumavighanik Madrid Tununngaanit (4.5 ML) Boston-milu (74.5 ML). Uqhughanik agyaqtautit aghaluutit uqhughanik agyaqtaqpangniat Roberts Kangiqhuanut ahinullu havakvingnut. Qagaqtautit tutquumaniaqtut puughainit; puughait tajja tutquumayut talvani Doris Havakvianit ahinilu ajjikkiitqiyallu tutquumavighait hanayauniaqtut Boston Havakvianit. Amiqnaqtut hunavaluit (avughaniklu) agyaqtaqpangniat, hanaqiyaulutik tutquumalutiklu malighugit pitquyauhimayut Agyaqtaqtut Amiqnaqtunik Maligainik; avughait tutquumaviit Doris Havakvianiittut unalu Boston Havakvianillu. 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 irininaqtuqaqqat aulapkaqtitauniat. Irininaqtunik annaktit ilihaqtitauniat ingilrutiqaqlutik hanaqiyaami irininaqtunik.

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 Madrid-Boston Havaangit NIRB-kut NWB-kullu havauhiigut.

Umiktiqvighaat Utiqtittiyullu Ilitquhianut

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

Una Umiktiqvighaat Utiqtittiyullu Ilitquhianut parnaiyaqtauhimayakhat ilittuqhitiuningillu 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 Havaaghangit 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. Havaaghangit katimapkaiyughat uplumimut, Qitiqmiut inuit qauhimayatuqainik ilittuqhitivaktut apiqhuutiniklu ihumaaluutiniklu ilittuqhitiplutiklu Havaaghangit 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 Madrid-Boston 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 Havaaghangit (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 Havaakhangit 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. Una Madrid-Boston Havaangit iluani huli nunaup puvitquumannga nunaani uataanit Nunavunmi, nunaup auqattarninga marlungit uyaraillu qiqumainnaqhutik ukiuraalungmi.

Nunaup Ilitquhiita Ilitturvikhaat

Hamna uyarait uyaralingnit, imait imnaillu takukhauyuittuni nunami, napaaqtuillu auyami atungauyait amigaitpaktut unalu hivituvallaaqtuq maniraat haffumani 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 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 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 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 Madrid-Boston Havaangit.

Hamna ilitturvikhangit, TMAC naunaiyaqhimayangit tahapkuat VECt, VSECt aahiillu Naunaiyaiviniit haffumani 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

Nunapta Anirniqautiit Ikiariit Avatikhangillu

Una Havaaghanut 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 Havaakhanut 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 Havaakhanut 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. Taryukkut agyaqhiivaktut agyaqattaqhimayukhaq imaq angmaumalirumi ilagiyaulaittunilu amihuaryuit.

Naunaipkut 3. Naitumik Uqauhiq Hilamik Nunamilu Avatauyut Kiguagut Aktuqniginik

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
Ilitquhiita nunat qanurinigini	Ilitquhiita Anurium Nakuungninga	Aallannguqhimayut Anurium Nakuungninga	• Ilaita haffumani TIA nit imannguqhimayut nailiniaramiuk ihiit puyurnianut • Illiriyaugumik amigaittumik puqtuhimaningit nailinahuarlugit Nunamiut anurium hururningit • Apqutit igluqpaqarvikhaiuqtut ihuaqhiyumik nailinahuarlugit agyaqtuiyut agyaqhiiyullu ungahiktumi • Havaktiit ilihautikhait ilitturvikhangillu piliriakhanut amiqhaiyangit unalu anuriup anihimayut • Hiamittailivikhangit nailinahuarnigut ikulahimayut hururningit • Hiamittailivikhangit atuqhimayangit ingilrutikhanut, aturnaqtumi • Aulattititihimattiaqtumik uqhuryuangit ihiit anihimayut nailinahuaqhugit, aturnaqtuq • Nakuuyumik ingilrutikhait ihuaqhihimayangit ihuaqyuummiqtailinahuaqtangit • Ihiit anipkaqtailiyangit aturnaqtuq apqutinut, iliuraihimayut, una TIA unalu TMA piyumayaukpat • Apqutit kayumangningit 50 km/ikaarningit • Ilingningit iliuraihimayut illiriyangillu havagluarningit ihiit amiriyangit, piyumayaukpat • Ihuaqhilaaqtunit amiqhainikhainut uumanit anurium nakuungningit amiriyangit • Iliuraqhimayangit uuktuutingit unalu unipkaariyakhait, aturnaqtumik Ihuaqhigaaqtakhait ihiit unalu qulaaniittunit ilaurutiit amiqhaivangniaqtangit unniutiyakhangillu	Aallannguqhimayut Anurium Nakuungninga	
	Nipaaqniga Hayuknigalu	• Aktuqniga Inuknik • Aktuqniga Umayunik	• Ingutaaqtut piqutit ihuaqtunik hupuuktautiqajavut nipikuukhitijutiniklu maliktakhait ingniqutingit kiugiaqaqqat ihuaqutikhanut parnautikhait; • Atuqlugit qiyuqutit haffumani uyararnut piliriakhait (ilaliutigilugulu hiqupluqhit) pauvait, anurim hiamittailivikhangit hulidjuhiit. Havaangit	• Aktuqniga Inuknik • Aktuqniga Umayunik	Ihumagiyaugituq (takulugu Nunami Umayunik VEC-guyut)

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			ilaliutilugu aktuqhimayakhait uumani STC30 uuktuutainit, unalu Boston Pauvaqarvingit ilaliutiyakhait aktuqhimalugillu uumani STC30 uuktuutingit. • Uyarait hiquplurvikhangit unalu havaangit havaktut iluani nailinahuaqhimalugit kuinginningit • Una Boston Pauvaqarvingit nutqarutaat ilaliutihimalaaqtut kuinginnaiqutikhaq ikulattailinahuarlugit kuinginningit hiamittailivikhat • Akyaqviuyut apqutit atugitaagani naunaiyautit, ayuqnaitpat, ugahikpalaagitaagani aulaaqviuyuq nipaaqpalaagitaagani • Ingutaaqtut ingniqutit hanguyut iluani kayumiittuutigut		
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 • Utiqtifaarmilugit 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 • Utiqtifaarmilugit 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 umiakkut agyaqhiiffaaqtut pittailinahuaqtangit hikumik Dolphin-mi Union-milu tuktut ataaqtiniit taryum hikumi • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani tuktuut talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik kuinginningillu. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik apqutip haniraani AWR-mi	• Nunaiyainiq • Kamahuktitiniq • Aktuqtailiyukhat ingutaaqtut	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			Inutuqqangit angunahuaqtunut 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. • Tuktut milviup hanianiitpata (250m) kinguvaqhimalugu tingmiyut tuktut hivuuranaqtailinahuaqhimalugit, taimailitkumi.		
	Beverly-mi unalu Ahiak-milu aallatqiit-amihuuningit	• 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 kuinginningillu. • Akhaluutit nutqariaqaqtut umayut ikaaqaarlutik. • Aqutit akhaluutimiittukhat tuktut takunnaraangat taimaa akturnaittumik tuktunut • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik nayugait haffumani AWR-mi uumani Inutuqqait tuktut ikaaraangamik ilitquhingit uvunga ikaariaqvikhait umayut. • Aputaiyaqpaklutit apqutit. • Hanikaptait qimalatigitaagani tuktuunik 3-hanat miitamik qulvahikniqaqlutik 6-hanat miitamiklu	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			ugahikhimalutik avatiknit ayuqnainiqat. • Tikmijat mikiniqhamik 610-miitamik qulvahikpaklutik kihiani mitaqtulirumik tikmikhalirumikluniit ayuqnainiqat.		
	Umikmait	• 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 umikmait talvaniiniqata • Akhaluutit nutqariaqaqtut umayut ikaaqaarlutik • Aqutit akhaluutimiittukhat tuktut takunnaraangat • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi. • Tikuaqhilutik nayugait haffumani AWR-mi uumani Inutuqqait tuktut ikaaraangamik ilitquhingit uvunga ikaariaqvikhait umayut. • 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.	• Nunaiyaqnigit • Kamahuktitiniq	Ihumagiyaugituq
	Akhait	• Nunaiyaqnigit • Kamahuktitiniq • Ahiaguuqtinigit Aulaniginit • Tikiqataqnigit	• Havaktut qauyimanigit / avatauyumik ilihimayaagani havaaq • Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait	• Nunaiyaqnigit • Havakviuyumugaunigit	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
		Havakvimut • Tuqujutauyuq Talvanga • Tikitaaqnigit Aguyauyulu • Aalaguqnigit Avatauyuup Halumaniganik	• Puyuukpalaaqtaililugu – immaqtirutinik apqutini atuqlutik • Munarilugit piqutit nipaaqpalaagitaagani • Naunaiyaulraaqlutik qaraqtitaitinagit qimalatigitaagani Akhait talvaniiniqata • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • Akhaluutit nutqariaqaqtut umayut ikaaqaarlutik • Aqutit akhaluutimiittukhat tuktut takunnaraangat • 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 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. • Akhaluutit nutqariaqaqtut umayut ikaaqaarlutik • TMAC-kut agunahuaqnikut pitquhiqagitut tamainit havaktunit atuqtakhainik havaktilugit inigiyauyumi.	• Nunaiyaqnigit • Havakviuyumugaunigit	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			• 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		
	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 • Aktuqtailiyukhat ingutaaqtut	Ihumagiyaugituq
	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 • Aktuqtailiyukhat ingutaaqtut	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
	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	• Igluqpaqaqvikhaq Ihuaqhaqniganik, Hanajutinik, Agiptirutiniklu • Igluqpaqaqvikmi Uyaraktaqvikmilu Aktugauyut Immavaluit • Qaraqtautit	Ihumagiyaugituq

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			• Qaguguraagat ihivriuqpaklugit munarijutit napagauyut maliklugilu inigiyauyumi ihivriuqnigagut upalugaiyautit 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 aalaguqnigiinikluniit	• 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	-
			• Takulugu Imatqiqtumik Imait Nakuurningit Hiurangillu	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	• Taryurmit agyaqtuiffaarmiyut (uuminngat umiaqtuqtut) • 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 • Kuuktilugit qaliuyut TIA-mit nunamilu imavaluit Roberts Bay-mut • Atuqlugit Kanatami Ukiuqtaqtumilu atuqnigit puyuuqniginik, immaliqijutinik havaat ilaliutauyurlu DFO aulattittiningit, qaraqtitautit, immakpaliayulu qanuritariaqaqnigit • Maliklugit BMP-kut uqauhiit igluqpaqaqviuyuq munarinigagut upalugaiyautit • Atuqlugit hiuqanik hituariipkutiniklu mikhiyaagani nunami kuuktut kuuktilugilu munariviuyunut piqutinut • 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.	• Taryurmit agyaqtuiffaarmiyut • 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 aalaguqnigini-kluniit	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Piqutit ihuaqhaqnigit mikiniqhauyaagani inigiyauyuq nuna qanikligitaaganilu qayaknaqtut taqyumi Iqaluit nunagiyaat • Imaup-iluaniittut havaangit ilaliutigiyangit inmikkut-ikayuuhikhait ihumayauyut ilaliutigiyangit aturlugit angiyaaqtumik, pingahulingnit-ilaliutauyut piyumayaukpat, hiamittailinahuarlugillu taryurmiuttait iqaluk nayuqpauhingit • 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 • Igluqpaqaqvikmi munarijutinut upalugaiyautit Avatauyumiklu Munarinigagut Upalugaiyaut	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
		• Aalaguqnigit taqyumi immariknigit natqanilu halumanigit	• Takulugu Taqyumi Imarikniga Hiuraqatiaqnigalu	Nahuriyaugitut	-
	Iqaluqaqnigit: Uukaat	• Tuqujutauyuq Talvanga amigainigilu	• DFO-kut ihuaqhautiat aanigitaagani Iqaluit nunagiyailu • Qaraqtitaiyut nipaaqniginiklu naunaipkutit ilagiyailu amirijutit • 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 tungaviliurumik ukunigaugituq kaukyuarutinik ayuqnaitpat • Imikniganik amirijutit tungavikhanik iliuraitilugit nunamut • Iniqhilutik immap iluani nipaaqniginik naunaipkutikhanik 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 • Niryuutit inikhaqarialik ikaaqaaqhimalugit tamainnut apqutimi • Amiqhaiyakhait malikhimalugit atuqhimaniarumik	Nahuriyaugitut	-

Uqautauyuq	VEC-guyut	Aktuqnirilaaqtait	Ihuaqhautikhat	Kiguagut Aktuqnigit	Qanuraaluq Aktuqniga
			uqhuryuanut, hivuuranaqtumik kuvittailinahuarlugit, ilaqaqtut halummaqhilugit kuviyaugumik taryurmiuttait avataita		
	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 hivuuranainningit pigiaqaqtuq • Milviit amirilugit tikmikhagiaqtinagit mitaqturiaqtinagilu Havaanut apqutingit • Kayumiknikhait iniriiqhimaniaqut Havaam apqutaini. • Umayut atuluaqpakniaqut tamainik apqutauyunik • Nakuniqhat munarijutit atuqtauniaqut munariyaaga-ni uqhukhat, aanirutaulaaqtut ihuaqutit quviiyuqagi-taagani, hiamayaktaililugit halumaqtiqlugilu 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 titiraqhimayu-nik igilraaqnitanik piqaqtut nunat	• Uqatiaqhimayut nunap qaagani piqaqniginik • Ihumagilugit qaniklitailiugit havaaq ihuaqhaqtauliqat • Ihumagilugit munarijutinut atulirumayainik • Qaguguraagat amirilugit naunaitut inigiyauyut • Qauyipkaqnigit maniqami havaktut • Atuliqnigit aulanikut pigiarutinik	• Aktuqniga titiraqhimayut igliraaqnitanik piqaqtut nunat	Ihumagiyaugituq
		• ahiunigit titiraqhimagi-tunik igilraaqnitanik piqaqtut nunat	• Ilituqhaqtautiaqlutik kahaktaugiaqtinagit • Ilituqhaqlugu TK-nik ahiiniklu naunaipkutinik taimani ilitquhiqmik hivuniqhijutikhanik • Qiniqhimainaqlugit hivigitumik kahaktaunigini hulitilugit amigaitunik igilraaqnitanik piqutiqaqtut nunat • Qauyihainigut 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 hivuniq-hijutinik 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 havak-tulu, ilagani qanurituunigini, Manikhaqhiurutinik Pivalianikut Manikhaqvikvik • TMAC-kut Kivgaktuqtia ikayuriagani amihuuniqhat Qitiqmiuni Ayugitut Manikhaqhiurutiqaqtut havakti-taagani 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 angiyaaqtumik 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 kangiqhinahuarlugillu 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 Ikayu-tikhanik Havaamik (EFAP); niqhiuqpaklutik niqai-naqnik inigiyauyumi; atuinaqlugu imigaknaqtunik taagaqniklu pitquhiuyunik ilaqaqtumik “hiuruyali-magitut”; atuqtitilutik inigiyauyumi tuhaumajutik-hanik Inuit havaktut inuqatimiknik ilagiyamikniklu; atuqtitilutiklu niqainaqnik igaviknik ilitquhiqmilu hulijutinik Havakviuyumi ihumaliugainik Atuqpalianigagut • TMAC-kuni Kivgaqtuiyuq tikuaqhiyaagani havaktut uqaujuriagani aturiaqaqat ihuaqnigani; ihuaqhailu-tik 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 atuqniga-nik nuna ihuaqutilu • Aalaguqniga anguna-huatuq aguniginik, angunahuarutiniklu • Aalaguqniga qauhinigi-nik maniqamiuyunik	• Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • Kayumaaqpalaagilutik tuluqhigitaagani umayunik. • 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	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 atuqnigaanik nuna ihuaqutilu • Aalaguqniga angunahuatuq aguniginik, angunahuarutiniklu • Aalaguqniga qauhinigianik maniqamiuyunik	• Upalugaiyaqlugu inikhaq aktugitaagani umayuut nunagiyait • Mikiniqhaulutik inigiyait igluqpait • 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 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 Upalugaiyaut ilaqaqtumik pigiarutinik upipkaijutikhanik nunagiyauyuni ilauyunik.	• Aalaguqnigit angunahuarutinut pitquhiuyunik	Ihumagiyaugituq

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 Madrid-Boston 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 Havaangit taimaa anguniarvikhaunngittunilu havaktunut 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 una 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 katilviuyakhait 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 Madrid-Boston 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 Madrid-Boston 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 Madrid-Boston Havaangit, atauttimut uuminngat ingattaqhittailinahuarnikkut amiqhaivikhangillu uuktuutingit, pittailinahuaqhugillu atuliqtaunikhainut Imarmiuttanut Avatimiuttait.

Inungnut Avatimiuttait

Qaffiuyungnaqtut 50 nitluuniit initurlingit nayugaanit ilittuqhimayauyut takunnaqhutik iluani nunangani haffumani Madrid-Boston 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 Madrid-Boston 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 una Havaanga. Kinguani, hamna Kapihiliktuum Havaangit ikayuutaulluaqhuni qauyimayamingnit kiglikhait ilagiyauhimayangit kinguani nunami atuqtakhainninganut inuuhirmingnullu.

Hamna Madrid-Boston 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 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 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 una Havaangit aulapkaiyakhaat tahiyaaqtunit nakuuyumik atuliqtaunikhait inungnut iluani Qitirmiut nunangani hamnalu nakuuyumik nakuunngittumiglu aktuqtauhimaningit amiqhaiyukhat uumani TMAC unalu maligautait nunaqatigiiktut kavamaita. Madrid-Boston Havaangit tahilaaqhuni inuudjuhianut Havaatigut kinguani ilaliutigiyakhait iniliurvikhangit nunalingnit qulaani arvinilikniglu uniit 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 ilitquhiutauvlunilu 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 una 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 una 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 una Havaangit tamaat piluqutauhimayut nunaliit, Qitirmiut Inuit Katudjiqatigiit unalu ilagiyauhimayut kavamaita ilaudjutilgit qimilruqhimaniaqtangit amiqhaivikhangit ingattaqhittailinahuarnikhangillu uuktuutikhait. Kiuhimataaqtangit, atuqtaaqhimayangit amiqhaivikhangit upalungaiyautingit nutaannguqtiqtauniaqtuq aktuqtauvikhangit nutaamik arlingnaqtumik ilitquhikhaat uumani Madrid-Boston Havaangit pulahimaittumi uvani atuqtaaqhimayainnit upalungaiyautimi.

INIRUTAANUT HAFFUMANI AVATIKHAINUT AKTUQTAUNIANUT KIUVINIIT

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

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

The Madrid-Boston 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 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 Madrid-Boston 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 important 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), permitted 25 million liters of fuel storage, a process plant, and all associated infrastructure required to operate the mining operation.

Madrid-Boston Project 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 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 Madrid-Boston Project.

The 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 partical ore processing at the Doris Site in Years 4, 5 and 6, and at the Boston process plant construction and ramp up to full production, expected by the end of Year 6; and
- 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.

Construction, operation and closure activities associated with the schedule are subject to strategic development evaluations but are adequate for supporting the FEIS.

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 Madrid-Boston Project. 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 Madrid-Boston Project 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 5), concurrent with the initial part of the 14-year Operation phase (Year 1 to Year 14). Closure and reclamation activities begin in Year 12, and occur for four years in total. Post-closure activities are also staged, beginning in Year 14. Figure 2 illustrates the Project schedule for the various Project components.

Alternatives

The NIRB Guidelines require TMAC to provide a “go/no-go” analysis of the Madrid-Boston project, as well as to present alternative means of carrying out the project.

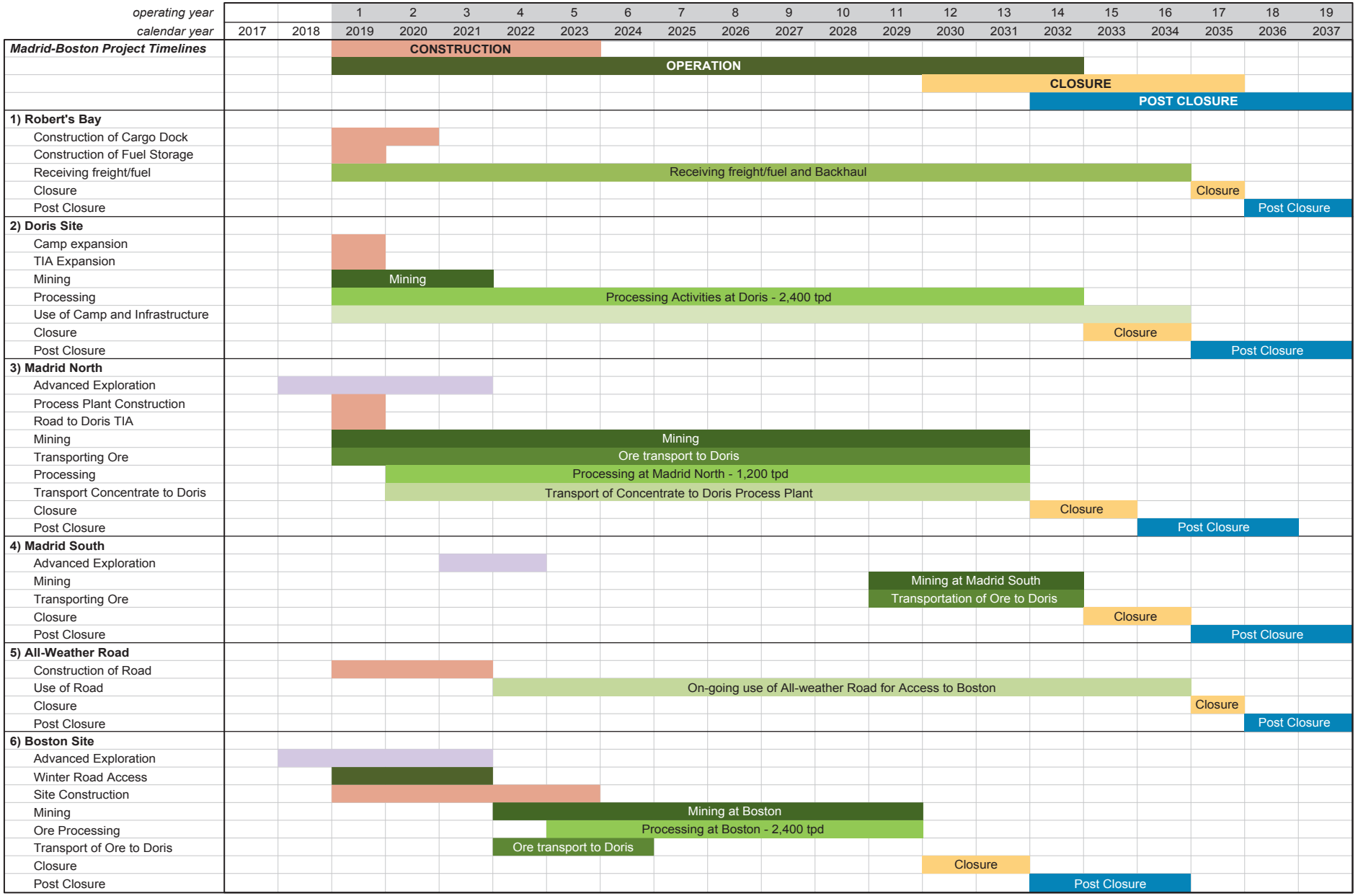
Go/No-Go

There are two possible outcomes for a go/no-go decision for the Madrid-Boston Project:

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

TMAC believes that the 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 the Madrid-Boston Project 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 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 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 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 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 such as open pits, underground mining methods and crown pillar recovery, 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 Madrid-Boston Project will generate an estimated 11,764 person-years of direct employment across Canada. This includes 2,281 person-years of direct employment associated with construction activities (7,018 person-years of total [direct, indirect, and induced] employment), and 9,484 person-years of direct employment (26,513 person-years of total employment) associated with mine operations. Direct employment will begin with an estimated 175 full-time equivalent (FTE) workers in Year 1, increasing to a maximum of 1,287 by Year 10, t then decreasing to a low of 281 during the final year of Operations.

In Nunavut, 321 person-years of direct employment are predicted during Construction and 1,110 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 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]	7,018	567	390	26,513	1,973	1,517
• Direct Employment (person-years)	2,281	321	289	9,484	1,110 (all in Kitikmeot)	
GDP ($ million)	$808	$68.4	$41.0	$3,191.1	$245.4	$202.3
Tax Revenue ($ million)	$146.2	$9.3	$5.7	$587.0	$33.8	$29.2
• Federal	$80.0	$6.7	$4.2	$319.3	$24.7	$21.5
• Provincial/Territorial	$66.3	$2.6	$1.5	$267.7	$9.1	$7.7
Labour Income ($ million)[2]	$608.1	$59.9	$38.2	$2,456.7	$223	$190.6
• Direct Employment Income	$304.2	$42.6	$34.1	$1,403.7	$163.8 (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 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 Madrid-Boston Project (construction and operation crews) will peak at up to approximately 650 individuals. The Doris accommodation will be expanded to house 400 persons while a new 300-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 400 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 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 Madrid-Boston Project.

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 20 ML diesel tank farm (i.e., four 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. • Minor relocation of the explosives facility • Construction of two wind turbines • Construction of a Windy lake north freshwater intake
Madrid North	• Completion of the Madrid North underground workings including crown pillar recovery. • Incremental expansion of surface infrastructure at Madrid North to accommodate production mining, including the , laydown area, and, stockpile areas. • Construction of a 1,200 tpd concentrator and a power plant at Madrid North. • Construction of two wind turbines • 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. • 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	• Completion of the Boston underground workings including crown pillar recovery. • 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 (300 beds) and associated support facilities (sewage treatment, incinerator, water supply), ore pad, explosives facility, waste rock pad, reagent pad, dry-stack tailings management area (TMA), laydown area, maintenance facilities, contact water ponds. • Construction of Boston Site processing plant. • Construction of two wind turbines. • 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.

Marine Resupply and Transportation

Roberts Bay will receive all fuel, equipment and material required for the 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.

The Project will utilize a network of project site roads Speed limits will apply for safety purposes. Personnel will be transported on charter aircraft from Edmonton, Yellowknife and the 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 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. Crown pillar recovery will be used to ultilize ore in areas close to or at surface.

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 the Project, ore stockpiles will be established at the Madrid North, Madrid South, and Boston sites. The existing Doris process plant is operational and will continue to be used in the Project; the Doris ore stockpile will also continue to be used. A 1,200 tpd concentrator will be constructed at Madrid North and a 2,400 tpd process plant will be constructed at Boston. 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 process plant or Madrid North Concentrator.

The mining rate at Madrid North is expected to peak at 3,200 tpd which exceeds the processing capacity of the Madrid North concentrator. The excess ore will be trucked to the Doris process plant for processing. The concentrate produced by the Madrid North concentrator will also be trucked to the Doris process plant for gold recovery. The Boston process plant will be commissioned in on or before 2023 and fully operational in 2024 production. For the initial three years, a portion of ore mined from Boston will be trucked to the Doris process plant for processing. Once the Boston process plant is fully operational (2024), all Boston ore will be processed at Boston thereby ending ore transportation to Doris.

Tailings Management

The tailings produced at the Madrid North concentrator 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 (Doris and 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 during construction and closure and to Aimaokatalok Lake during operations.

Waste Management

Non-hazardous waste will be segregated and disposed of either 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.

The fully functional Boston accommodations will include a biological sewage and greywater treatment plant. Discharge of the treated effluent will be to the tundra during construction and closure and to Aimaokatalok Lake during operations 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 the Project (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 proposed as a means to supplement diesel power generation across the belt.

Diesel fuel will arrive at the Roberts Bay and will be primarily stored at the tank farms at Roberts Bay (45 ML total), with supplemental storage at the existing Doris tank farm (7.5 ML) and new tank farms at Madrid North (4.5 ML) and Boston (7.5 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 similar 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 and Boston 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 Madrid-Boston Project 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.

Closure and Reclamation Plans have 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 Plans. 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 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 Project engagement program to date, Kitikmeot Inuit have provided local knowledge and raised questions and concerns regarding the 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 Madrid and Boston 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 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 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. The Madrid-Boston Project 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 widespread in the tundra of the 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 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 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 include Saffron Cod, Capelin, Arctic Flounder, Pacific Herring, Fourhorn Sculpin, Arctic Char, Bering Wolffish, Inconnu 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 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 Madrid-Boston Project.

Based on this information, TMAC identified the VECs, VSECs, and other Subjects of Note for the 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

The 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.

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.	• Mobile equipment with appropriate mufflers and silencers and follow manufacturer recommended maintenance schedules; Use enclosures for ore processing (including crushing), power, and air compression activities. Processing enclosures should achieve at least an STC30 rating, and the Boston Power Generation Facility enclosure should also achieve a STC30 rating Ore concentrating and processing conducted indoors to reduce noise emissions. • The Boston Power Generation Facility exhausts could include a silencer to reduce combustion exhaust noise emissions. • 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. • Mobile equipment travelling within speed limits.	• 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. • 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. • Reclamation of unused disturbed areas where possible. • Monitor water quality to meet discharge requirements. • Adequate fill depths to ensure preservation of permafrost.	None Predicted	-
Terrestrial Wildlife and Wildlife Habitat	Dolphin and Union (Island) herd	• Habitat loss. • Disturbance. • Disruption of Movement. • Attraction to the Project. • Direct Mortality. • Increased Access	• Employee awareness / environmental induction program. • Open water marine resupply to avoid Dolphin and Union caribou migration on the sea ice. • 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.	• Habitat loss. • Disturbance. • Disruption of movement.	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		and Harvest. • Changes in Environmental Media Quality.	• Speed limits to minimize the chance of collisions with wildlife and noise. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of the AWR with Elders and harvesters for caribou crossing structures 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. • If caribou near airstrip (250m) then delay flights to keep caribou safe and avoid disturbance, when safe to do so.		
	Beverly and Ahiak sub populations	• 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 and noise. • Vehicles must give wildlife the right of way.Drivers to stay in their vehicles when caribou present so not to disburb caribou. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of the AWR with Elders for caribou crossing structures 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
	Muskox	• Habitat loss. • Disturbance. • Disruption of Movement.	• Employee awareness / environmental induction program. • Plan footprint to avoid sensitive wildlife areas. • Minimize footprint of facilities. • Limit dust production - dust suppressants on roads.	• Habitat loss. • Disturbance.	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		• Attraction to the Project. • Direct Mortality. • Increased Access and Harvest. • Changes in Environmental Media Quality.	• 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. • Vehicles must give wildlife the right of way.Drivers to stay in their vehicles when wildlife present. • TMAC has a no hunting policy for all personnel while working on site. • Identify locations of road embankment along AWR with Elders and hunters 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.		
	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. • Vehicles must give wildlife the right of way. • Drivers to stay in their vehicles when wildlife present. • 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
	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. • Vehicles must give wildlife the right of way. • 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
	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	• Habitat loss. • Disturbance. • Disruption of movement.	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			moulting birds. • Avoidance of known nests or nesting areas.		
	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. • Disruption of movement .	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. • Design of 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. • Fisheries offsetting measure 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
	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	

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
	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	-
		• 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	• Marine resupply (i.e. sealifts). • 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. • Discharge buoyant TIA and groundwater to Roberts Bay. • Adhere to Federal and Territorial standards for emissions, in-water works including DFO authorization, 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. • 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.	• Site Preparation, Construction, and Decommissioning. • Site Contact Water. • Discharge.	Not Significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
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
Marine Fish	Fish Habitat	• Habitat loss or alteration.	• DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat. • In-water infrastructure incorporates self-offsetting design considerations by including the use of large, three-dimensional substrates where feasible, and avoids critical marine fish habitat. • Restricted Activity Timing Windows. • Management plans including Environmental Protection Plan. • Fisheries offsetting measures 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. • 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	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
	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. • 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.		
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 zone. • Stop pile driving if marine mammals inside 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. • Wildlife given the right-of-way on all roads. • Management practices will be used to manage fuels, hazardous materials to prevent spills, and to contain and clean up spills to the maine environment.	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	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		• 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, safety permitted. • Airstrips monitored prior to take-off and landings. • Speed limits on Project roads. • Wildlife given the right-of-way on all roads. • Management practices will be used to manage fuels, hazardous materials to prevent spills, and to contain and clean up spills to 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.	• 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. • 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 large bids. • Provide annual business opportunities forecast. • 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
	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 understanding of 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	• Changes to family stability. • Changes to family spending.	Not significant

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			employees to identify their needs, issues and concerns; and assist in identifying and developing wellness initiatives.		
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 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 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. Marine resupply will be conducted during the open water season and will not interact with the migration of this herd.

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 Madrid-Boston 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 Project has a no-hunting policy for workers when on site.

Overall, Madrid-Boston Project 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 the 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 wolves.

The layout of the 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 as quickly as possible.

TMAC's design for the Madrid-BostonProject, 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 meet compliance 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 Madrid-Boston 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 in the open-water season, outside of the periods when ringed seals and caribou are using the ice.

The closest seabird colonies to the Madrid-Boston 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 navitable 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 Madrid-Boston 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 Madrid-Boston 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 Madrid-Bosotn 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 the Project. Further, the Hope Bay Project has contributed to the knowledge base providing insight into past land use and livelihoods.

The Madrid-Boston 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 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 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 the Project 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. Madrid-Boston Project 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 the 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 PIan* 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 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 the Project 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 Madrid-Boston not already covered under the existing plans.

CONCLUSIONS OF THE ENVIRONMENTAL IMPACT STATEMENT

TMAC's Environmental Impact Statement concludes that the Madrid-Boston 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 Madrid-Boston 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, Nunavut and Canada as a whole.

MADRID-BOSTON PROJECT
FINAL 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 Component
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 Greenstone Belt (the 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 Greenstone Belt. 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 Belt with the mining of additional as yet undiscovered deposits (refer to Section 1.5).

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

1.1 PURPOSE AND NEED FOR THE PROJECT

The Madrid-Boston 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 the Project 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 the Project minimizes capital investment and builds on the existing assets to generate cash flow that can sustain expansion and exploration. Madrid-Boston Project represents a significant opportunity for the development of a new mining development in the Canadian Arctic.

In addition to generating revenues for TMAC, Madrid-Boston 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 Madrid-Boston Project will:

- support regional infrastructure initiatives, such as regional transportation networks. The Project 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

Madrid-Boston 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 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 V1-7, Package 3-1 Appendix B and Package 3-2 Appendix B, 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 Greenstone Belt is host to numerous mineral deposits and the development of the 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 Belt will ensure continued social and economic benefits for Nunavummiut, Nunavut, and Canada.

The Madrid-Boston 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 Madrid-Boston Project.

1.6 REGULATORY REGIME

TMAC's Madrid-Boston 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 Madrid-Boston 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 Belt.

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

Table 1.6-1. List of Permits, Licences and Authorizations Required for Madrid-Boston 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 Madrid-Boston 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 workshops 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 Project information booklet was translated into Inuktitut and Inuinnaqtun and printed copies were distributed at the May 2016 community meetings. Community meetings were also carried out in the fall of 2017 to provide communities with more information on the Project and get addition input on the Project. These meetings built upon other community engagement activities on the proposed 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 has implemented a purpose-built consultation and stakeholder tracking database for the Project, to support the review process and the management of consultation and engagement activities over the life of the Project.

Information provided through the public consultation and engagement program is used to inform the planning and design of the 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 Project advances. The level of community support for the Project was formally documented during community meetings held in the Kitikmeot Region in May of 2016 and October and November of 2017. Of those participants who returned a completed feedback form, a clear majority indicated that they are supportive of the Project.

2.2 GOVERNMENT ENGAGEMENT

TMAC’s government engagement efforts focus on providing review agencies with comprehensive information regarding the 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 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. 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 Madrid-Boston 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 Project.

A significant amount of TK collected for the 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 Project. Questions that have been raised and TMAC's responses are documented in Volume 2, Chapter 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 settlement 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

3.1 PROJECT OVERVIEW

The Madrid-Boston Project consists of proposed mine operations at the Madrid North, Madrid South and Boston deposits. The Madrid-Boston Project is part of a staged approach to continuous development of the Hope Bay Project, comprised of existing operations at Doris and bulk samples followed by commercial mining at Madrid North, Madrid South, and Boston deposits. The Madrid-Boston Project would use and expand upon the existing Doris Project infrastructure. Table 3.1-1 summarizes the main components, infrastructure and activities involved in developing the Project.

Table 3.1-1. Key Facts for Hope Bay Belt and Madrid-Boston Project

Hope Bay Project Development Area (PDA) and Facilities			
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323 (Doris)		**Madrid-Boston Project**
Facilities footprint	1,341 ha		1,225 ha
Life of Project (Construction – Post Closure)	6 Years		19 Years
Life of Mine Doris	6 Years		No change
Life of Mine Madrid North	-		13 Years
Life of Mine Madrid South	-		4 Years
Life of Mine Boston	-		8 Years
Roberts Bay Facilities, Infrastructure and Activities			
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323 (Doris)		**Madrid-Boston Project**
	Existing	**Permitted**	**Proposed**
Life of Facilities	2022		Year 1 (2019) to Year 19 (2037)
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 @ 10 ML Total storage: 45 ML
Fuel storage – Jet fuel	Drums within seacan	500,000 L	No additional storage
Site infrastructure	Access roads, laydown areas, weather havens		Access road connecting cargo dock to Roberts Bay facilities
Outfall	Outfall pipeline and berm		No additional requirements
Waste management	Storage facilities, incinerators, work area		No additional requirements
Expected shipping traffic	-		Freight – approximately 4 per year (40 kt/year) Fuel – approximately 3 tankers per year (45 ML total)
Shipping season	Open water		Open water
Quarries	Four active quarries permitted		Two additional quarries (Quarry AE and AF)

Doris Site Facilities, Infrastructure and Activities		
	Approved under Project Certificate 003 and Type A W.L. 2AM-DOH1323	**Madrid-Boston Project**
Site Development	Site largely developed	Footprint extension related to TIA and Doris site utilization
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	Two wind turbines Nominal capacity of 4.2 MW each
Processing Facility	2,400 tpd	Addition of concentrate handling facility next to process plant
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
Tailings Impoundment Area (TIA)	Capacity of 2.5 Mt	Expansion of TIA to 18Mt, road extension, raise height of south dam, and construction of west dam
Waste management	Landfill, 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	Additional 120 people (400 people total)
Potable Water Use (Windy lake)	22,995 m^3 (with potable treatment plant)	43,800 m^3 (expansion to water treatment plant)
Industrial Water Use (Doris Lake)	480,000 m^3 (including pump house)	1,930,000 m^3 (inclusive of Madrid Operations)
Fire protection tank	500,000 m^3	No change
Water management and treatment	Cyanide destruction at mill and placement of detoxified tailings underground. Mill water pumped to TIA and water recycled to mill. 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.	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 and Manufacturing Facility	No change

Madrid North Facilities, Infrastructure and Activities		
Components	**Approved under Madrid Bulk Sample 2BB-MAE1727**	**Madrid-Boston Project**
Ore mined	Approximately 50,000 t bulk sample from Madrid North	12,501,000 t
Mining method	Surface and Underground Exploration	Underground /crown pillar recovery
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) Two wind turbines with nominal capacity of 4.2 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	No change
Explosives use	Not specified	4,700 kg/day
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
Concentrator	No plant	Concentrator capacity of 1,200 tpd
Tailings	No tailings	Tailings pipeline and service road from Madrid North concentrator to Doris TIA
Ore haulage to Doris	All bulk sample ore trucked to Doris	Year 2 to Year 13 – 50 trucks/day
Concentrate haulage	-	Year 2 to Year 13 – 3 trucks/day
Backhaul of detoxified tailings	-	Year 2 to 12 – 3 trucks/day
Madrid South Facilities, Infrastructure and Activities		
Components	**Approved under Madrid Bulk Sample 2BB-MAE1727**	**Madrid-Boston Project**
Ore mined	Approximately 50,000 t bulk sample from Madrid South	991,000 t
Mining methods	-	Underground /crown pillar recovery
Waste rock stockpile	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

Madrid South Facilities, Infrastructure and Activities *(cont'd)*		
Contact water pond 2	900 m^3 920 m^2	2,300 m^3 1,720 m^2
Fuel Storage - Diesel	60,000 L	75,000 L
Power generation	3 self-contained units at 750 KW (within seacan)	No change
Ore haulage to Doris	All bulk sample ore trucked to Doris	Year 12 to Year 14 Three trucks/day
Madrid to Boston Road		
Components	**Not Applicable**	**Madrid-Boston Project**
Road	Winter Road	All-weather road. Multiple (14) water crossings including 8 bridges and 6 culverts
Quarries	-	Twenty quarry sites identified (approximately 5 to be utilized)
Transportation	Haulage of ore, fuel and supplies	Haulage of ore, fuel and supplies
Ore haulage to Doris	As required to support bulk sample	3 Years – 42 trucks/day
Boston Site Facilities, Infrastructure and Activities		
Components	**Approved under Boston Bulk Sample 2BB-BOS1727**	**Madrid – Boston Project**
Ore mined	Bulk sample	5,104,000 t
Mining method	Bulk sample	Underground / Crown pillar recovery
Fuel Storage – Diesel	6 @ 77,000 L 2 @ 33,000 L	Diesel and Jet A - 5 @ 1.5 ML
Jet A Storage	Drums within seacan	1 @ 1.5 ML
Power Station	Not specified	8 gen-set units @ 1.2 MW and building Emergency power – 750 KW gen-set Two wind turbines with nominal capacity of 4.2 MW each (along AWR)
Quarries	-	Three potential quarries identified for construction of airstrip Quarry AD and Quarry AJ used for site development
Overburden stockpile	-	54,100 m^3
Waste rock stockpile	-	628,000 t 349,000 m^3
Ore stockpile	Bulk sample	7,000 t 3,900 m^3
Explosives	-	2,770 kg/day Explosives storage and manufacturing facility
Accommodations	65 people	300 people
Process Plant	None	Capacity of 2,400 tpd (includes CTP –)

Boston Site Facilities, Infrastructure and Activities *(cont'd)*		
Tailings Management Area (TMA)	None	Capacity of 5.1 Mt (Dry stacked)
Water management	Surface water and wastewater effluent discharged to tundra.	Surface water from contact water ponds re-used in processing plant or if meets discharge criteria discharged to tundra or to Aimaokatalok Lake
Contact water ponds	Containment pond	CWP #1 and TMA pond sized for 100 year precipitation event and maximum daily snowmelt, CWP #2 sized for 100-year precipitation event and maximum daily snowmelt plus two week water treatment
Potable Water Supply Aimaokatalok Lake	100 m^3/day using pump house	Domestic – 33,000 m^3/year Industrial – 450,000 m^3/year Pump house and water treatment plant
Water storage	Not specified	50,000 L
Sewage Treatment Plant	Discharge to tundra	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

The Madrid-Boston Project is the focus of this application. Because the infrastructure of existing and approved projects will be utilized by the Madrid-Boston Project, and because the existing and approved projects have the potential to interact cumulatively with the Madrid-Boston Project, existing and approved project are described below.

3.1.1 Existing and Approved Projects

Existing and approved projects include:

- the Doris Project (NIRB Project Certificate 003, NWB Type A Water Licence 2AM-DOH1323);
- the Hope Bay Regional Exploration Project (NWB Type B Water Licence 2BE-HOP1222);
- the Madrid Advanced Exploration Program (NWB Type B Water Licence 2BB-MAE1727); and
- the Boston Advanced Exploration Project (NWB Type B Water Licence 2BB-BOS1727).

The Doris Project

The Doris Project was approved by NIRB in 2006 (NIRB Project Certificate 003) and licenced by NWB in 2007 (Type A Water Licence 2AM-DOH0713). The Type A Water Licence was amended in 2010, 2011 and 2012 and received modifications in 2009, 2010, and 2011.

Construction of the Doris Project began in early 2010. In early 2012, the Doris Project was placed into care and maintenance, suspending further Project-related construction and exploration activity along the Hope Bay Greenstone Belt. Following TMAC's acquisition of the Hope Bay Project in March of 2013, NWB renewed the Doris Project Type A Water Licence (Type A Water Licence 2AM-DOH1323), and TMAC advanced planning, permitting, exploration, and construction activities. In 2016, NIRB approved an amendment to Project Certificate 003 and NWB granted Amendment No. 1 to Type A Water Licence 2AM-DOH1323, extending operations from two to six years through mining two additional mineralized zones (Doris Connector and Doris Central zones) to be accessed via the existing Doris North portal. Amendment No. 1 to Type A Water Licence 2AM-DOH1323 authorizes a mining rate of approximately 2,000 tonnes per day of ore and a milling throughput of approximately 2,000 tonnes per day of ore. The Doris Project began production early in 2017.

The Doris Project includes the following components and facilities:

- The Roberts Bay offloading facility: marine jetty, barge landing area, beach laydown area, access roads, weather havens, fuel tank farm/transfer station, waste storage facilities and incinerator, and quarry;
- The Doris site: 280 person camp, laydown areas, service complex (e.g., workshop, wash bay, administration buildings, mine dry), two quarries (mill site platform and solid waste landfill), core storage areas, batch plant, brine mixing facilities, vent raise (3), air heating units, reagent storage, fuel tank farm/transfer station, potable water treatment, waste water treatment, incinerator, landfarm and handling/temporary hazardous waste storage, explosives magazine, and diesel power plant;
- Doris Mine works and processing: underground portal, overburden stockpile, temporary waste rock pile, ore stockpile, and ore processing plant (mill);
- Tailings Impoundment Area (TIA): Schedule 2 designation for Tail Lake with two dams (North and South dams), sub-aerial deposition of flotation tailings, emergency tailings dump catch basins, pump house, and quarry;
- All-season main road with transport trucks: Roberts Bay to Doris site (4.8 km, 150 to 200 tractor and 300 fuel tanker trucks/year);
- Access roads from Doris site used predominantly by light-duty trucks to: the TIA, the explosives magazine, Doris Lake float plane dock (previously in use), solid waste disposal site, and to the tailings decant pipe,from the Roberts Bay offloading facility to the location where the discharge pipe enters the ocean; and
- All-weather airstrip (914 m), winter airstrip (1,524 m), helicopter landing site and building, and Doris Lake float plane and boat dock.

Water is managed at the Doris Project through:

- freshwater input from Doris Lake for mining, milling, and associated activities and domestic purposes;
- freshwater input from Windy Lake for domestic purposes;
- process water input primarily from the TIA reclaim pond;
- surface mine contact water discharged to the TIA;
- underground mine contact water directed to the TIA or to Roberts Bay via the marine outfall mixing box (MOMB);

- treated waste water discharged to the TIA; and
- water from the TIA treated and discharged to Roberts Bay via a discharge pipeline, with use of a MOMB.

Hope Bay Regional Exploration Project

The Hope Bay Regional Exploration Project has been renewed several times since 1995. The current extension expires in June 2022. Much of the previous work for the program was based out of Windy Lake and Boston camps. These camps were closed in October 2008 with infrastructure either decommissioned or moved to the Doris site. All exploration activities are now based from the Doris site. Components and activities for the Hope Bay Regional Exploration Project include:

- operation of helicopters from Doris; and
- the use of exploration drills, which are periodically moved by roads and by helicopter as required.

Madrid Advanced Exploration

In 2017, the NWB issued a Type B Water Licence (2BB-MAE1727) for the Madrid Advanced Exploration Program to support continued exploration and a bulk sample program at the Madrid North and Madrid South sites, located approximately 4 km south of the Doris site. The program includes extraction of a bulk sample totaling 50 tonnes from each of the Madrid North and South locations, which will be trucked to the mill at the Doris site for processing and placement of tailings in the tailings impoundment area (TIA). All personnel will be housed in the Doris camp.

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

- Use of existing infrastructure associated with the Doris Project:
  - camp facilities to support up to 70 personnel as required to undertake the advanced exploration activities;
  - mill to process ore;
  - 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.
- Use of existing infrastructure at the Madrid and Boston areas:
  - borrow and rock quarry facilities: existing Quarries A, B, and D along the Doris-Windy all-weather road (AWR);
  - AWR between Doris and Windy Lake for transportation of personnel, ore, waste, fuel, and supplies; and
  - future mobilization of existing exploration site 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 branches to Madrid North, Madrid North vent raise, and the Madrid South portal;
- development of a winter road route (WRR) from Madrid North to access Madrid South until AWR has been constructed;
- borrow and rock quarry facilities; two quarries referenced as Quarries G and H;
- waste rock and ore stockpiles;
- water and waste management structures; and
- additional site infrastructure, including compressor building, brine mixing facility, saline storage tank, air heating facility, four vent raises, workshop and office, laydown area, diesel generator, emergency shelter, fuel storage facility/transfer station.

o 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.

Boston Advanced Exploration

The Boston Advanced Exploration Project Type B Water Licence No. 2BB-BOS1217 was renewed as Water Licence No. 2BB-BOS1727 in July 2017 and includes:

o the Boston camp (65 person), maintenance shops, workshops, laydown areas, water pumphouse, vent raise, warehouse, site service roads, sewage and greywater treatment plant, fuel storage and transfer station, landfarm, solid waste landfill and a heli-pad;

o mine works, consisting of underground development for exploration drilling and bulk sampling, waste rock and ore stockpiles;

o potable water and industrial water from Aimaokatalok Lake; and

o treated sewage and greywater discharged to the tundra.

3.1.2 The Madrid-Boston Project

The Madrid-Boston Project includes: the Construction and Operation of commercial mining at the Madrid North, Madrid South, and Boston sites; the continued operation of Roberts Bay and the Doris site to support mining at Madrid and Boston; and the Reclamation and Closure and Post-closure phases of all sites. Excluded from the Madrid-Boston Project for the purposes of the assessment are the Reclamation and Closure and Post-closure components of the Doris Project as currently permitted and approved.

Construction

Madrid-Boston construction will use the infrastructure associated with Existing and Approved Projects. This may include:

o an all-weather airstrip at the Boston exploration area and helicopter pad;

o seasonal construction and/or operation of a winter ice strip on Aimaokatalok Lake;

o Boston camp with expected capacity for approximately 65 people during construction

o Quarry D Camp with capacity for up to 180 people;

- seasonal construction/operation of Doris to Boston WRR;
- three existing quarry sites along the Doris to Windy AWR;
- Doris camp 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.

Additional infrastructure to be constructed for the proposed Madrid-Boston Project includes:

- expansion of the Doris TIA (raising of the South Dam, construction of West Dam, development of a west road to facilitate access, and quarrying, crushing, and screening of aggregate for the construction);
- construction of a cargo dock at Roberts Bay (including a fuel pipeline, mooring points, beach landing and gravel pad, shore manifold);
- construction of an additional tank farm at Roberts Bay (consisting of two 10 ML tanks);
- expansion of Doris accommodation facility (from 280 to 400 person), mine dry and administrative building, water treatment at Doris site;
- expansion of the Doris mill to accommodate concentrate handling on the south end of the building facility and rearrangement of indoor crushing and processing within the mill building;
- complete development of the Madrid North and Madrid South mine workings;
- incremental expansion of infrastructure at Madrid North and Madrid South to accommodate production mining, including vent raise, access road, process plant buildings;
- construction of a 1,200 tpd concentrator, fuel storage, power plant, mill maintenance shop, warehouse/reagent storage at Madrid North;
- all weather access road and tailings line from Madrid North to the south end of the TIA;
- AWR linking Madrid to Boston (approximately 53 km long, nine quarries for permitting purposes, four of which will likely be used);
- all-weather airstrip, airstrip building, helipad and heliport building at Boston;
- construction of a 2,400 tpd process plant at Boston;
- all infrastructure necessary to support mining and processing activities at Boston including construction of a new 300-person accommodation facility, mine office and dry and administration buildings, additional fuel storage, laydown area, ore pad, waste rock pad, diesel power plant and dry-stack tailings management area (TMA);
- infrastructure necessary to support ongoing exploration activities at both Madrid and Boston; and
- wind turbines near the Doris (2), Madrid (2), and Boston (2) sites.

Operation

The Madrid-Boston Project Operation phase includes:

- mining of the Madrid North, Madrid South, and Boston deposits;

- operation of a concentrator at Madrid North;
- transportation of ore from Madrid North, Madrid South, and Boston to the Doris process plant, and transporting the concentrate from the Madrid North concentrator to the Doris process plant;
- extending the operation at Roberts Bay and Doris;
- processing the ore and/or concentrate from Madrid North, Madrid South, and Boston at the Doris process plant with disposal of the detoxified tailings underground at Madrid North, flotation tailings from the Doris process plant pumped to the expanded Doris TIA, and discharge of the TIA effluent to the marine environment;
- operation of a concentrator at Madrid North and disposal of tailings at the Doris TIA;
- operation of a process plant and wastewater treatment plant at Boston with disposal of flotation tailings to the Boston TMA and a portion placed underground and the detoxified leached tailings placed in the underground mine at Boston;
- operation of two wind turbines for power generation; and
- on-going maintenance of transportation infrastructure at all sites (cargo dock, jetty, roads, and quarries).

Reclamation and Closure

Areas which are no longer needed to carry out Madrid-Boston Project activities may be reclaimed during Construction and Operation.

At Reclamation and Closure, all sites will be deactivated and reclaimed in the following manner (see Volume 3, Chapter 2, Section 5.5):

- Camps and associated infrastructure will be disassembled and/or disposed of in approved non-hazardous site landfills.
- Non-hazardous landfills will be progressively covered with quarry rock, as cells are completed. At final closure, the facility will receive a final quarry rock cover which will ensure physical and geotechnical stability.
- Rockfill pads occupied by construction camps and associated infrastructure and laydown areas will be re-graded to ensure physical and geotechnical stability and promote free-drainage, and any obstructed drainage patterns will be re-established.
- Quarries no longer required will be made physically and geotechnically stable by scaling high walls and constructing barrier berms upstream of the high walls.
- Landfarms will be closed by removing and disposing of the liner, and re-grading the berms to ensure the area is physically and geotechnically stable.
- Mine waste rock will be used as structural mine backfill.
- The Doris TIA surface will be covered waste rock. Once the water quality in the reclaim pond has reached the required discharge criteria, the North Dam will be breached and the flow returned to Doris Creek.
- The Madrid to Boston AWR and Boston Airstrip will remain in place after Reclamation and Closure. Peripheral equipment will be removed. Where rock drains, culverts or bridges have been installed, the roadway or airstrip 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.

A low permeability cover, including a geomembrane, will be placed over the Boston TMA. The contact water containment berms will be breached and the liner will be cut to prevent collecting any water. The balance of the berms will be left in place to prevent localized permafrost degradation.

3.2 PROJECT DEVELOPMENT CONSIDERATIONS

Avoiding and mitigating potential effects of the Madrid-Boston 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 Madrid-Boston Project design were part of the assessment of alternatives described in Volume 3, Chapter 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 the Project infrastructure considers potential implications of climate change. Analyses of climate change, based on climate change projections, are integrated into Project design (P5-1). A discussion of climate change and the potential effects of the environment on the Project are presented in Volume 7, Chapter 2.

3.2.1 Biophysical Environment

The 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 (P5-3, 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 Madrid-Boston 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, Chapter 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), as well as delivery of financial management programming.

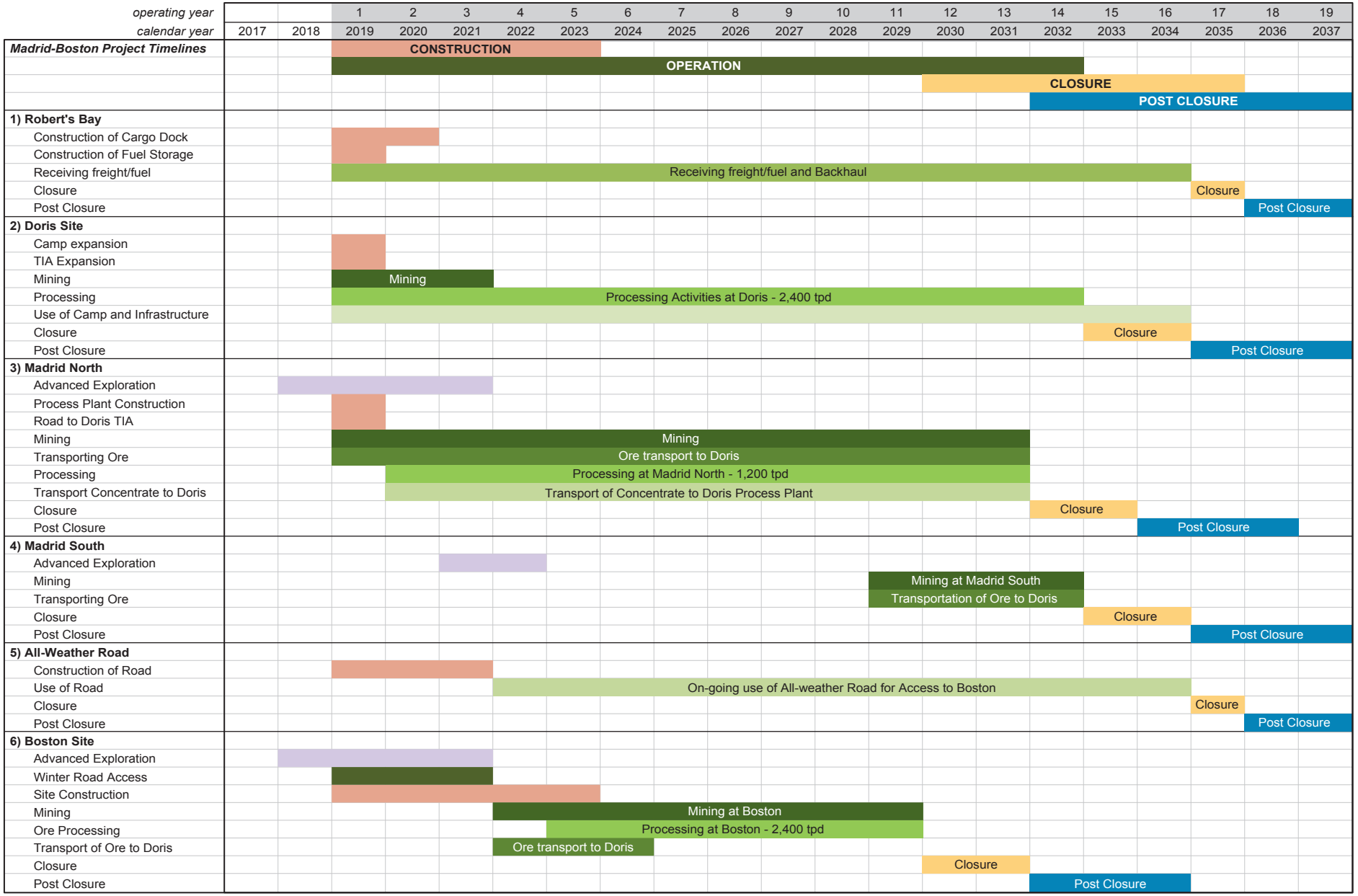
The Project design considerations for socio-economics are focused on the policies and procedures TMAC has adopted to guide the operation of the Project for employees. The Project design considerations reduce effects, provide a benefit to offset adverse effects, or enhance a value related to the identified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

3.3 PROJECT PHASES

The Life of Mine for the Madrid-Boston Project, which includes 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 Madrid-Boston 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 Madrid-Boston 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). The Project construction will expand the TIA capacity to accommodate the entire volume of flotation tailings scheduled from mining at the Madrid North and Madrid South sites, and a portion of the Boston site ore. 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 Madrid-Boston 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 process plant 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 pumped via pipeline 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 spill potential due to a shorter length of pipe.

3.3.1.4 Madrid South

The construction activities for the Madrid-Boston 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 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 Project. The Madrid-Boston 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 Madrid-Boston Project construction reconfigures and expands the existing exploration camp at the Boston site. The 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 300-persons for operation.

The Boston process plant will have a treatment capacity of 2,400 tpd of ore. Processing of ore at Boston will consist of sorting, crushing, milling, gravity concentration, floatation, cyanide leach, and gold recovery. The Boston process plant is expected to be similar to that of the Doris process plant. The Boston process plant will produce two types of tailings, flotation circuit tailings and detoxified tailings.

A filtered tailings disposal facility will be constructed (typically referred to as "dry stack") approximately 1 km east of the process plant to store the flotation tailings (P5-26). 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.

Detoctified tailings are produced after gold removal from the concentrate is complete. The residual tailings will be washed and dewatered (filtration) prior to disposal within the Boston underground workings.

3.3.1.7 Boston Airstrip

The Boston airstrip will be a new facility constructed for the Madrid-Boston Project. The 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 (P5-6). Approximately 5 Mt of quarried material will be required for Madrid-Boston Project construction.

3.3.1.9 Shipping Activities during Construction and Operation

Roberts Bays will receive all fuel, equipment and material required for the Madrid-Boston 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 crown pillar recovery trenches. At Boston and Madrid deposits, crown pillar recovery trenches 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, Chapter 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 the Project 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 concentrator will be built at Madrid North. Since the mining rate will exceed the concentrator 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 Doris or Madrid North for processing.

Boston mining operations will begin by Year 4. The ore will be trucked to the Doris process plant until the Boston processing plant is operational in Year 6.

3.3.2.5 Mineral Processing

The Doris process plant 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.

A 1,200 tpd concentrator will be constructed at Madrid North and a 2,400 tpd process plant will be constructed at Boston. The concentrating process consists of sorting, 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 represents approximately 10% of the incoming ore.

Processing of ore at Boston will consist of sorting, crushing, milling, gravity concentration, floatation, cyanide leach, and gold recovery. In addition to a concentrator section identical to that of the Madrid North concentrator, the Boston process plant will incorporate a cyanide leach and gold recovery circuit that is expected to be similar to that of the Doris process plant. The Boston process plant will utilize cyanide in the concentrate treatment process. After gold removal from the concentrate is complete, the residual tailings will be detoxified (cyanide destruction). Doré gold bars will be produced at Boston and shipped off site using air cargo.

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 Madrid-Boston 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 at the Boston site as described in P5-26. This method of deposition will facilitate closure.

3.3.2.7 Water Management

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 will be processed at the Doris process plant 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 process plant and Madrid concentrator. 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 pumped 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 concentrator 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 33,000 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 450,000 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 (P4-13 and P4-15) outlines the waste management practices for Madrid-Boston 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. A similar facility will be constructed within a quarry near the Boston site following required approvals.

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 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.

Six wind turbines, two for each site, Doris, Madrid and Boston, are proposed each with a nominal capcity of 4.2 MW.

3.3.2.12 Hazardous Material Management

All reagents and hazardous substances used during the 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 300-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, Chapter 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 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 Madrid-Boston 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 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 Project's 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 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

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 1, Annex V1-7, Packages P4-19 and P4-21.

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 P4-19 and P4-21.

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.

Boston Tailings Management 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 TMA are described in P4-19 and P4-21.

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 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 Madrid-Boston Project:

1. Proceed with the Madrid-Boston Project, as proposed within this Application, or
2. Abandon the Madrid-Boston 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 Madrid-Boston 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 Project, existing conditions are predicted to continue barring other projects within the described local study areas (LSAs) and regional studiy areas (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 Chapter 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 the 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, Chapter 7 presents a review of the various alternative means of carrying out the Madrid-Boston 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 P5-10. 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 AWR as described in the Project.

Several alignment options have been considered for the AWR. These options are described in P5-11 Madrid-Boston All-Weather Road Design. The alignment retained is described in Volume 3, Chapter 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 P5-29 Boston Airstrip Design. The alignment retained is described in Volume 3, Section 3.9.

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 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, the Madrid-Boston Project 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.

Madrid-Boston 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 AWR, 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.

Madrid-Boston 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, Chapter 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, Chapter 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 the Project 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 µg/m^3, with a range of 0.1 to 3.7 µg/m^3. The median of monthly NO_2 concentrations was 1.1 µg/m^3, with a range of 0.1 to 7.0 µg/m^3. The median of monthly O_3 concentrations was 52.6 µg/m^3 with a range of 44.3 to 86.1 µg/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 µg/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 Madrid-Boston Project air contaminant emissions, are characterized by the predicted air quality results for existing permitted activities in the *Madrid-Boston Project: Air Quality Model Study* (Appendix V4-2I).

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, Chapter 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 the Project, 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 the 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 "L_n" (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, Chapter 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, Chapter 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 P5-20, Geochemical Characterization of Waste Rock and Ore from the Madrid North Deposit; P5-21, Geochemical Characterization of Waste Rock and Ore from the Madrid South Deposit; P5-25, Geochemical Characterization of Waste Rock and Ore from the Boston Deposit; P5-6, Geochemical Characterization of Phase 2 Quarries, and P5-7, 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, Chapter 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, Chapter 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, Chapter 8. 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

Baseline conditions for terrestrial wildlife and wildlife habitat are presented in Volume 4, Chapter 9.

4.2.6.1 Caribou

Traditional Knowledge indicates that there are two groups of caribou that interact with the Madrid-Boston Project RSA; Island caribou (Dolphin and Union herd) overlaps the RSA during winter, while mainland caribou lverlaps the RSA during summer, fall and winter. The GN considers the mainland caribou to be from two herds (Beverly herd overlaps the RSA during summer, fall and winter, while the Ahiak herd overkaps the RSA predominately in winter). Many caribou researchers consider these two mainland groups as a single herd because they share a calving ground in the Queen Maud Gulf.

Inuit TK for the Project area was compiled by the KIA and reported in the report: *Inuit Traditional Knowledge for TMAC Resources Inc. Proposed Hope Bay Project, Naonaiyaotit Traditional Knowledge Project (NTKP)* (Banci and Spicker 2016). Contemporary caribou knowledge and land use information was also collected from Elders and landusers during three caribou workshops held by TMAC in 2016 and 2017. The Inuit TK report identifies several important areas for island caribou during the winter and mainland caribou during the summer, including Kilingoyak (the Kent Peninsula), an area south of Etibliakyok (Kent Peninsula isthmus), the Kugyoak and Kunayok areas (Perry and Ellice Rivers) in the Queen Maud Gulf Migratory Bird Sanctuary (QMGMBS), a large rocky area inland from Omingmaktok, and the Huikitak River valley approximately 50 km south west of Aimaokatalok (Spyder Lake) (Banci and Spicker 2016).

Traditional Knowledge, landuser information and collar data indicate that the Project is not located in the calving or post-calving ranges of any caribou herd. Nor does the Project overlap any areas known to be freshwater crossings, upland areas used for insect avoidance, or movement corridors along eskers. In addition, the Project is outside of primary areas identified by TK and landusers as important wintering areas for caribou.

Collar data collected by the governments of NU and NWT (using satellite and GPS collars fit on female caribou) since 2001 for the Beverly herd and from 1999 to 2004 and 2015 to 2017 for the Dolphin and Union herd were 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 wildlife 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 wildlife cameras were deployed in the RSA from 2012 to 2017, 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.

Traditional Knowledge and landuser information, along with satellite collard indicate that the Island (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 wildlife cameras 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.

The combination of Traditional Knowledge, landuser information, collar data, aerial survey data, and camera data indicate that Beverly herd caribou are currently found in and around the RSA in the summer and to lesser degree in fall. Summer was the season when the collared caribou were most consistently present in the RSA, a trend corroborated by the data collected from wildlife cameras over time and incidental observations collected by site staff. The Beverly herd underwent a shift in their calving grounds sometime in the late 1990s and early 2000s from Beverly Lake to the southeast of the RSA to an area directly east of the RSA in the Queen Maud Gulf area.

The Ahiak caribou calve on the eastern Queen Maud Gulf. This herd has traditionally been considered to be a tundra-wintering herd and collar information indicates they occur in the RSA during fall and winter.

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 wildlife cameras (as described above for caribou).

Inuit TK indicates that muskox are sparsely distributed within the RSA and are distributed across the Kent Peninsula particularly along the coasts and to the west side of Bathurst Inlet (Banci and Spicker 2016). According to TK, muskox have generally increased in the Elu Inlet area since the early 1900s. Traditional knowledge and landuser information indicates that muskox prefer hills and rocky areas, which generally occur to the east and west of the Project, but not in the Hope Bay Greenstone Belt, which is dominated by sedge meadows.In general, the muskox density in the RSA was low and variable across all aerial surveys conducted from 1996 to 2011 and 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 wildlife camera (24 detections between 2012 and 2016); detections were recorded in both the summer and winter periods but rarely in the same year.

4.2.6.3 Grizzly Bear

Traditional knowledge indicates that grizzly bears are found throughout the RSA (Banci and Spicker 2016). Traditional knowledge also indicates that major grizzly bear movements occur within the RSA in association with major river systems, watersheds and coastal areas (Thorpe et al. 2001; Banci and Spicker 2015, 2016).

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 km^2 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 wildlife camera program (445 observations) 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).

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). Traditional knowledge and landuser information indicates that the population of many predators, including wolves, bears and wolverine are increasing.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. The low detection rates during the DNA study likely reflect low densities of wolverine in the RSA. Wildlife 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 wildlife cameras (67 detections from 2012 to 2016), and there were generally low numbers of tracks recorded on snow track surveys (tracks/kilometre/day index < 0.2). No wolverine dens were recorded on den surveys, although a potential den was recorded incidentally near Roberts Lake in 2006.

The combination of wildlife 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 wildlife camera (180 events), 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 eight pups recorded in 2007.

4.2.6.5 Raptors

Four species of cliff-nesting raptors 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

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 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 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, Chapters 1 to 6.

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 (P5-4).

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, Chapter 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 ($9x10^{-7}$ m/s), gradually decreasing with depth to less than $1x10^{-10}$ m/s as confining pressure increases. The K geomean of the fractured rock is $3x10^{-9}$ m/s and the bedrock

storativity estimated at $3x10^{-7}$ 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 (≤ $1x10^{-8}$ m/s). A storativity value of $1x10^{-4}$ 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 11 LSA lakes and 8 RSA lakes between 1993 and 2017. 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 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 1.5 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 13 streams in the LSA and 7 streams in the RSA from 1993 to 2016. 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 Project area indicated that all monitored streams freeze solid in the winter, except the Koignuk River, which retained under-ice water in isolated pools separated by frozen sections of the river. Stream water temperatures during the June freshet ranged from 0.1°C to 13.9°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 since 1993. 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 147,500 m^2 (Imniagut) to 5,673,800 m^2 (Patch) and volumes range from 367,500 m^3 (Imniagut) to 59,137,700 m^3 (Windy). The South Belt LSA is dominated by one large lake (Aimaokatalok Lake), which has surface area of over 23,366,400 m^2, a volume of over 140,286,500 m^3, and a maximum depth of 30 m (Rescan 1994). Stickleback and Trout lakes, are both shallow (maximum depth of 4.1 m and 4.9 m, respectively) and have surface areas of 1,000,600 m^2 and 552,500 m^2, respectively. The surveyed RSA lakes vary widely in size and depth, with Reference Lake D having the smallest surface area (660,000 m^2) and shallowest depth (average depth:

2.4 m), Reference Lake B having the greatest surface area (7,694,700 m^2), and Roberts Lake being the deepest (maximum depth: 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 2017. 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, and were always below 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. Cadmium, mercury, and zinc concentrations were also higher than CCME guidelines in a small subset of samples.

4.3.5 Freshwater Sediment Quality

Freshwater sediment quality data were collected from lakes, streams, and rivers in the Project area between 1993 and 2017. 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 carbon 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 2017, 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 65% of the 40 surveyed lakes. The other eight species in lakes are, in order of descending incidence across surveyed lakes, Lake Trout (48%), Lake Whitefish (35%), Cisco (35%), Arctic Char (25%), Least Cisco (20%), Arctic Grayling (8%), Broad Whitefish (8%), and Slimy Sculpin (8%). 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 in 78% of the 69 surveyed streams and rivers. The other 13 species in streams and rivers are, in order of descending incidence, Lake Trout (29%), Arctic Char (17%), Arctic Grayling 17%), Slimy Sculpin (9%), Lake Whitefish (12%), Cisco (10%), Least Cisco (6%), Burbot (4%), Broad Whitefish (3%), Arctic Flounder (3%), Fourhorn Sculpin (3%), Greenland Cod (1%), and Starry Flounder (1%).

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 subset 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, Chapters 7 to 11.

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 the water exchange rate estimated at Roberts Bay mouth. Mean horizontal current velocities 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 2016. 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 also apparent 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 where 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 from 1997 to 2016. In the broader marine environment, sediment quality data were collected in Ida (Reference) Bay from 2009 to 2016 and in 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 2017 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 25 fish species from 14 families were captured in marine waters from 2002 to 2017. Only 14 of those 25 species were found in Ida Bay. None of those fish species are designated as threatened or endangered by COSEWIC or listed under the *Species at Risk Act*.

A total of 9,690 fish were captured in Roberts Bay. Saffron Cod made up 50.55% of that number, followed by Capelin (27.54%), Arctic Flounder (4.82%), Pacific Herring (3.57%), Fourhorn Sculpin (3.12%), Arctic Char (3.80%), unidentified Sculpins (1.69%), and Greenland Cod (2.88%). The remaining 15 species each made up between 0.01% (unidentified Snailfish) and 0.55% (Lake Trout).

Seven of the 25 fish species (Arctic Char, Lake Trout, Cisco, Lake Whitefish, Least Cisco, Inconnu and Rainbow Smelt) found in Roberts Bay are anadromous. An eigth species (Ninespine Stickleback) is known to have anadromous and marine life history variants. Four of the remaining 17 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 13 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 and Spicker 2016).

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

Baseline conditions for human environment are presented in Volume 6, Chapters 1 to 5.

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 Project area.

4.5.2 Archaeology

Archaeological sites are protected by the Nunavut Agreement and the Nunavut Archaeological and Paleontological Site Regulations. Permits are required to visit and investigate archaeological sites in Nunavut. Permit applications for any proposed investigations and consequent disturbance of archaeological sites will be reviewed by the Government of Nunavut and the Inuit Heritage Trust on behalf of to local communities.

Overall, this region appears to have been well used seasonally throughout the known period of human occupation of approximately the past 3,500 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 306 sites have been recorded to date within the Hope Bay Project. There are 258 known sites within the LSA that could be vulnerable to direct or indirect effects. The Madrid-Boston PDA contains 51 sites that may be subject to potential direct impacts due to construction activities. Of these sites, 21 are near the edge of the PDA and may be avoidable during detailed design. It is concluded on the basis of this impact analysis that 30 of the recorded sites are potentially subject to direct impacts with implementation of advoidance measures.

4.5.3 Socio-economic

There has been immense population growth in the Kitikmeot communities over the past 30 years. The transition to community life and the wage economy has, in many ways, altered the structure of Inuit society and daily life. The Kitikmeot region has a median age of 24.6 years, which is slightly lower than Nunavut's median age of 25.1 years and much younger than the Canadian median age of 41.2 years (Statistics Canada 2017d). A high proportion of the population in the Kitikmeot communities is Aboriginal, primarily Inuit. In 2016, approximately 84% of Cambridge Bay residents self-identified as Aboriginal. This proportion was higher in all the other Kitikmeot communities, with 91% or more identifying as Aboriginal. The Kitikmeot communities tend to have a slightly higher proportion of males as compared to females. 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 (27.3%) as compared to Canada (65.8%). In 2016, the majority of residents in each of the Kitikmeot communities reported English as their mother tongue.

Formal education levels are low in the Kitikmeot communities when compared to Canadian averages. The proportion of the population with formal education is slightly higher in Cambridge Bay but is still well below the Canadian average. However, increases in educational attainment in the Kitikmeot region were evident in 2016. Given the fairly recent introduction of western-style education (within the last 50 years), the evolving transition to the wage economy, and current economic conditions within communities, lower than average high school completion rates are expected. 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, or other pursuits such as family. Over time, the number of high school graduates has varied but generally increased and is expected to continue in this direction.

The Kitikmeot communities have high rates of unemployment among men and women. In 2016, the potential labour force in the region was approximately 4,325 people with an active labour force of 2,855 people, indicating a 66% participation rate, which is lower than the Nunavut average of 68% (Statistics Canada 2012d, 2017d). In Kitikmeot communities, unemployment rates are also higher than the Nunavut average of 22% as well as the national average of 8%. The exception is Cambridge Bay with an unemployment rate of 17%. Over one-quarter of the Kitikmeot region labour force were estimated to be unemployed in 2016 resulting in the highest unemployment rate within the territory (28%). In comparison, the Qikiqtaaluk (17%) and Kivalliq (26%) regions more closely reflect the territorial rate (22%; (Statistics Canada 2017d).

Overall, the Kitikmeot economy is characterized as mixed and is focused across three major sectors – public, private, and traditional. The public sector dominates and acts as a major economic driver for local communities. Cambridge Bay has a more diversified economy than the other communities, and is increasingly expanding into the private sector. Recently, the introduction of CHARS and related economic activity has supported this trend. Regional economic development is constrained by a lack of skilled labour, lack of infrastructure, and difficulties with transportation and distance from outside markets.

Nunavut's GDP experienced an overall increase of approximately 18% between 2010 and 2015. A strong increase of 10% between 2012 and 2013 was followed by slight decreases in both 2014 and 2015. There was an increase of 1.9% in 2016 as GDP surpassed the high reached in 2013. Overall, GDP growth in Canada's three territories was highest in Nunavut over this time period(Statistics Canada 2017d).

Nunavut imports almost three times as much as it exports, with virtually all exports and imports coming from or ending in other Canadian provinces. Overall, between 2013 and 2016, exports increased only slightly and imports decreased by 3% (NBS 2017f).

In Nunavut, the final consumption expenditure, or the total of public and private consumption, increased by approximately 13% between 2008 and 2016. This routinely included approximately 65% government consumption and 33% household consumption (NBS 2017f). Cambridge Bay has a more diversified economy than the other communities, and continues to expand into the private sector. The traditional subsistence economy is important to livelihoods in the Kitikmeot region and is based on Inuit culture. Harvesting activities underpin the social fabric of communities and perpetuate traditional forms of social relationships and networks among Inuit.

In Cambridge Bay, individual and household income are typically higher and employment-based (derived in greater proportions from employment) as compared to the other Kitikmeot communities. The proportion of income from government transfers in other Kitikmeot communities is typically higher than the Nunavut average. On the whole, the Kitikmeot region has the lowest earnings compared with the other regions in Nunavut (Statistics Canada 2017b).

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. Although Cambridge Bay is the only community that provides full-time physician services, visiting doctors see patients in the other communities on a rotational basis. With respect to community health within Kitikmeot communities, relatively 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).

Housing availability and food insecurity have become pressing issues across Nunavut. Construction during 2016/17 marked the end of a territory-wide 293-unit public housing construction program that began in 2013. Related construction in the Kitikmeot included three new 5-plex's in Kugaaruk designated as public housing units, five public housing units in each Gjoa Haven and Kugaaruk, and five staff housing units in each Gjoa Haven, Kugaaruk, and Kugluktuk (NHC 2017). Despite these additions in 2016/17, the NHC assessed Kugaaruk, Gjoa Haven, and Cambridge Bay as having the second, third, and fourth highest housing need in the territory. Each is considered to have 'critical' need for public housing (NHC 2017).

The 2016 census indicates that about one-quarter to 60% of the housing stock in the Kitikmeot is not suitable. Housing suitability refers to whether a private household has enough bedrooms for the size and composition of the household (Statistics Canada 2017d). In the eastern Kitikmeot communities 49 to 61% of homes housed five or more persons in 2016. Despite the high number of people per household, the majority of homes in the Kitikmeot communities have only two bedrooms (from 36% in Cambridge Bay to 52% in Gjoa Haven). Fewer homes have four or more bedrooms including about one-fifth in Kugaaruk and Taloyoak and just over one-tenth in Gjoa Haven, Cambridge Bay, and Kugluktuk. The percentage of multi-family homes is also quite high in the eastern communities at 35% in Kugaaruk, 22% in Taloyoak, and 24% in Gjoa Haven. In comparison the territorial average of two-or-more family households was 12% (Statistics Canada 2017d).

For many Kitikmeot families the monthly cost of food is unaffordable (i.e., $1,747.44 in Cambridge Bay, $1,934.72 in Gjoa Haven, $1,777.44 in Kugluktuk, and $1,952.72 in Taloyoak). In contrast, a monthly food budget in southern Canada is approximately $880 on average. The cost of food in the Kitikmeot region is about double that of southern Canada (Nutrition North Canada 2016; Alini 2017). With an average annual income of $42,213 in the Kitikmeot region (Section 3.2.3.4), and an average food cost of approximately $22,236.96 annually, food insecurity is a reality in the region (Section 3.2.5.8).

Crime and housing conditions contribute to lower community health and well-being. There were slight increases in both violent and non-violent crime at the regional level in 2016. Kugaaruk typically has low crime rates in relation to other Kitikmeot communities (Section 3.2.5.8).

With respect to health within Kitikmeot communities, persistent high suicide rates have been a major concern in the region, and also throughout Nunavut. Recent rapid social change resulting in a loss of self-reliance and a sense of discontinuity are important factors in triggering suicides (Government of Nunavut 2010). Maintaining cultural knowledge, education, language, activities, and values are of high importance in Kitikmeot communities. There are two main Inuit languages within the region – Inuinnaqtun and Inuktitut. Although English is most often spoken at home, traditional languages are still spoken in some households most commonly in Gjoa Haven, Taloyoak, and Kugaaruk. Elders' camps and other education activities are organized for youth, allowing them to learn about Inuit cultural and traditional practices through direct involvement.

Communities in the Kitikmeot are preparing for mining and other future developments anticipated to support local economies and provide much needed employment. 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

As outlined in the Nunavut Agreement, there are two main types of land tenure in Nunavut: Inuit Owned Land (IOL) and Crown land. IOL is land that is vested in a Designated Inuit Organization, while Crown land belongs to the federal government. Access and rights are administered by RIAs for IOL and by INAC for Crown land. Various licenses are required to access both types of land depending on the nature of the proposed projects. The draft Nunavut Land Use Plan will guide future development in the territory and represents the further implementation of the Nunavut Agreement. The Nunavut Planning Commission (NPC) has developed the NLUP in consultation with Nunavummiut, the GN, and numerous government and other organizations.

There are both current and commercial land uses in the vicinity of the Madrid-Boston Project. Current land use typically consists of hunting, trapping, fishing, camping, and travelling, and is guided by traditional knowledge and a longstanding relationship of reciprocity and respect between Inuit and their environments. Commercial land use consists of sport hunting, mining and mineral exploration, and tourism.

The traditional economy is important to the livelihoods in the Kitikmeot region. Many individuals within the communities are actively engaged in harvesting; 2017 community-based research found that participation in harvesting has remained consistent in many communities, and in Cambridge Bay, there is a sense that participation is increasing. Harvest activities include hunting, fishing, and gathering, with harvests being used mainly for food, clothing, and arts and crafts. Elders' camps, school hunting trips,

and other education activities directly involve youth in land use activities, which allows them to learn about Inuit cultural and traditional practices.

Baseline studies indicate that Cambridge Bay, Kingaok, and Omingmaktok are active harvesters within the land use RSA as portions of their larger hunting areas. Overall, land use within the RSA reflects current land use patterns throughout the western Kitikmeot region. While some land users have frequented to use other areas, land use activities have continued within the land use LSA despite the presence of Project camps and other infrastructure. The Hope Bay Project's facilities are commonly used by land users as a rest stop while in the area (Appendix V6-3B).

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 Madrid-Boston 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 Project-related human health risk assessment (HHRA) integrated the results of the predicted environmental media concentrations human receptor characteristics, traditional knowledge, and regulatory-recommended toxicity reference values (TRVs). As part of the existing conditions and Project-related HHRAs, measured data were reviewed and subsequently predicted 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).

During the Construction and Operation phases, hazard quotients (HQs) for NO_2, PM_{10}, and $PM_{2.5}$ exceeded the threshold of 0.2 for some averaging periods and receptor locations (e.g., off-duty worker camps and two land user hunting and fishing areas). This suggests that there could be risk to the health of off-duty workers and land users due to exposure to these criteria air contaminants; however, it is highly probable that the risk was overestimated due to conservative assumptions in the air quality modeling.

During the Construction and Operation phases for toddlers, HQs were greater than the threshold of 0.2 for arsenic, chromium, methylmercury, nickel, selenium, and thallium. For adult land users, HQs were greater than 0.2 for arsenic, chromium, and methylmercury (for both the general adult population and sensitive populations). 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 due to conservative assumptions made throughout the HHRA. Additionally, the HQs for the Construction and Operation phases were very similar to those for the existing conditions HHRA (i.e., the largest percent change in HQs was 9.1%).

For carcinogenic COPCs via the inhalation route (arsenic, cadmium, chromium, and nickel), no risk to human health for land users or off-duty workers during the Construction and Operation phases were 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; 1.1×10^{-6}) was below the threshold of 1.0×10^{-5} for the Construction and Operation phases summed. However, potential risks to

the health of adult land users were identified because the summed ILCR for the Construction and Operation phases was elevated above the threshold (8.4×10^{-5}) due to the consumption of Arctic Char; this is likely an overestimate of the risk since conservative assumptions were made in the assessment. Additionally, the ILCRs for the Construction and Operation phases were very similar to those for the existing conditions HHRA (i.e., the largest percent change in ILCRs was 3.2%).

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. There are currently no known permanent, full-time residents within the human health LSA. Furthermore, the predicted 95^{th} percentile metal concentrations in environmental media were used in the exposure calculations as were summed ingestion rates of country food items. Therefore, the Project-related 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 Project site.

The Project-related environmental risk assessment (ERA) integrated the results of the predicted environmental media concentrations, ecological receptor characteristics, and TRVs. The quality of the different environmental media was conservatively representative of existing conditions at the Project site. The existing conditions and Project-related ERAs 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 Project-related ERA identified the following COPCs during the Construction and Operation phases 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 freshwater aquatic life receptors;
- copper for least sandpiper; and
- methylmercury for red-breasted merganser, least sandpiper, and long-tailed duck.

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. Additionally, the HQs for the Construction and Operation phases were very similar to those for the existing conditions ERA (i.e., the largest percent change in HQs was 12%). For all other ecological receptors (e.g., terrestrial plant and invertebrate ecological receptors), there is negligible potential risk to health from the Project. There are uncertainties in this assessment; however, this assessment was conducted in a manner that used multiple conservative assumptions, thus, the Project-related 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 Madrid-Boston 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, the existing conditions HHRA and ERA provide the foundation for assessing the incremental changes on the health of humans and ecological receptors due to 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 Construction and

Operation phases of the Project (so that all predictions include existing conditions plus Project), which enables direct comparison of existing conditions and predicted environmental quality to determine incremental changes due to the Project. The Project-related health risks to human and ecological receptors were very similar to the health risks identified under existing conditions, and the risks have likely been overestimated due to conservative assumptions made throughout the assessments.

5. Mitigation and Adaptive Management

Multiple mitigation measures are incorporated into the Madrid-Boston 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 of this volume and Volume 8 provide a description of TMAC's environmental management practices).

In addition, mitigation has been developed to enhance the positive socio-economic benefits for the 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 Madrid-Boston 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 Madrid-Boston Project.

To provide a comprehensive understanding of the potential effects for the Project, the Project 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:

1. Identify potential interactions between the Madrid-Boston Project and the VECs or VSECs;
2. Identify the resulting potential effects of those interactions;
3. Identify mitigation or management measures to eliminate or reduce the potential effects;
4. Identify residual effects (potential effects that would remain after mitigation and management measures have been applied) for Madrid-Boston Project in isolation;
5. Identify residual effects of Madrid-Boston Project in combination with the residual effects of Approved Projects; and
6. 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 Madrid-Boston 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 the 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 EIS Guidelines (NIRB) 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 EIS Guidelines (NIRB) 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 Madrid-Boston 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 Post-closure. 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 the Project activities during periods when Madrid-Boston Project becomes uneconomical due to market conditions. During this phase, the 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 Chapter 4 (Environmental Assessment Methodology), 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 series of workshops 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 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 Madrid-Boston 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 the EIS Guidelines (NIRB) 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 list 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 Madrid-Boston 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 limits • 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 the Project 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 Hope Bay Project 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
			• Noise and vibration thresholds for blasting activities		
		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 Madrid-Boston Project 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	• 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
		Fuels, Oils, and PAH 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	• See Marine Water Quality and Marine Sediment Quality		

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
		quality			
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	None predicted	-

Subject Area	VEC	Potential Effect(s)	Mitigation Measures	Residual Effect(s)	Significance Rating
			• 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		

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
		Loss of 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	Effect on 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 • 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 IIBA with the KIA, which includes, amongst other provisions, 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 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 the 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 Madrid-Boston Project-related residual effects to interact with residual effects from the Existing and Approved Projects within the Hope Bay Greenstone Belt (i.e., the Doris Project, the Hope Bay Regional Exploration Project, the Madrid Advanced Exploration Program, and the Boston Advanced Exploration Project) and 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. A key task in the CEA is to understand the contribution of the Madrid-Boston Project to the overall cumulative effect on the VEC/VSEC – specifically, the amount of the cumulative residual effect can be apportioned to the Madrid-Boston Project as compared to the Doris Project, the Existing and Approved Exploration Projects within the Hope Bay Greenstone Belt, and other projects and activities.

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 the Madrid-Boston Project. The year 2001 was selected as the past temporal boundary for analysis, representing a time when rigorous baseline studies 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 Madrid-Boston 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 that occur within the outer geographical limit of possible interaction with the Madrid-Boston 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

The EIS Guidelines (NIRB) define transboundary effects as those effects linked directly to the activities of the Project inside the NSA, which occur across provincial, territorial, international boundaries or may occur outside of the NSA (NIRB 2012a). Although Madrid-Boston 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 Madrid-Boston 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 considered 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 Madrid-Boston 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 Madrid-Boston 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 GHG emissions. The assessment (Volume 4) compares estimated peak Project GHG 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 influenceglobal 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 diluted 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

The effects assessment for caribou used information from Traditional Knowledge, Elders and landusers who attended three caribou workshops for the Project, the results from monitoring of the Doris Project, a review of other monitoring reports and the scientific literature. After the application of mitigation and management measures, three residual effects were identified and carried forward into the cumulative effects assessment for caribou: habitat loss and disturbance and disruption of movement. Past, present, and likely future industrial projects were identified in the seasonal ranges where the herds interact with the Project; Island caribou (Dolphin and Union) and mainland caribou Beverly and Ahiak and in the annual herd range. Elders and landusers in the caribou workshops reviewed the mitigation and monitoring plans and proposed additional mitigation. With that mitigation, Elders and landusers agreed that the mitigation would protect caribou, that the Project is unlikely to affect caribou, and that the risk to caribou herds was acceptable. Overall, the potential effects of the Project 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 and two additional zones of influence proposed by the Government of Nunavut. Mitigation includes management of quarry blasting, helicopters, fixed wing aircraft and vehicles. 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.

7.4.1.3 Distruption of Movement

The residual effect of disruption of movement due to the 53 km Boston all weather road was concluded to be Not Significant. Potential effects due to disruption of movement were evaluated by comparison

to other projects, input from Elders and landusers, and scientific studies. The magnitude of the effect was considered negligible because the mitigation to build the road with a low height and crossing structures as well as relatively low traffic and vehicles giving caribou the right of way. The effects of disruption of movement begins with construction and ends with closure of the 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 low or moderate in magnitude and the geographical extent of effects was limited to 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 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 low to moderate in magnitude and the geographical extence of effects was limited to 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 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 (Madrid-Boston Project 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 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 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 Madrid-Boston 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 (Madrid-Boston and the Hope Bay Project) on employment 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 Madrid-Boston 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

There is potential for a cumulative interaction between the residual effect of the Madrid-Boston Project to change in harvesting success/harvesting practice for fishing, with other projects and developments. Following the implementation of monitoring and mitigation measures, avoidance of fishing at Aimaokatalok and Roberts Lake is determined to be a negative residual cumulative effect. The magnitude of the cumulative effect is considered to be low, as it pertains to a change at two fishing areas used opportunistically, and within close proximity of other frequented harvesting areas, and there is no change to the diversity of fish species available with the land use RSA for harvesters. Avoidance of fishing at Aimaokatalok and Roberts Lake is likely to be continuous, and the duration of the effect is considered to be medium, throughout the life of the projects. In consideration of the low magnitude rating and limited geographic extent (LSA), within range of other frequented fishing areas, the cumulative residual effect is determined to be Not Significant.

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 Madrid-Boston 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 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).

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

[1] For *very low* and *low* risk accidents and malfunctions there will be no assessment of potential environmental effects.

Consequence is the degree of severity of an accident or malfunction. Consequence categories range from *critical* to *insignificant* (Table 8-2).

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.

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

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 8-4. 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
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)

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).

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 Project. For VECs considered for the Madrid-Boston 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	Madrid-Boston FEIS 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 Water crossing	surface water quantity		Not significant	
	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	
Explosives accident	air quality	Section 10.3.5; Table 10.14 Minor (not significant) to negligible (not significant)		

Accident / Malfunction	Valued Ecosystem Component (VEC)	Doris Project FEIS Section (if available) and Significance of Residual Effects	Madrid-Boston FEIS Significance of Residual Effects	Comments
	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/Fresh water 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	
Terrestrial/Fresh water 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 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, Chapter 2. Others are referenced throughout the EIS in either specific sections on the potential environment effect (e.g., Geology, Volume 4, Chapter 4) or baseline or engineering reports (e.g., Geotechnical Design Parameters and Overburden Summary Report, P5-5).

The design of 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 Environmental Management System (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 environmental management lans (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 EMPs are already in place for the previous phases of development of the Hope Bay Greenstone 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	Plan Included in NIRB Guideline	Management Plans	Comment	Expected Creation/Revision
Environmental Management System (EMS)				
9.1	Environmental Management System	This Document (EIS Volume 8)	As per NIRB guideline 9.1, existing EMPs and additional EMPs will be developed during the NIRB and NWB processes as the Madrid-Boston Project is refined and reviewed by relevant parties.	As required.
9.2	Environmental Protection Plan	To be developed prior to construction of Madrid-Boston.	An Environmental Protection Plan will be developed prior to construction as per NIRB Guideline 9.2.	Prior to Construction of the Madrid-Boston Project
Biophysical Management Plans				
9.4.1	Risk Management and Emergency Response	*Surface Emergency Response Plan, TMAC Resources, December 2017 (Volume 1, Annex V1-7, Package P4-1)* *Underground Emergency Reponses Plan, TMAC Resources, December 2017 (P4-2)* *Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP), TMAC Resources, August 2017 (Volume 8, Annex V8-1)*	Updated Surface Emergency Response Plan and Underground Emergency Reponses Plan are provided with this EIS. TMAC's OPPP/OPEP has been approved by Transport Canada and it is provided as part of this EIS.	As required post NIRB-NWB review
9.4.2	Fuel Management	*Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP) TMAC Resources, August 2017 (V8-1)* *Hope Bay Project Spill Contingency Plan, TMAC Resources, December 2017 (P4-3)*	TMAC's OPPP/OPEP has been approved by Transport Canada and it is provided as part of this EIS. An updated Hope Bay Project Spill Contingency Plan is being provided as part of EIS.	As required post NIRB-NWB review.
9.4.3	Spill Contingency	*Hope Bay Project Spill Contingency Plan, TMAC Resources, December 2017 (P4-3)* *Oil Pollution Prevention Plan (OPPP)/Oil Pollution Emergency Plan (OPEP) TMAC Resources, 2016 (V8-1)*	An updated Hope Bay Project Spill Contingency Plan is being provided as part of EIS. TMAC's OPPP/OPEP has been approved by Transport Canada and it is provided as part of this EIS.	As required Post NIRB-NWB review.

NIRB Guidelines Section	Plan Included in NIRB Guideline	Management Plans	Comment	Expected Creation/Revision
Biophysical Management Plans *(cont'd)*				
9.4.4	Site Water Monitoring and Management	*Doris Project Domestic Wastewater Treatment Management Plan. TMAC Resources, December 2017 (P4-4).* *The Hope Bay Project, Boston Sewage Treatment Operations and Maintenance Management Plan. TMAC Resources 2017 (P4-5)* *Hope Bay Project Groundwater Management Plan. TMAC Resources, December 2017 (P4-6)* *Hope Bay Project Doris-Madrid Water Management Plan. TMAC Resources, December 2017 (P4-7)* *Hope Bay Project Boston Water Management Plan. TMAC Resources, December 2017 (P4-8)* *Water and Ore/Waste Rock Management Plan. SRK 2009 and June 2010 Addendum (P4-12)* *Hope Bay Project: Boston Sewage Treatment Operation and Maintenance Plan. TMAC Resources 2017 (P4-5)* *Hope Bay Project Doris- Madrid Tailings Impoundment Area Operations, Maintenance, and Surveillance Manual December 2017 (P4-9)* *Hope Bay Project Boston Tailings Management Area Operations, Maintenance, and Surveillance Manual December 2017 (P4-10)*	Site Water Management for the Project includes: • Domestic wastewater treatment • Groundwater • Surface water • TIA water • Quality Assurance and Quality Control Plan Where applicable these plans have been updated to address the Madrid-Boston Project and are provided as part of this EIS	As required post NIRB-NWB
9.4.5 and 9.4.6	Ore Storage and Waste Rock Management	*Hope Bay Project Waste Rock and Ore Management Plan, Nunavut, TMAC December 2017 (P4-11)* *Hope Bay Project Water and Ore/Waste Rock Management Plan for the Boston Site. SRK 2009 and June 2010 Addendum (P4-12)*	The Hope Bay Project Waste Rock, Ore and Mine Backfilling Management Plan has been updated and is being provided as part of this EIS. This Hope Bay Project Water and Ore/Waste Rock Management Plan for the Boston Site is provided to describe management at the existing Boston Site permitted under the Type B Water Licence 2BB-BOS1727.	As required post NIRB-NWB review

NIRB Guidelines Section	Plan Included in NIRB Guideline	Management Plans	Comment	Expected Creation/Revision
Biophysical Management Plans *(cont'd)*				
9.4.6	Tailings Management	*Hope Bay Project Doris- Madrid Tailings Impoundment Area Operations Maintenance and Surveillance Manual. December 2017 (P4-9)* *Hope Bay Project Boston Tailing Management Area Operations, Maintenance and Surveillance Manual. December 2017 (P4-10)*	These plans have been updated and are provided as part of the EIS.	As required post NIRB-NWB review
9.4.7	Waste Management	*Hope Bay Project Non-hazardous Waste Management Plan. TMAC Resources, Dec 2017 (P4-13)* *Hope Bay Project Hydrocarbon Contaminated Material Management Plan. TMAC Resources, Dec 2017 (P4-14)*	Updated management plans provided with the EIS to address components of the Madrid-Boston Project.	As required post NIRB-NWB review
9.4.8	Hazardous Materials Management	*Hope Bay Project Spill Contingency Plan, TMAC Resources, December 2017 (P4-3)* *Hope Bay Project Hazardous Waste Management Plan. TMAC Resources, December 2017 (P4-15*	Hazardous substance management is currently addressed under the updated Spill Contingency Plan and the updated Hazardous Waste Management Plan provided with the EIS.	As required post NIRB-NWB review
9.4.9	Incineration Management	*Incinerator Management Plan, Hope Bay, Nunavut. TMAC Resources, Dec 2017 (P4-16)*	Updated Plan provided as part of the EIS.	As required post NIRB-NWB review
9.4.10	Roads Management	Activities and infrastructure related to road management are addressed by various mechanisms.	Activities and infrastructure related to road management are addressed by various mechanisms. Aspects of road management such as dust control are addressed under the Air Quality Management and Mitigation Plan. Speed limits will be addressed site wide. Aspects of road design will comply with the *Mines Safety Act*. Road design involving water crossings will involve review and authorization from DFO.	As per NIRB guideline 9.1, TMAC does not believe that a stand-alone plan is applicable or required.
9.4.11	Shipping Management	Not applicable.	Shipping is regulated by the *Canada Shipping Act* and the *Arctic Waters Pollution Prevention Act*. TMAC will address any requirements in procurement contracts with applicable shipping companies.	As per NIRB guideline 9.1, TMAC does not believe that a stand-alone plan is applicable or required.

NIRB Guidelines Section	Plan Included in NIRB Guideline	Management Plans	Comment	Expected Creation/Revision
Biophysical Management Plans *(cont'd)*				
9.4.12	Borrow Pits and Quarry Management	*Hope Bay Project Quarry Management & Monitoring Plan. TMAC Resources, December 2017 (P4-17)*	Updated belt wide plan to include quarry management and monitoring for the proposed Hope Bay Project is provided as part of the EIS.	As required post NIRB-NWB review
9.4.13	Explosives Management	*Hope Bay Project, Explosives Management Plan, TMAC Resources December 2017 (P4-23)*	A draft Explosives Management Plan is being provided as part of this EIS.	This plan may be updated post NIRB-NWB review process.
9.4.14	Air Quality Monitoring and Management	*Hope Bay Project Air Quality Management Plan, TMAC Resources Dec 2017 (V8-2)*	This plan has been updated to address components of the Madrid-Boston Project and it is provided with this EIS.	As required post NIRB-NWB review
9.4.15	Noise Abatement Plan	*Hope Bay Project Noise Abatement Management Plan, TMAC Resources December 2017 (V8-8)*	Updated Management Plan is being provided as part of this EIS.	As required post NIRB-NWB review
9.4.16	Aquatic Effects Management Plan	*Hope Bay Project Doris Aquatic Effects Monitoring Plan. TMAC Resources, December 2017 (P4-18)*	The AEMP has been updated to address components of the Madrid-Boston Project and is provided with this EIS. Further updates may be developed through the NIRB and NWB process.	As required post NIRB-NWB review
9.4.17	Wildlife Mitigation and Monitoring Plan	*Hope Bay Project Wildlife Mitigation and Monitoring Plan. TMAC Resources, December 2017 (V8-3) 3)*	This plan has been updated to address components of the Madrid-Boston Project and is provided with this EIS. Further updates may be developed through the NIRB process.	As required post NIRB-NWB review)
9.4.18	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.	In line with *Fisheries Protection Policy Statement* (DFO 2013), TMAC address the requirement for a NNLP as outlined in NIRB guideline 9.4.18 through the development of a fisheries offsetting plan. A conceptual Fisheries Offsetting Plan is included in the FEIS (Appendix V5-6AA)	To be assessed during NIRB and NWB review and finalized with DFO at the Licensing phase.
Socio-economic Management Plans				
9.5.1	Business Development	Addressed in Schedule F of TMAC's IIBA with the KIA.	Addressed in the IIBA	As per NIRB guideline 9.1, TMAC does not believe that a stand-alone plan is applicable as business development is addressed under the IIBA.

NIRB Guidelines Section	Plan Included in NIRB Guideline	Management Plans	Comment	Expected Creation/Revision
Socio-economic Management Plans *(cont'd)*				
9.5.2	Occupational Health and Safety	*Hope Bay Project Health and Safety Management Plan. TMAC Resources. December 2017 (V8-4)*	The plan is updated for the Hope Bay Project and is provided with this EIS. Further updates may be developed through the NIRB-NWB Process.	As required post NIRB-NWB review
9.5.3	Community Involvement	*Hope Bay Project Community Involvement Plan. Dec 2016 (V8-5)*	This plan is provided with this EIS. Further updates may be developed through the NIRB-NWB process.	As required post NIRB-NWB review
9.5.4	Cultural and Heritage Resources Protection	*Hope Bay Heritage Resource Protection Plan TMAC Resources Dec 2016 (V8-6)*	This plan has been updated for the Hope Bay Project and is provided with this EIS. Further updates may be developed through the NIRB-NWB process.	As required post NIRB-NWB reviewas required.
9.5.5	Human Resources	*Hope Bay Project Human Resources Plan. TMAC Resources Sept 2016 (V8-7)*	This plan has been is provided with this EIS. Further updates may be developed through the NIRB process.	As required post NIRB-NWB review
9.6 and 9.6.1	Mine Closure and Reclamation Plan	*Hope Bay Project, Doris-Madrid Interim Closure and Reclamation Plan. SRK Nov 2017 (P4-21)* *Hope Bay Project, Doris-Madrid Interim Closure and Reclamation Detailed Cost Estimate. SRK Nov 2017 (P4-22)* *Hope Bay Project - Boston Conceptual Closure and Reclamation Plan SRK Nov 2017 (P4-19)* *Hope Bay Project – Boston Conceptual Closure and Reclamation Plan, Detailed Cost Estimate. SRK Nov 2017 (P4-20).*	These plans have been developed for the Madrid-Boston Project and are provided with this EIS. Further updates may be developed through the NIRB-NWB review process. Detailed Cost Estimates memos for the Doris-Madrid and Boston Sites provide a detailed description of the costing assumptions and associated closure and reclamation cost for the Project sites. These memos should be read in conjunction with the associated Reclamation and Closure Plans	As required post NIRB-NWB review

10.3 FOLLOW UP AND ADAPTIVE MANAGEMENT

The EMS 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 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 the Madrid-Boston 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 Madrid-Boston 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. Production of gold began 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 Madrid-Boston Project are consistent with the requirements of Section 12.5.2 of the Nunavut Agreement and the EIS Guidelines (NIRB) for the Madrid-Boston Project. VECs and VSECs for the 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 Madrid-Boston Project. Through the EIS, and the environmental assessment process, TMAC describes the 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 Greenstone 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 Madrid-Boston Project during the NIRB and NWB processes. TMAC's EIS concludes that the Madrid-Boston Project is not likely to cause significant adverse effects 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 Madrid-Boston 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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