ᓄᓇᕘᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦᑎᒍᑦ ᑐᒃᓯᕋᐅᑦ ᕿᒥᕐᕈᔭᒃᓴᖅ #125587

West Remus Creek Quarry Expansion

ᑐᒃᓯᖅᑑᑕᐅᔪᖅ ᖃᓄᐃᑦᑑᓂᖓ: New

ᐱᓕᕆᐊᓕᔭᐅᔪᒪᔫᑉ ᖃᓄᐃᑦᑑᓂᖓ: Pits and Quarries

ᐅᓪᓗᖓ ᑐᒃᓯᖅᑑᑎᓕᐊᕕᓂᐅᑉ: 2/24/2021 8:44:53 AM

Period of operation: from 0001-01-01 to 0001-01-01

ᑲᔪᓯᒃᑲᐃᔨᐅᓂᐊᕐᓯᒋᔭᐅᔪᑦ: from 0001-01-01 to 0001-01-01

ᐱᓕᕆᐊᖅᑲᕈᒪᔪᖅ: Jean-Philippe Cloutier-Dussault
Environment and Climate Change Canada
160 Chemin Tour-de-l'Isle
Montreal Quebec H3C4G8
Canada
ᐅᖄᓚᐅᑏᑦ: 514-283-4045, ᓱᑲᔪᒃᑯᑦ:

ᑐᓴᐅᒪᓱᒃᖏᑦ

ᖃᓄᐃᑦᑑᑎᓂᒃ ᐱᓕᕆᔨᖃᒃᓂᐊᕆᔨᖅᑕᓂᒃ

ᖃᒧᑦᓗᓀᑎᑐᑦ: Environment and Climate Change Canada (ECCC) is proposing to expand the existing quarry located at West Remus Creek. The expansion is required because additional aggregate is required for use at the Eureka High Arctic Weather Station (HAWS) beyond the capacity of the current established quarry. The HAWS is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, Nunavut. The closest community to the HAWS is the Hamlet of Grise Fiord.The project includes geotechnical surveys to determine the area of an expansion, an archeological assessment of the expansion area and the expansion of the quarry itself once it has been selected based on the results of the geotechnical survey and archeological assessment. The timing is scheduled to take place from 2021 to 2025 where construction is anticipated to occur in June 2021 and operations are to occur between July 2021 and October 2025. During construction, approximately 50 site personnel are required. Transportation to site will be through the use of chartered aircraft for personnel, food and smaller supplies and sealift for equipment and larger supplies.Quarry ExpansionAdditional aggregate, estimated at 175,000m3, a portion of which is contingency, is required to support project activities at the Eureka High Arctic Weather Station (HAWS). Therefore, an expansion of the quarry at West Remus Creek is needed as the additional aggregate required is not available within the current permitted boundaries. There are three areas proposed for expansion; the primary expansion area which is immediately east of the quarry and north Remus Creek; two others are east of the quarry and south of Remus Creek. The two proposed expansion areas to the south are contingency areas in the case that acceptable aggregate grade is not available in the primary expansion area. To access these areas, vehicles will need to cross Remus Creek and West Remus Creek. A request for review has been submitted to the Department of Fisheries and Oceans which proposes the construction of two temporary culvert stream crossings. These crossings are proposed to ensure vehicles cross these two waterbodies with minimal impacts to the environment. It is recognized that the proposed expansion areas are large relative to the existing boundaries of the current quarry. This is because sufficient geotechnical data is not available at this time to determine the exact optimal supply areas. Geotechnical surveys are planned to commence spring/summer this year to determine their location and it is only these areas that will extracted. Furthermore, an archaeological assessment will be completed for the entire expansion area in spring 2021 in conjunction with the geotechnical investigations. If any archaeological areas of significance are identified, they will be protected through mitigation measures approved by the Nunavut Department of Culture and Heritage. Mitigation may include fencing around sensitive areas and applying setbacks. Previous archaeological studies of the general area were conducted in 2018. A permit to conduct the archaeological assessment will be requested from the Nunavut Department of Culture and Heritage prior to March 31st, 2021. Any work/project activities and travel will follow all Territorial and Federal requirements and guidelines regarding COVID 19.

ᐅᐃᐦᑎᑐᑦ: Environnement et Changement climatique Canada (ECCC) propose d'agrandir la carrière existante située à West Remus Creek (ruisseau West Remus). Cet agrandissement est nécessaire, car le besoin en agrégats supplémentaires de la station météorologique de l'Extrême-Arctique (HAWS) d'Eureka dépasse la capacité actuelle de la carrière. La HAWS est située sur le côté nord du fjord Slidre, à l'extrémité nord-ouest de la péninsule de Fosheim, sur l'île d'Ellesmere, au Nunavut. La communauté la plus proche de la HAWS est le hameau de Grise Fiord.Le projet comprend des études géotechniques pour déterminer la zone d'agrandissement, une évaluation archéologique de cette zone, et la portée de l'agrandissement une fois qu'elle aura été établie sur la base des résultats de l'étude géotechnique et de l'évaluation archéologique. Le calendrier prévu s'étend de 2021 à 2025. Les travaux de construction commenceront en juin 2021 et les activités d'exploitation seront effectuées entre juillet 2021 et octobre 2025. Pendant la construction, environ 50 employés doivent être présents sur le site. Le transport vers le site se fera par avion affrété pour le personnel, la nourriture et les petites fournitures, et par bateau pour le matériel et les grandes fournitures.Agrandissement de la carrièreDes agrégats supplémentaires, estimés à 175 000 m3, dont une partie est destinée aux imprévus, sont nécessaires pour soutenir les activités de projet à la station météorologique de l'Extrême-

Arctique (HAWS) d'Eureka. Par conséquent, un agrandissement de la carrière de West Remus Creek est nécessaire, car les granulats supplémentaires requis ne sont pas disponibles dans les limites autorisées actuelles. Il y a trois zones proposées pour l'expansion : la zone d'agrandissement principale qui est immédiatement à l'est de la carrière et au nord de Remus Creek; deux autres sont à l'est de la carrière et au sud de Remus Creek. Les deux zones d'expansion proposées au sud sont des zones de contingence dans le cas où la qualité du granulat disponible dans la zone d'expansion primaire ne serait pas acceptable. Pour accéder à ces zones, les véhicules devront traverser le ruisseau Remus et le ruisseau West Remus. Une demande d'examen a été soumise au ministère des Pêches et des Océans, afin de proposer la construction de deux passages temporaires de ruisseaux à ponceau. Ces passages sont proposés pour que les véhicules puissent traverser ces deux cours d'eau avec un minimum d'impact sur l'environnement. Il est reconnu que les zones d'expansion proposées sont vastes par rapport aux limites actuelles de la carrière. Cela est dû au fait qu'il n'y a pas suffisamment de données géotechniques à l'heure actuelle pour déterminer les zones d'exploitation optimales exactes. Les études géotechniques devraient commencer au printemps/à l'été de cette année pour déterminer l'emplacement de ces zones, et seules ces zones seront exploitées. En outre, une évaluation archéologique sera réalisée pour l'ensemble de la zone d'expansion au printemps 2021, conjointement avec les enquêtes géotechniques. Si des zones archéologiques d'importance sont repérées, elles seront protégées par des mesures d'atténuation approuvées par le ministère de la Culture et du Patrimoine du Nunavut. Les mesures d'atténuation peuvent comprendre l'installation de clôtures autour des zones sensibles et l'établissement de zones de protection. Des études archéologiques de l'ensemble de la zone ont été menées en 2018. Un permis pour effectuer l'évaluation archéologique sera demandé au ministère de la Culture et du Patrimoine du Nunavut avant le 31 mars 2021. Toutes les activités de travail/de projet et tous les déplacements seront conformes à l'ensemble des exigences et lignes directrices territoriales et fédérales liées à la COVID 19.

ᐃᓄᒃᑎᑐᑦ: ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᒻᒪᓗ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓂ ᑲᓇᑕ (ECCC) ᑐᒃᓯᕋᕐᒪᑕ ᐊᖏᓪᓕᒋᐊᖅᓯᕙᒻᒪᑦᑐᑎᒃ ᐱᓕᕆᐊᖑᕙᒥᑦ ᐱᕙᒥᓈᕐᓂᖅᓯᐅᑎᓂᕐᒥᑦ ᑕᐅᕝᕙᓂᑦᑐᒥᑦ ᐱᖕᒐᓐᓇᖅ ᓇᒧᑦ ᑰᓚᖕᒥ. ᐊᖏᓪᓕᒋᐊᖅᑕᐅᔭᓇᐊᕐᑲᕐᒪᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᓚᒃᑲᓂᖕᒥᑦ ᑲᑎᖅᓱᖅᓯᒪᔪᑦ ᐱᔭᐅᔭᓇᐊᕐᑲᓕᕐᒪᑦ ᐊᑐᖅᑕᐅᓂᐊᕐᓗᓂ ᑕᐃᕙᓂ ᐃᐅᓇᑲ ᖁᑦᑎᒃᑐᖅ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ ᓯᓚᓐᓂᐊᕐᕕᖕᒥ (HAWS) ᐅᖓᑖᓂᒻᒪᑦ ᐱᓕᕆᐊᕆᔭᓐᓇᖅᑕᖓᑦ ᒫᓐᓇ ᐋᖅᑭᒃᑕᐅᓯᒪᔭᑉ ᐱᐅᓂᖅᓯᐅᑎᓂᕐᒧᑦ. ᖁᑦᑎᒃᑐᖅ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ ᓯᓚᓐᓂᐊᕐᕕᖕᒥ (HAWS) ᐃᓂᖃᕐᒪᑦ ᐊᖑᑕᓂ ᓯᓚᑐᓇ ᑲᖏᖅᖢᑉ, ᑕᐅᕝᕙ ᐊᖑᑕᓂ ᐱᖕᒐᓐᓇᖅᐸᓯᖕᒐᑦ ᓄᕗᐊᓂ ᐸᓯᐃᒻ ᓄᕗᑯᑉ, ᐊᐅᓯᐃᑦᑑᑉ ᖃᑭᖅᑖᕗᐊ, ᓄᓇᕗᑦ. ᖃᓂᒌᖅ ᓄᓇᓕᒃ ᖁᑦᑎᒃᑐᖅ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ ᓯᓚᓐᓂᐊᕐᕕᖕᒧᑦ (HAWS) HLᓕᒥᔭᐅᕐᒪᑦ ᐊᐅᓯᐃᑦᑐᕐᒧᑦ.ᓴᓇᔭᒃᓴᖅ ᐱᖃᓯᐅᔾᔨᕐᒪᑦ ᓄᓇᓕᓐᓂᐊᖑᑦᑎᐊᖅᓯᒪᓂᕐᒥᑦ ᖃᐅᔨᓇᓯᐊᖅᑕᐅᓂᕐᒥᓐᓂᑦ ᐃᓯᒪᓕᐅᕈᑕᐅᕐᑯᓪᓗᒍ ᓇᕙᒡᐅᑉ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓ, ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᒃ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖕᒐᓂ ᐊᒻᒪᓗ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᕐᒥᑦ ᐱᔪᒥᓇᕐᓂᖅᓯᐅᑎᓇᕕᐅᓚᓇᖕᓂᖓ ᓂᕈᐊᖅᑕᐅᓯᒪᓕᑐᐊᖅᐸᑦ ᑐᙵᕕᒥᓗᒥᑦ ᓴᕿᑦᑐᑦ ᓄᓇᓕᓐᓂᐊᖑᑦᑎᐊᖅᓯᒪᔭᓇᐊᖃᓂᖕᒪᑦ ᖃᐅᔨᓇᓯᐊᖅᑕᐅᓂᖓ ᐊᒻᒪᓗ ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᐅᑉ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ. ᓇᒻᒪᒋᓇᓇᓯᐊᕐᓂᖅ ᐱᒋᐊᕐᕕᒃᓴᒃᑎᑕᐅᔪᖅ ᐱᒋᐊᕐᓗᓂ 2021-ᒥᑦ ᑎᑭᓪᓗᒍ 2025 ᑕᐅᕝᕙ ᓴᓇᒋᐊᕐᓂᖅ ᐃᓯᒪᒋᔭᐅᔪᖅ ᐱᒋᐊᕋᔭᖅᑐᓇᔭᐅᓪᓗᓂ ᔫᓂ 2021-ᒥ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᓃᑦ ᐱᒋᐊᕋᔭᕐᓗᑎᒃ ᐊᑯᓐᓂᖕᒥᓐᓂ ᔪᓚᐃ 2021 ᐊᒻᒪᓗ ᐅᑐᐱᓇ 2025-ᒥ. ᐱᓕᕆᐊᖑᑎᓪᓗᒍ ᓴᓇᔭᐅᓂᖓ, ᒥᒃᓴᐅᓴᒡᓗᒥᑦ 50 ᐱᓕᕆᕕᐅᔪᓂ ᐃᖃᓴᐃᔭᖅᑎᖃᓇᐊᖃᕋᔭᖅᐳᑦ. ᐃᖅᒥᕋᔾᔨᑎᑦ ᓄᓇᒥᔭᐅᔪᒧᑦ ᒪᑯᑎᒎᓇᕐᓂᐊᖅᐳᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ ᐊᑭᓕᖅᑕᐅᓯᒪᔪᑦ ᖃᖓᑕᓯᑦ ᐃᖃᓇᐃᔭᖅᑎᓄᑦ, ᓂᕿᓄᑦ ᐊᒻᒪᓗ ᒥᑭᔫᑕᐅᓂᖅᓴᓄᑦ ᑭᓯᒍᑎᒥᔭᐅᓂᐊᖅᑐᓄᑦ ᐊᒻᒪᓗ ᐅᒥᐊᕐᔪᐊᒃᑯᖅᑎᑕᐅᓗᑎᒃ ᐱᓕᕐᔪᑎᑦ ᐊᒻᒪᓗ ᐊᖏᔫᑕᐅᓂᖅᓴᐃᒃ ᑭᓯᒥᔭᐅᓂᐊᖅᑐᑦ.ᐱᔪᒥᓇᕐᓂᖅᓯᐅᑎᓂᖅ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓᐃᓚᒃᑲᓂᖓ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ, ᒥᒃᓴᐅᓴᒃᑕᐅᓂᖓ ᑎᑭᐅᒪᓗᓂ 175,000 ᒥᑕᑦ ᑭᑉᐹᓇᒃᑐᖅ, ᐃᓚᖓ ᑕᒪᑐᒪ ᓇᓗᓇᐃᖅᑕᐅᓪᓚᓇᒍᓐᓇᕐᒥᑦᑐᖅ, ᐱᔭᐅᔭᓇᐊᕐᒪᑦ ᐃᑲᔪᖅᓯᐃᔾᔪᑕᐅᒋᓪᓗᒍ ᓴᓇᔭᒃᓴᑦ ᐱᓕᓂᐅᔪᓂᑦ ᑕᐃᑲᓂ ᐃᐅᓇᑲ ᖁᑦᑎᒃᑐᖅ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ ᓯᓚᓐᓂᐊᕐᕕᖕᒥ (HAWS). ᑕᐃᒪᐃᒻᒪᑦ, ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓ ᐱᐅᓂᖅᓯᐅᑎᓂᐅᑉ ᑕᐅᕝᕙ ᐱᕙᓪᓚᖅ ᓇᒧᑦ ᑰᓚᖕᒥ ᐱᔭᐅᔭᓇᐊᕐᒪᑦ ᐃᓚᓕᐅᑎᒃᑲᓂᕐᓗᓂ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᓄᑦ ᑕᐃᒪᖕᒍᔭᓇᐊᕐᑲᓂᖕᒐᓄᑦ ᐱᔭᒃᓴᐅᕆᒻᒪᑦ ᐃᓗᐊᓂ ᒫᓐᓇ ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᑭᓪᓕᒥᑎᑕᐅᔪᓂᑦ. ᐱᖕᒐᒎᕐᒪᑦ ᓇᔪᒪᐃᑦ ᑐᒃᓯᕌᕐᒍᔪᑦ ᐊᖏᓪᓕᒋᐊᖅᓯᓂᕐᒧᑦ; ᐱᒻᒪᕆᐅᓕᖅ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖕᒐᓂ ᓇᔪᒪᐅᑉ ᑖᑦᓯᒪ ᑲᓇᖕᓇᖕᒐᓂᑦᑐᖅ ᐱᔪᒥᓇᕐᓂᖅᓯᐅᑎᓇᕕᐅᑉ ᐊᒻᒪᓗ ᐊᖑᑕᓂ ᓇᒻᒥᒃ ᑰᓚᑉ; ᒪᕐᕉᒃ ᐊᓯᖕᒥᑦ ᑲᓇᖕᓇᖕᒐᓂᒻᒪᑎᒃ ᐱᔪᒥᓇᕐᓂᖅᓯᐅᑎᓇᕕᐅᑉ ᐊᒻᒪᓗ ᐅᖅᑯᐊᓂᓪᓗᓂ ᓇᒻᒥᒃ ᑰᓚᑉ. ᒪᕐᕉᒃ ᑐᒃᓯᕌᕐᒍᔪᒃ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖕᒐᓄᑦ ᓇᔪᒪᐃᑦ ᐅᖅᑯᐊᓂᑦᑐᑦ ᓇᓗᓇᐃᖅᑕᓕᖕᒥᒪᑕ ᓇᔪᒪᐃᑦ ᐱᓕᕆᐊᖑᓂᖕᒥᑦ ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᒐᔭᕐᓂᖅᐸᑕ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐊᔪᕐᒥᓐᓂᖕ ᐱᔭᒃᓴᐅᕆᒻᒪᑦ ᐱᓪᓗᐊᑕᐅᓂᖕᒐᓂ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᔪᒪᓂᖕᒐᑕ. ᐱᔭᐅᔪᓐᓇᖅᓯᒪᔭᖅᐸᑕ ᑕᒪᒃᑯᐊ ᓇᔪᒪᐃᑦ, ᓄᓇᓯᐅᑎᑦ ᐃᑳᕐᑲᑦᑕᓇᐊᖃᕋᔭᕐᒪᑕ ᓇᒧᑦ ᑰᓚᖕᒥᑦ ᐊᒻᒪᓗ ᐱᖕᒐᓪᓚᖕᒐᓂ ᓇᒧᑦ ᑰᓚᖕᒥᑦ. ᑐᒃᓯᕋᐅᑎ ᖃᒥᕐᑭᔭᐅᕐᑯᓪᓗᒍ ᑐᓂᔭᐅᓯᒪᓕᖅᐳᖅ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᑐᒃᓯᕋᐅᑎᒥᔭᐅᓪᓗᓂ ᓴᓇᔭᐅᕐᑯᓪᓗᒥᒃ ᒪᕐᕿᖕᓄᒃ ᐊᑐᖅᑕᐅᑲᐃᓐᓇᕋᔭᕐᓗᑎᒃ ᕿᒡᕕᒃ ᑰᓚᖕᒥᑦ ᐃᖅᑲᖅᓯᖅᑲᑦᑕᕈᑕᐅᓗᔭᕐᓗᑎᒃ. ᑖᒃᑯᐊ ᐃᑳᕕᐅᖅᑲᑦᑕᕋᔭᖅᑐᒃ ᑐᒃᓯᕌᕐᒍᔾᔪᒃ ᓄᓇᓯᐅᑎᑦ ᐃᑳᕈᓐᓇᕐᑯᓪᓗᒥᑦ ᑖᒃᑯᓂᖓ ᒪᕐᕿᖕᓂᒃ ᐃᓚᖕᓂᒃ ᒥᑭᓛᒥᑦ ᐊᒃᑐᐃᓂᖅᑲᕐᓗᑎᒃ ᐊᕙᑎᑦᑎᓐᓂᑦ. ᐃᓕᓴᓇᔭᐅᔪᖅ ᑕᒪᓐᓇ ᑐᒃᓯᕋᐅᑕᔪᖅ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖕᒥᓐᓄᑦ ᓇᔪᒪᐃᑦ ᐊᖏᔫᖕᒪᑕ ᑕᒪᓐᓇᐅᑎᓪᓗᒍ ᑖᕝᕙᐅᔪᑦ ᑭᓪᓕᒥᑎᑕᐅᔪᑦ ᒫᓐᓇ ᐱᔪᒥᓇᕐᓂᖅᓯᐅᑎᓂᕐᒧᑦ. ᑕᒪᓐᓇ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓈᒪᒃᑐᒥᑦ

ᓄᓇᓕᕆᐊᖑᑦᑎᐊᖅᓯᒪᓂᖓᓄᑦ ᖃᐅᔨᒪᔪᑎᒃᓴᑦ ᐱᔭᒃᓴᐅᖅᒥᒻᒪᑕ ᒫᓐᓇᐅᓂᖓᓂ ᐃᓯᒪᓕᐅᕈᑕᐅᓚᔭᖅᑐᓂᒃ ᓇᓚᐅᓪᓗᒍ ᐱᕙᒥᓇᑖᖑᓂᖓ ᐅᔭᒐᖕᓂᐊᒐᒃᓴᖅᑕᖃᕐᓂᖓᑕ ᓇᕙᒪᐃᑦ. ᓄᓇᓕᕆᐊᖑᑦᑎᐊᖅᓯᒪᓂᖓᑕ ᖃᐅᔨᓇᓯᐊᖅᑕᐅᕙᑎᖏᑦ ᐸᕐᓇᒃᑕᐅᓯᒪᔫᑦ ᐱᒋᐊᕐᕕᒃᓴᖅᑲᕐᓗᑎᒃ ᐅᐱᕐᖔᖑᓂ/ᐊᐅᔭᖑᓂ ᑕᒪᑐᒪᓂ ᐊᕐᖀᒧᒥ ᐃᓯᒪᓕᐅᕈᑕᐅᕐᑯᓪᓗᒥᑦ ᓇᒦᓐᓂᖏᑦ ᐊᒻᒪᓗ ᑕᒃᑯᐊᑐᐊᖑᒐᔭᕐᓗᑎᒃ ᓇᕙᒃ ᐱᕙᒥᓇᕐᓂᖅᓯᐅᖅᑕᐅᓚᔭᕐᓗᑎᒃ. ᑕᐅᕗᖓᒃᑲᓐᓂᖅ, ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᑦ ᐱᔭᕇᒃᑕᐅᓂᐊᕐᒪᑕ ᐃᓅᓐᓇᓕᒫᖑᓂ ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓᓂ ᓇᕙᒪᐅᑉ ᐅᐱᕐᖔᖑᓂ 2021 ᐱᓕᕆᐊᖑᕐᑲᓯᐅᑎᓗᓂ ᓄᓇᓕᕆᐊᖑᑦᑎᐊᖅᓯᒪᕙᑦ ᖃᐅᔨᓇᓯᐊᖅᑕᐅᓂᖏᑦ. ᑕᐃᒪᓕ ᐱᑕᕐᑲᑐᐊᖅᐸᑦ ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᖕᓂᑦ ᓇᕙᕐᓂ ᓇᓗᓇᖏᑦᑎᐊᕐᓂᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᒃᐸᑕ, ᓴᐳᒻᒥᔭᐅᓂᐊᖅᑐᑦ ᐊᒃᓱᐋᓗᕈᓐᓃᖅᑎᑕᐅᓗᑎᒃ ᐱᓕᕆᐊᖑᓂᖏᑦ ᐊᖏᖅᑕᐅᓯᒪᓗᑎᒃ ᓄᓇᕗᑦ ᐃᓕᖅᑯᓯᓕᕆᔾᔪᑎᖓᓂᑦ. ᐊᒃᓯᐊᑑᕈᓐᓃᖅᑎᑕᐅᓂᖏᑦ ᐱᕐᑲᓯᐅᔾᔨᔪᓐᓇᖅᑐᑦ ᐊᐸᕈᓕᖅᑕᐅᓗᓂ ᐊᐸᑖ ᐊᓯᕈᕐᓂᐅᓴᓂᖓ ᓇᕙᒪᐃᑦ ᐊᒻᒪᓗ ᐋᖅᑭᒃᑕᐅᓗᑎᒃ ᑭᖑᒧᒋᐊᖅᑕᐅᕕᖏᑦ. ᐱᓕᕆᐊᖑᕋᑖᓚᐅᖅᓯᒪᕙᑦ ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᖕᓂᑦ ᖃᐅᔨᓇᓯᐊᕐᓃᑦ ᐱᓕᕆᐊᖑᓪᓗᐊᑕᖅᑐᒥ ᐱᓕᕆᐊᖑᓚᐅᖅᓯᒪᖕᒪᑕ 2018-ᒥ. ᐱᓕᕆᕙᓐᓇᐅᑎ ᐱᓕᕆᐊᖑᕐᑯᓪᓗᒍ ᐃᑦᑕᕐᓂᓴᒥᓂᖅᑕᓕᖕᒥᑦ ᖃᐅᔨᓴᖅᓯᓂᖅ ᑐᒃᓯᕌᖅᑐᓂᐊᕐᒪᑦ ᓄᓇᕗᑦ ᐃᓕᖅᑯᓯᓕᕆᔾᔪᑎᖓᓂᑦ ᓯᕗᓂᖓᒍᑦ ᒫᔾᔨ 31ᖓᓂ, 2021. ᖃᓄᐃᑦᑐᑐᐃᓐᓇᐃᑦ ᐃᖃᓇᐃᔭᑦ/ᓴᓇᔭᒃᓴᑦ ᐱᓕᕆᐊᖑᔪᑦ ᐊᒻᒪᓗ ᓇᓕᐊᖕᓄᕐᓃᑦ ᒪᓕᖕᓂᐊᕐᒪᑦ ᐃᓅᓐᓇᖏᓐᓂᑦ ᓄᓇᓕᖅᑲᕐᐱᐅᔪᑦ ᐊᒻᒪᓗ ᑲᕙᒪᑐᖃᒃᑯᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᖃᒃᑎᑕᖏᓐᓂᑦ ᐊᒻᒪᓗ ᒪᓕᒃᑕᐅᔭᕆᐊᓕᖏᓐᓂᑦ ᑐᕋᖓᔪᓂᑦ ᓄᐸᕐᓇᕐᔪᐊᖅ 19.

Inuinnaqtun: Avatiligiyiit ovalo Hilat Aalanguktiligiyiit Kanatami (ECCC) uktugumayut angilitiklugit atuktainik uyagakhiukvikhait uyagalianik Uataanit Remus Kuugauyainit. Angiklitiknahuaktait piniaktut ilaa, katitigutait piniaktainut atuktakhainik Eurekami Kutiktumi Hilaligiyiit Havakviit (HAWS) avataanut atulaaktainit atuktainut hanahimayait uyagakhiukvikhait. HAWSkut kutinikpaanganiitut Slidre Kaiktuini, ukiuktaktumi-uataanit nuvuanit Fosheim Nuvunganit, Ellesmere Kikiktaanit, Nunavut. Hanianiitkuyak nunalaat HAWSmi nunanga Ausuituq.Hanayakhat ilauniaktut nunauyaligiyiinut ihivgiugutait naunaiyagiaganik nunait angilitiniaktainik, ingilgaat nunagaluat ihivgiugutikhait angilitigutainik nunait ovalo angilitigutainik uyagakhiukvikhait uyagalianik naunaiyaktaagumik atuniaktait iniktaagumik nunauyaligiyiit ihivgiugutait ovalo ingilgaat atukhimayagaluit ihivgiugutainik. Ublungit atuniaktait piniaktainit havagumayainut ukiumit 2021mit 2025mut hanaliniaktait piniaktut Junemi 2021 ovalo havaliklugit kitkanit July 2021mit October 2025mut. Hanatilugit, hanianik 50nik nunami havaniaktut atuniaktait. Akyaktauniaktut nunamut atuklutik atugutikhainik tingmiamik havaktiinik, nikikhainik ovalo mikiyut atukatagutikhait hanalgutit ovalo umiakut akyaklugit hanalgutikhait ovalo angiyut atukatagutikhait. Uyagakhiukviit AngilitigutikhaitIlanginik uyagaliakhait, hanianut 175,000m3, ilangit paknaiyautikhait, piniaktut ikayugutikhainik hanayakhat havaktakhainik Eurekami Kutiktumi Hilaligiyit Havakviit (HAWS). Taimamat, angilitigutait uyagakhiukvikhait Uataanit Remus Kuugauyait atuniaktut ilakhainut atuniamagit pikangitpata ilanganut atulaaktainut ilanganit. Pikaktut pingahunik nunait atulaaktut angilitigutikhainik; hivuliit anginiaktut nunait kivataaniitut uyagakhiukvikhait ovalo kutikpaanit Remus Kuugauyainit; malguuk aalat kivataanit uyagakhiukviit ovalo nigiagani Remus Kuugauyainit. Malguuk atugumayait angilitigutikhainik nunait nigiaganit paknaiyautigilaaktut nunait naamagiyaugumik uyagaliakagumik pikangitpata hivulimit angilikvianit. Pilaagumik hapkoa nunamut akhaluutikut ikaaniaktait Remus Kuugauyait ovalo Uataanit Remus Kuugauyait. Apigiyait ihivgiukuyainik tunihimaliktut Munagiyiinut Ikaluligiyiit hanaligiaganik malguunit apkotinit imait ikaakvikhainik kuugauyamit. Hapkoa ikaakvikhait atugumayait akhaluutit ikaligiaganik tahapkononga imainit mikhitaagiaganik ikpinagutait avatiligiyiinut. Ilitagiyait atugumayainik angilitigutainut nunait angiyuugaluit atugumayainut atuktainit keeliniit atugumayainik uyagakhiukvikhait. Hapkoa ilaa naamagiyait nunauyaligiyiit katitikhimayut pikangimata ublumi naunaiyagiaganik atulaaktainik pikagiagnaik uyagalianik. Nunauyaligiyiit ihivgiugutait paknaiyakhimaliktut piligiaganik upingaami ovaluniit auyami auyakat nani ovalo talvatuak tahapkoa atuniaktut uyagalianik. Ovalo, Ingilaat atukhimayait ihivgiugutait inigumayait tamaat angilitigutainit nunait upingaami 2021 ilalulugit nunauyaligiyiit ihivgiugutait. Pikagumik Ingilgaat nunagaluit angiyuugumik naunaiyakhimayainit, munagiyauniaktut tamaat havaktainit angikhimayunik Nunavumi Munagiyiit Inuuviviniit ovalo Ingilgaaligiiyiit. Havaniaktait ilaulaaktut nutkaktivikhainik ilananut ikpiagiyait nunait ovalo atuklutik ihivgiugutikhainut naniyait. Hivuliit Ingilgaat Nunagaluit ihivigiukhimayut nunai pihimayut ukiumi 2018mi. Atugutikhait Ingilgaat Nunagaluit ihivgiugutait apigiyauniaktut Nunavumi Munagiyiit Inuuviviniit ovalo Ingilgaaligiyit pitinagit March 31mi, 2021. Havaniaktait hanayakhat havakhimayaitlu ovalo autlaagutikhait piniaktut tamamik Nunavumi ovalo Kanatami pihimayakhainik maligutikhait mikhaanut KALANAKYUAK 19.

Personnel

Personnel on site: 50
Days on site: 765
Total Person days: 38250
Operations Phase: from 2021-06-01 to 2021-06-15
Operations Phase: from 2021-06-15 to 2025-10-15
Closure Phase: from 2025-10-15 to 2025-10-31
Post-Closure Phase: from to

ᐱᓕᕆᐊᕆᔭᐅᓂᐊᖅᑐᑦ

ᓇᒥ	ᖃᓄᐃᑦᑑᒥᑦ ᐱᓕᕆᐊᖃᕐᓂᐊᖅᐸ	ᑭᒃᑯᑦ ᓄᓇᖁᑖᓂ	ᑐᓴᐅᒪᔭᒃᓴᑦ ᓄᓇᐅᑉ ᖃᓄᖅ ᐊᑐᒐᐅᓪᓚᐅᖅᓯᒪᔭᕆᐊᖓᓐᓂᒃ	ᐃᑦᓴᕐᓂᑕᖃᕐᕕᐅᕙᓪᓚᐅᖅᐸ ᐃᓄᒃᓄᑦ ᓇᔪᖅᑕᐅᖃᑦᑕᕐᓂᑰᕙᓗ ᑕᐃᑦᓱᒪᓂᑐᖃᐅᓕᖅᑐᖅ	ᖃᓂᓐᓂᖅᐹᖅ ᓄᓇᓕᒋᔭᐅᔪᖅ ᐊᒻᒪᓗ ᓴᐳᒻᒥᒃᓯᕖᐅᕙᓗ ᓯᓇᓄᑦ
Existing Quarry	Quarry/Borrow pit	Inuit Owned Surface Lands	The Eureka High Arctic Weather Station (HAWS) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 km northeast of	An archaeological assessment will be completed for all potentially impacted areas that haven't been previously assessed. Archaeological assessments will be conducted in spring/summer 2021 in conjunction with other investigations. If any archaeological areas of significance are identified, the Nunavut Department of Culture and Heritage (GoN) will be notified. Any identified archaeological areas of significance will be protected with mitigation advised by the GoN, such as applying setbacks and	The closest community is the hamlet of Grise Fjord, which has a population of approximately 130(as of the 2011 census), and it is located approximately 400 km south of Eureka, at the southerntip of Ellesmere Island. This Inuit community is the northernmost community in Canada (ParksCanada, 2009b; Statistics Canada, 2012a).The Key Bird Habitat Site – Fosheim Peninsula overlaps the site. The Napaqtulik/Napurtulik Proposed Territorial Park is approximately 50km west of the site.
Primary Quarry Expansion Area	Quarry/Borrow pit	Inuit Owned Surface Lands	The Eureka High Arctic Weather Station (HAWS) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other	An archaeological assessment will be completed for all potentially impacted areas that haven't been previously assessed. Archaeological assessments will be conducted in spring/summer 2021 in conjunction with other investigations. If any archaeological areas of significance are identified, the Nunavut Department of Culture and Heritage (GoN) will be notified. Any identified	The closest community is the hamlet of Grise Fjord, which has a population of approximately 130(as of the 2011 census), and it is located approximately 400 km south of Eureka, at the southerntip of Ellesmere Island. This Inuit community is the northernmost community in Canada (ParksCanada, 2009b; Statistics Canada, 2012a).The

			facilities at the HAWS. The Eureka runway is located 1.5 km northeast of	archaeological areas of significance will be protected with mitigation advised by the GoN, such as applying setbacks and	Key Bird Habitat Site – Fosheim Peninsula overlaps the site. The Napaqtulik/Napurtulik Proposed Territorial Park is approximately 50km west of the site.
Contingency Area 1	Quarry/Borrow pit	Inuit Owned Surface Lands	The Eureka High Arctic Weather Station (HAWS) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 km northeast of	An archaeological assessment will be completed for all potentially impacted areas that haven't been previously assessed. Archaeological assessments will be conducted in spring/summer 2021 in conjunction with other investigations. If any archaeological areas of significance are identified, the Nunavut Department of Culture and Heritage (GoN) will be notified. Any identified archaeological areas of significance will be protected with mitigation advised by the GoN, such as applying setbacks and	The closest community is the hamlet of Grise Fjord, which has a population of approximately 130(as of the 2011 census), and it is located approximately 400 km south of Eureka, at the southerntip of Ellesmere Island. This Inuit community is the northernmost community in Canada (ParksCanada, 2009b; Statistics Canada, 2012a).The Key Bird Habitat Site – Fosheim Peninsula overlaps the site. The Napaqtulik/Napurtulik Proposed Territorial Park is approximately 50km west of the site.
Contingency Area 2	Quarry/Borrow pit	Inuit Owned Surface Lands	The Eureka High Arctic Weather Station (HAWS) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23	An archaeological assessment will be completed for all potentially impacted areas that haven't been previously assessed. Archaeological assessments will be conducted in spring/summer 2021 in conjunction with other investigations. If any archaeological areas of significance are identified, the Nunavut Department of Culture and	The closest community is the hamlet of Grise Fjord, which has a population of approximately 130(as of the 2011 census), and it is located approximately 400 km south of Eureka, at the southerntip of Ellesmere Island. This Inuit community is the northernmost community in Canada

			hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 km northeast of	Heritage (GoN) will be notified. Any identified archaeological areas of significance will be protected with mitigation advised by the GoN, such as applying setbacks and	(ParksCanada, 2009b; Statistics Canada, 2012a).The Key Bird Habitat Site – Fosheim Peninsula overlaps the site. The Napaqtulik/Napurtulik Proposed Territorial Park is approximately 50km west of the site.

ᓄᓇᓕᐅᑉ ᐃᓚᐅᖃᑕᐅᓂᖓ ᓄᓇᓖᓐᓄ ᐊᕕᒃᑐᖅᓯᒪᐅᕐᓂᖓᓄᑦ ᐃᑲᔪᑕᐅᔪᓐᓇᖅᑐᑦ

ᓄᓇᓕᒥᔭᖅ	ᐊᑏᑦ	ᑲᑐᔾᔨᐊᖃᑎᒌᒥᔭᖅ	ᖃᖓᒍ ᑐᓴᖅᑎᑕᐅᓚᐅᕆᐊᖏᓐᓂᒃ
ᐊᐅᓯᐃᑦᑐᖅ	Hamlet of Grise Fiord Administrative Officer	Municipal Office of the Hamlet	2021-01-18
ᐊᐅᓯᐃᑦᑐᖅ	Members of the Hunters & Trappers Organization	Iviq Hunters & Trappers Organization	2021-01-18

ᓇᐃᓴᓐᓰᑦ ᐱᒧᖕᓇᐅᑏ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ

ᓇᒦᒥᐊᖏᓐᓂᒃ ᐱᓕᕆᐊᕆᕝᕕᐅᓂᐊᖅᑐᑦ ᑎᑎᕋᕐᓄᒥᑦ:

North Baffin

ᓇᐃᓴᓐᓰᑦ ᐱᒧᖕᓇᐅᑏ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ

ᒐᕙᒪᒋᔭᐅᔫᑉ ᐊᕕᒃᑐᖅᓯᒪᐅᕐᓂᖓᓐᓂ ᒪᓕᒐᕐᓅᖓᔪᓂᒃ ᐱᖁᔭᕐᓅᖓᔪᓂᒡᓗ ᑲᒪᔩᑦ ᐱᔪᖕᓇᐅᑎᑖᕈᑎᓂᒃ ᓇᐃᓴᓐᓯᓄᓪᓗ ᑲᔪᓯᒃᑲᐃᔩᑦ	ᖃᓄᐃᑦᑐᓪᓚᓇᐅᕙ ᓇᐃᓴᓐᓯᑖᕈᑕᐅᔪᖅ ᐱᔪᖕᓇᐅᑎᑖᕈᑕᐅᔪᖅ ᐊᖏᖅᑕᐅᔪᕐᓘᓐᓃᑦ	ᒫᓐᓇ ᖃᓄᐃᓕᖓᕙ	ᐅᓪᓗᒥ ᑐᓂᔭᖅ/ ᑐᒃᓯᖅᑑᑕᐅᓚᐅᖅᓯᒪᔪᖅ	ᑭᒡᓕᖃᕐᕕᖓ
Indigenous and Northern Affairs Canada	Land Use Permit N2017N0017	Active	2017-06-04	2022-07-03
Indigenous and Northern Affairs Canada	Land Use Permit (Amended) N2017N0017	Active	2018-06-18	2022-07-03
Indigenous and Northern Affairs Canada	Quarry Permit 2018QP0001	Active	2018-06-18	2021-06-17
Indigenous and Northern Affairs Canada	Quarry Permit 2020QP0002	Active	2020-02-27	2023-02-26
ᓄᓇᕘᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ	Water Licence (Type B) 8BC-EUR1621	Active	2016-08-11	2021-08-10
ᓄᓇᕘᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ	Water Licence (Type B) 8BC-EUR1621, Amendment No.1	Active	2018-07-18	2021-08-10
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Archaeology and Paleontology Research Permit, Class II	Not Yet Applied		

Project transportation types

Transportation Type	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ	Length of Use
Air	Transportation to site will be through the use of chartered aircraft for personnel, food and smaller supplies. Any work/project activities and travel will follow all Territorial, Federal and ECCC Departmental requirements and guidelines regarding COVID 19.	
Water	Transportation to site will be through the use of sealift for equipment and larger supplies. Any work/project activities and travel will follow all Territorial, Federal and ECCC Departmental requirements and guidelines regarding COVID 19.	

Project accomodation types

Temporary Camp

ᐊᓯᖏᓚ,

ᐊᑐᒐᐅᓂᐊᖅᑐᖅ

ᐱᕐᑯᑦ ᐊᖏᔪᖅ ᐊᑐᖅᑕᐅᓂᐅᓴᔪᖅ ᐃᓚᖃᓯᐅᑎᓗᒋᑦ ᐃᑰᑕᐃᑦ, ᒥᓪᓗᐊᕈᑏᑦ, ᖃᖓᑕᓲᖅ, ᓄᓇᓯᐅᑦ ᐊᓯᖏᓪᓗ

ᐊᖏᔪᖅ ᐱᕐᑯᑦ ᐊᑐᒐᐅᓂᐊᖅᑐᖅ ᖃᓄᐃᑦᑑᓂᖓ	ᖃᑦᓯᐅᑫᑦ	ᐊᖏᓂᖏᑦ - ᐳᖅᑐᓂᖏᑦ	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ
Pick Up Truck	tbd	various	Crew Transportation
Loader	tbd	various	Excavation of granular material
Excavator	tbd	various	Excavation of granular material
Grader	tbd	various	Grading of granular material
Dump Truck	tbd	various	Transportation of granular material
Bulldozer	tbd	various	Removal and transportation of granular material
Small Loader	tbd	various	Excavation of granular material
Till Handler	tbd	various	Removal of granular material
Bobcat	tbd	various	Transportation of granular material
Backhoe	tbd	various	Excavation / digging of granular material
All Terrain Vehicle (ATV)	tbd	various	Crew Transportation
Side by Sides	tbd	various	Crew Transportation
Tractor and Trailer	tbd	various	Movement of equipment
Snowblower	tbd	various	Snow Removal
Snowmachine	tbd	various	Crew Transportation

ᑎᑎᕋᐅᓯᓇᓗᒍ ᐅᖅᓱᒃᓴᐃᑦ ᐊᑦᑕᓇᖅᑐᖅᑖᓪᓗ ᐊᑐᖅᑕᐅᓂᐊᕐᓂᖏᑦ

ᓱᓇᒧᑦ ᐅᖅᓱᒃᓴᒡᒋᐊᖅ ᐊᑐᒐᐅᓂᐊᖅᐸ	ᖃᓄᐃᑦᑐᓪᓚᕆᐅᕙ ᐅᖅᓱᒃᓴᒡᒋᐊᖅ	ᖃᑦᓯᐅᑫᑦ ᐅᖅᓱᒃᓴᖃᐅᑏᑦ	ᐹᒃᓴᐅᐸ ᐃᒪᖃᖅᑎᒋᔪᓐᓇᕐᓂᖓ	ᑲᑎᓪᓗᒍ	ᐹᒃᓴᐃᑦ ᐊᒥᓲᓂᖏᑦ	ᓱᓇᒧᑦ ᐊᑐᒐᐅᓂᐊᖅᐸ
Gasoline	fuel	13	200	2600	Liters	Fuel for equipment
Gasoline	fuel	95	5000	475000	Liters	Excavation equipment

ᐃᒪᖅ ᐊᑐᖅᑕᐅᔾᒫᖅᑐᖅ

ᐅᓪᓗ ᑕᒫᖅ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᖅ	ᖃᓄᖅ ᐃᒥᖅᑕᖃᑦᑕᕐᓂᐊᖅᐸᑦ	ᓇᑭᑦ ᐃᒥᖅᑕᖃᑦᑕᕐᓂᐊᖅᐸᑦ
0	Pumping from Station Creek	Station Creek

ᐊᑲᑕᔪᑦ

ᐊᑲᑕᔪᓪᓗᓂᐊᕐᓂᖅ

ᐱᓪᓗᐊᓗᓴᐅᔨᒪᔨᒧᒍᑦ ᐱᓪᓗᐊᓗᓴᐅᓂᐊᖅᑐᖅ	ᖃᓄᓐᐃᑦᑐᖅ ᐊᑲᑕᔪᖅ	ᖃᓄᓐᑎᒋ ᐊᑲᑕᔪᑦ ᓴᖅᑭᐊᓂᐊᖅᑐᓗᓴᐅᐳᑦ	ᖃᓄᓐᖅ ᐊᑲᑦᑕᐅᓂᐊᖅᑕ	ᓴᓗᒪᖅᓴᐅᑎᑲᓴᑲᓐᓂᐅᓂᐊᖅᑐᑦ
Camp	ᐊᑲᑕᔪᑦ ᐃᔪᐊᓪᑕᑭᐅᔨᓐᓇᖅᑐᑦ	5,000lbs	food and paper waste to be incinerated on site within existing facility	N/A
Camp	ᐃᒪᐃᑦ ᐊᑐᖅᑕᐅᔭᕆᓇᖅᓯᒪᔨᑦ	35,000 Gallons	Within existing treatment facility	n/a
Quarry/Borrow pit	ᐊᑦᑕᓇᖅᑐᖅᑕᓯᑦ	tbd	Disposed off-site at appropriate facility	Hazardous waste will be containerized and shipped off-site
Camp	ᐊᑲᑕᔪᑦ ᐃᔪᐊᓪᑕᑭᐅᔨᓐᓇᖅᓴᒥᑦᑐᑦ	400lbs	(Residual ash from incinerator) distributed at non-hazardous waste facility	n/a
Camp	ᖃᔪᖅᑕᓪᓗᓂᐊᖅ	4500 lbs	Blackwater will be incinerated	n/a

ᐊᓵᑎᒥᐅᑕᓱᑦᑐᑦ ᐊᑲᑐᖅᑕᐅᓯᒪᔨᑦ

Impacts - Temporary increase in ambient air concentrations of dust and greenhouse gas emissions. - Potential temporary increase in ambient noise. - Potential to affect the soil, via soil removal or contamination from fuel spills or leaks. - Potential to affect the hydrology and water and sediment quality of the site., including sediment loading of nearby waterbodies. - Fugitive dust may suppress plant growth. Physical damage may occur to local plant communities within the excavation zone. - Potential to affect nesting birds. Mitigation - Conduct regular maintenance and keep equipment in good operating condition. Appropriate exhaust emissions controls utilized. Travel distances optimized. - Refueling to occur in designated areas. Site personnel to keep to designated areas for equipment. - Effective sediment and erosion control measures installed to prevent entry of sediment into watercourses and waterbodies. - Basic petroleum spill clean-up equipment kept on-site. - The crossing of Remus and West Remus Creek will be in accordance with direction provided from the DFO. - Crossings of these creeks will not interfere with fish passage, constrict the channel width, or reduce flows. A setback of 30m from the highwater mark will be applied. - The Wildlife and Wildlife Habitat Management Plan will be followed. - Training of temporary workers to avoid contact with all wildlife and their and to report sightings to a supervisor immediately. - Movements of workers restricted to ensure nesting sites are not disturbed. - In the event that SARA listed birds or mammals are located in the area, construction crews will be prepared to modify, or delay, activity that might harm the protected species. - Reduce dust resulting from excavation activities

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

Additional aggregate, estimated at 175,000m3, a portion of which is contingency, is required to support project activities at the Eureka High Arctic Weather Station (HAWS). An expansion of the existing quarry at West Remus Creek is needed as the additional aggregate required is not available within the current permitted boundaries. There are three areas proposed for expansion; the primary expansion area which is immediately east of the quarry and north Remus Creek; two others are east of the quarry and south of Remus Creek. Activity will involve removal of overburden utilizing machinery such as bulldozers, till handlers and loaders. No blasting activities are anticipated. It is recognized that the proposed expansion areas are large relative to the existing boundaries of the current quarry. This is because sufficient geotechnical data is not available at this time to determine the exact optimal supply areas. Geotechnical surveys are planned to commence spring/summer this year to determine their location and it is only these areas that will extracted.

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

ᒫᓐᓇ ᐊᕙᑎᐅᑉ ᖃᓄᐃᑦᑐᓪᓚᓇᐅᓂᖓ: ᓄᓇᐅᑉ ᖃᓄᐃᑦᑑᓂᖓ

Eureka is located on Ellesmere Island, Nunavut, which is the northernmost island in the Canadian Arctic Archipelago. The Arctic Ocean surrounds the Archipelago to the north and west, with Greenland to the east and the Canadian mainland to the south. Eureka itself is on the western side of Fosheim Peninsula in northern Ellesmere Island. Eureka is located on the north side of Slidre Fjord and surrounded to the northeast and northwest by ridges that rise about 600 m above mean sea level.Eureka's climate is typical for the Canadian Arctic Archipelago. Eureka experiences a long, dark winter and a short, intense summer with continuous daylight. The winter conditions promote a strong surface-based temperature inversion. The transition to summer occurs with a rapid warming and the breakdown of the Arctic winter vortex.Atmospheric EnvironmentIn an effort to characterize the existing air quality and noise environment within the Project area, a monitoring program was completed in August 2015. Details and results of the monitoring program as well as a description of climate and meteorology in the Project area are provided in the following sections.The weather station at Eureka (WMO ID no. 71917; latitude 79.98°N, longitude 85.93°W) has been operated by the Metrological Service of Canada since 1947. The hourly surface observation record begins on 1 January 1953 at 01:00 LST (06:00 UTC) and observations are recorded at an altitude of 10.4 m above mean sea level. Upper-air observation data from radiosondes are available starting in 1961. Lesins et al. (2010) provide a comprehensive summary of weather observations made at Eureka from 1953 to 2007, which is briefly discussed in the following sections. Lesins et al. (2010) define the winter months as the three coldest months of the year (January, February, and March) and summer as the three warmest months (June, July, and August). Somewhat unconventionally, autumn is defined to comprise the period of September to December, which is based on the fact that the stable winter boundary layer is not fully formed until January. Spring comprises the rapidly warming months of April and May. Over the 54 year record, the average temperature at Eureka is -19.1°C, with the highest and lowest observed temperatures of 20.0°C and -54.6°C recorded 22 July 2007 and 15 February 1979, respectively. Trends in temperature across the entire observing record can be summarized as follows:•A cooling trend from the early 1950s to early 1970s;•A warming period from the early 1970s to early 1980s;•A brief cooling period in the mid-1980s; and•A warming trend up to the present day.Eureka is typified by a polar desert climate.

Annual precipitation averages only 79.1 mm per year, with the majority (60.3 mm on average) falling as snow in the autumn and winter months. Rain is typically confined to the months of July and August, where rainfall events can be intense. The maximum recorded daily precipitation events observed at Eureka in July and August were 20.8 mm (27 July 1997) and 41.7 mm (17 August 1953), respectively.Surface wind speeds at Eureka are greatest in the summer months, averaging about 17 km/h across the period from 1954 to 2007. Wind speeds in autumn, winter and spring are reduced, ranging between approximately 8 and 11 km/h over the same period. Lesins et al. (2010), however, note that the observations show a weakening trend of approximately -0.6 km/h per decade over the period from 1954 to 2007, which persists despite the slight weakening of the surface-based temperature inversion over the same period. Surface winds are primarily out of thewest in the late spring and summer (May to August), switching to the east and southeast for the remainder of the year.Although variable, Lesins et al. (2010) note that there has been no significant change in upper air wind speeds at the 500 mb level.Air QualitySpot measurements of ambient dust were made at seven pre-defined monitoring locations under existing conditions. The seven monitoring locations are summarized below:•NM-1 – West of the main station•NM-2 – South end of the main station at the sealift unloading location•NM-3 – Northwest of the powerhouse within the main station•NM-4 – North of the existing sewage lagoon within the main station•NM-5 – North end of the main station at the dead line•NM-6 – North of the west end of the runway at the DND facilities•NM7 – South of the west end of the runway at Fort EurekaAmbient particulate matter (PM) data was collected using a DustTrak dust monitor (model DRX 8533) in August 2015. Calibration of the dust monitor was completed in the field at test conditions before and after each measurement campaign with a zero filter. Calibration was valid during the period of monitoring.Spot measurements of ambient dust (i.e., particulate) levels were completed through multiple 1-minute DustTrak logs at each monitoring location at various observation periods. Levels of total PM, as well as PM less than 10 and 2.5 microns (µm) in diameter (PM10 and PM2.5) were measured. The dust monitoring data are summarized in Table 4.3 for total PM, PM10 and PM2.5. At the time of monitoring, construction of the new multipurpose building project was underway. The ongoing activity included clearing and excavation of the footprint for the building foundation.For the purposes of establishing ambient particulate levels in the project area, the minimum recorded particulate levels are considered to represent the true ambient dust levels and the maximum recorded particulate levels are considered to represent the ambient dust levels as influenced by the ongoing project work and other operations within the Project area. Based on the monitoring results, NM-5 would be most reflective of true background and indicative of a remote wilderness environment where particulate levels are low and influenced by wind induced dust.The monitoring data shows that levels of PM2.5 are high in comparison to total PM, which suggests that the PM is primarily influenced by the exhaust of passing vehicles. The fact that the lowest monitored levels of PM were observed at the monitoring location farthest from an adjacent roadway (i.e., NM-5) supports this conclusion. A comparison of the maximum monitored levels in close proximity to the ongoing activity at NM-3 to the maximum monitored levels at NM-5 shows that the effects of ongoing activity are limited to within 300 metres. If activity level is similar for future project work, local effects are expected to be kept within 300 to 500 metres.A review of an air quality effects assessment submitted to the NIRB for a nearby project (Mary River Project, Baffin Island) was completed to characterize ambient air quality in a similar environment. The Mary River Project is located approximately 1,000 km south of the HAWS in a comparable setting.The assessment of background air quality for the Mary River Project described in Air Quality Baseline Study, Baffin Iron Mines Corporation, Mary River Project (RWDI Air Inc., December 2008) measured total PM concentrations of 3.0 to 7.0 µg/m3 which “represent low, pristine levels that can be viewed as typical of remote Arctic areas”. Similarly, PM10 concentrations of 1.5 to 3.8 µg/m3 were measured. PM2.5 measurements were not performed for the Air Quality Baseline Study, Baffin Iron Mines Corporation, Mary River Project (RWDI Air Inc., December 2008) because“based on experience in such pristine environments, where particulate matter levelsIn summary, the ambient particulate levels observed at NM-5 are comparable to the particulate levels identified during the literature search, which are pristine and typical of remote Arctic areas.NoiseSound level data was collected using a Quest SoundPro DL-2-1/1 sound level meter in August 2015. Calibration of the sound level meter was completed in the field at test conditions before and after each measurement campaign with the QC-10 acoustic calibrator. Calibration was valid during the period of monitoring.Spot measurements of ambient sound levels were completed by observing and recording the minimum and maximum slow response A-weighted sound levels within 5-minute observation periods. For the purposes of establishing ambient noise levels in the project area, the minimum recorded sound levels are considered to represent the true ambient sound levels and the maximum recorded sound level are considered to represent the ambient sound levels as influenced by the ongoing project work and other operations within the project area. The noise monitoring data are

summarized in Table 4.4. The true ambient data are indicative of a remote wilderness environment where noise levels are relatively low and are strongly influenced by sounds of nature and wind induced noise effects.A review of a noise effects assessment submitted to the NIRB for the Mary River Project was completed to identify noise levels in a similar environment. The assessment of ambient noise for the Mary River Project described in Noise Baseline Study, Baffin Iron Mines Corporation, Mary River Project (RWDI Air Inc., November 2008) concluded that "average 24-hour sound exposures ranged from 25 to 30 dBA, depending on location". The baseline monitoring locations most comparable to the HAWS environment (i.e., in close proximity to Arctic Ocean waterway inlets) had baseline monitoring results of 29 and 30 dBA.In summary, the minimum uninfluenced ambient sound levels observed in the HAWS area (i.e., natural sounds of nature at NM-2, NM-5, NM-6 and NM-7) are comparable to the sound levels identified during the literature search. With consideration of the above information, a conservative approach to establishing background sound levels was applied. An existing noise level of 35 dBA was selected for 24-hour sound levels and applied as the background value for assessing the relevance of potential changes in sound levels as a result of Project Improvement activities at the HAWS.GeologyThe HAWS is situated in the Eureka Hills Ecoregion, within the Northern Arctic Ecozone. The topography in the area is rolling and ridged, and reaches altitudes of no greater than 1000 m above sea level. Underlying strata include Mesozoic and Tertiary sandstone and shale, which have large trenches cut out of them. The trenches form the sinuous, curving drainage that is apparent in the area (Phase I ESA - PWGSC, 2007). The geology of the HAWS site was observed by Columbia/Franz (2010) to be composed of silty clay, with some gravel and cobble.HydrogeologyHydrogeologic information was obtained from Columbia/Franz (2010). Regionally, sinuous drainage formed by carving of the underlying sandstone is apparent, as well as within the study area. Water has formed gullies and seasonal creeks that drain into the Slidre Fjord of the Fosheim Peninsula, and subsequently into the Eureka Sound and Arctic Ocean. The main natural source of surface fresh water at the HAWS is Station Creek, which is seasonally flowing. It flows in early June on the west side of the main facilities at the HAWS, from north to south. Flow from the creekdischarges into the salt water of Slidre Fjord and ultimately into Eureka Sound and the Arctic Ocean. The HAWS is in an area of continuous permafrost. In high, dry locations the active layer is at approximately 0.60 metres below surface and in wet, low areas permafrost is located at approximately 0.80 metres below surface. On south facing slopes, the active layer can reach a depth of approximately 1.2 metres. The water reservoir is the source of domestic water, which is also located on the west side of the main facilities. The reservoir is replenished yearly by the seasonal pumping of Station Creek. A sewage lagoon is located at the south end of the site's facilities on the shore of Slidre Fjord (Columbia/Franz, 2010).SoilsNegligible chemical weathering and plant action in the arctic environment contribute to poor soil profile development. Thus, soils at the HAWS are composed mostly of sand/gravel fill, underlain by silty, sandy clays – mainly sands, silts, and clays. Specifically, these soils are composed of lithosols and regosols of the Rawmark Great Soil Group, and are typically 18% sands, 47% silts, and 35% clays. Soils include Regosolic Static Crysosols and Orthic Turbic Cryosols over top ofcolluvial, alluvial and marine deposits (Phase I ESA - PWGSC, 2007).

ᒫᓐᓇ ᐊᕙᑎᐅᑉ ᖃᓄᐃᑦᑐᓪᓚᓇᐅᓂᖓ: ᐆᒪᔪᖅᑕᖅᑲᓂᖓ

The site is in ecodistrict 21, situated within the Eureka Hills ecoregion of the Northern Arctic ecozone. The ecoregion includes Axel Heiberg and Ellesmere Islands. General descriptions of plant communities include low-growing herbs and shrubs such as purple saxifrage, Dryas spp., arctic willow, sedge and arctic poppy. The extreme environmental conditions have a significant impact on the ecological recovery of vegetation at disturbed sites at Eureka. Low light levels, extremely low ambient temperatures and lack of moisture and nutrients limit plant productivity. While a precipitation value of 50-150 mm per year has been used for HAWS assessments (PWGSC 2007), the climate conditions listed by Agriculture Canada for the ecodistrict indicates average precipitation at the lower end of this range. Average total precipitation for the ecodistrict is 68 mm/year, 53 mm of which is snow. Due to evaporation of moisture during summer months, the area experiences a deficit of 361 mm of moisture annually. There are only 16 effective growing days annually (days above 5°C adjusted for day length) in the area around Eureka. The area has >90% continuous permafrost, with <20%ground ice. Changes to vegetation are expected in the High Arctic terrestrial ecosystem as a result of warming ambient temperatures. Long-term monitoring programs were established in Quttinirpaaq National Park in 1990 using several measures of environmental change (Broll et al. 2003). Changes recorded between 1990 and 2002 include warming soil temperatures, with an increase in the depth of the active layer. Changes in permafrost caused changes in the hydrological conditions and soil moisture. A review of climate changes in the Canadian Arctic indicate that the ambient temperature has

increased 1.5 to 3°C between 1953 and 2007, while precipitation has increased by roughly 10% (Stein et al. 2013). If these trends continue, the plant community will undergo changes in species and numbers in response to the changing environment. The HAWS has been in place since 1947; however, there are no rigorous surveys of the animal community in the area, the species abundance, or other measures of species presence. While some ecological information is available for many species based on studies conducted in the Arctic, further south of Eureka, important site specific data, such as the numbers of nesting sites for breeding birds, or the density of small mammal species, are not available. For example, the number of ground nesting breeding birds during the summers would allow some estimation of the impacts of disturbed ground from borrow sites or new construction. The Arctic Biodiversity Assessment (CAFF, 2013) estimated that the High Arctic portion of the Canadian Archipelago has a very low biodiversity, with roughly 10 resident mammalian species. Wildlife sightings are recorded weekly at the HAWS and provide some site specific information on wildlife species in the area and potential interactions with workers on site. The most common sightings are for muskox, arctic hare and wolves, with many sightings within the boundary of the site. Waterfowl, including red-necked loons, have been observed on the Fjord but their nesting sites relative to the station are unknown. Polar bears have been observed in the area but at some distance from the HAWS. Some data are available from breeding bird surveys at other sites in the High Arctic. Pattie (1977) reported the numbers of regular and occasional breeding birds on Devon Island, a High Arctic ecosystem roughly 500 km to the south of Eureka. Most of the bird species were shorebirds, seabirds and colonial waterfowl. The dominant terrestrial birds that were present every year of the survey were the rock ptarmigan, the Lapland longspur and the snow bunting, with the raven and snowy owl less common. Pattie reported a density of 40 birds per km2 in July 1972 at Sildre Fjord, with 12 species of birds, equivalent to other high Arctic sites. These results corresponded with a survey reported by Nettleship and Maher (1973) at Hazen Lake, roughly 300 km to the northeast of Eureka. Trefry et al. (2010) reported several years of breeding bird survey results from the east coast of Ellesmere Island. Snow buntings, Lapland longspur and Baird’s sand piper were the most abundant species. The density of snow buntings was 1.0 to 1.5 pairs per km2,while the Lapland longspur reached 1.5 to 2.0 pairs per km2. These results were used to include the snow bunting as a representative songbird in the selection of Valued Ecosystem Components in the current assessment. Parks Canada has conducted periodic surveys of wildlife on north Ellesmere Island to establish wildlife presence and numbers before the establishment of Quttinirpaaq National Park. Data for1989 to 1997, 2002 and 2008 were obtained in spreadsheet form from J.Chisholm, Nunavut Field Unit, Parks Canada, Iqaluit. No detailed methods were included in the data, although most transects were flown with two observers in small aircraft in early to mid-June. The 1989 to 1997 data set included a number of marine species, including ringed seal, bearded seal and walrus, however the marine transects extended far north of Ellesmere Island and are not relevant for Eureka. The surveys indicated that the dominant terrestrial mammal is the muskox, with several dozen in the area at any time. Peary caribou are also present although their numbers were consistently low. The number of arctic hare is variable with only 10 reported annually for the 10 year span from 1989 to 1997, yet over 3500 in 2008. The arctic hare was often observed in groups of 20-30 animals. Dominant birds include the gyrfalcon and the snowy owl. Snow geese are also reported in fairly large numbers. The attached EIA provides a summary of species reported to be present in the area, as well as the associated Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and/or SARA status. The HAWS is located in an extreme climate with long, very cold winters and short, cool summers. The field season for the completion of construction activities is, understandably, extremely short. It consists of (at most) July, August and the beginning of September. Outside these months, the ground is frozen and there is no water flowing in the water bodies in the Project location area. Remus Creek and West Remus Creek, and the portions in which the Project will be taking place, are temporary, ephemeral watercourses, which are only filled with water during the spring freshet period. Hydrology assessments have been previously conducted at the HAWS for Station Creek and Black Top Creek and some historical data is available. Generally, flow within all watercourses at the site begins in mid June (around June 15) and ends in late August or Early September. Based on a desktop review and on discussions with station staff regarding local conditions and observations relating to fish and fish habitat at Station Creek, and aquatic species and mammal observations during their time at the HAWS site (Environmental Impact Assessments (EIAs) conducted in 2016 and 2018 (Arcadis)), no species listed under the Species at Risk Act (SARA) or assessed under COSEWIC have been identified within the Project area. Furthermore, no species have been identified under the Nunavut Wildlife Act.

ᒫᓐᓇ ᐊᕙᑎᐅᑉ ᖃᓄᐃᑦᑐᓪᓚᕆᐅᓂᖓ: ᐃᓄᓕᕆᓂᕐᒨᖕᒐᔪᑦ-ᐱᕚᓪᓕᐊᔪᓕᕆᓂᕐᒨᖕᒐᔪᑦ

While Eureka has no permanent residents, a number of research and operational staff rotate through the HAWS facility. The closest Inuit community is the hamlet of Grise Fjord, located 400 km south of Eureka at the southern end of Ellesmere Island. There are hundreds of archaeological sites located on Ellesmere Island, the majority of which are concentrated in Quttinirpaaq National Park, located approximately 225 km to the north east of Eureka. About 285 archaeological sites have been documented in the national park (Parks Canada, 2009b). Archaeological evidence unearthed in Quttinirpaaq National Park has revealed that the park and the surrounding region have been occupied by humans for centuries. People have resided on Ellesmere Island for thousands of years, beginning with the arrival of the Paleo-Eskimos of the Independence I culture (approximately 2000 – 4000 B.C.). They were named after the Independence Fjord in northern Greenland, where the first evidence of these people was identified by the Danish archaeologist Count Eigel Knuth. These Paleo-Eskimos arrived after crossing the Bering Strait from Siberia. Artifacts such as tent rings and stone tools were discovered. In addition, remains of their campsites found in the national park, characterized by box-shaped hearths, reveal that they were few in number and that they were present in the area for only about 300 – 400 years. In these hearths, they burned willow, grasses, driftwood, and muskox bones. They were resilient people who hunted muskox and caribou, using whatever material they could find to produce heat during the long, dark arctic winters. They lived in aboveground tents year-round, which were most likely covered in muskox hide (Parks Canada, 2009a;Rast, 2015).For many centuries after the existence of the Paleo-Eskimos, no evidence has been found in the national park to suggest human occupation. Approximately 3000 years ago, a second wave of Paleo-Eskimo people of the Independence II culture migrated across the arctic islands and reached Quttinirpaaq (1000 – 500 B.C.). The Dorset people later arrived and remained on theisland until approximately 1000 years ago (A.D. 800 – 1000). The Thule people followed (A.D.1600 – 1850) and became skillful hunters of whales and other marine mammals. The Thule culture survived elsewhere in the arctic. However, Ellesmere Island and Quttinirpaaq was abandoned by the Thule as the climate became colder and harsher, leading up to the Little Ice Age. The Thule are the ancestors of the modern Inuit (Parks Canada, 2009a). In addition to these relics, those of historic Inuit/Inughuit cultures and of exploratory, scientific, and government activities of the nineteenth and twentieth centuries have also been unearthed (Parks Canada, 2009b). It has been mentioned that a Thule tent ring had been sighted in an area located approximately 10 km from the EC reserve at Eureka, during discussions with the HAWS station manager during the site visit which took place in August 2015.Post Contact History Northern Ellesmere Island was first visited by Europeans in 1875, when the British Arctic Expedition sailed through the Nares Strait and established wintering quarters for the HMS Discovery off Lady Franklin Bay, in the sheltered harbour. The HMS Alert, the sister ship to Discovery, wintered 160 km to the north on the shore of the Arctic Ocean. The harbour is now known as Discovery Harbour. Sledging parties departed from the ships in the spring of 1876 to explore the northern terrain. The expedition was forced to return to England later in 1876 due to the explorers' becoming ill with scurvy (Parks Canada, 2009b).The United States Army's Lady Franklin Bay Expedition arrived at the same site in 1881, under the leadership of Lieutenant Adolphus Greely, for one of two expeditions staged by the United States in contribution to the International Polar Year (an undertaking by twelve countries in an effort to establish scientific stations in regions bordering the North Pole). The US expedition established a station that they named Fort Conger. When supply ships failed to reach the group in 1882 and 1883, they retreated and became stranded on Pim Island, located on Ellesmere Island's eastern coast. Only seven out of the 26 men survived. In 1899, Robert Peary, and American explorer, arrived at the abandoned Fort Conger, in hopes of using the Fort as a base station to reach the North Pole. This expedition was accompanied by Inughuit guides from northwestern Greenland. Aboriginal traditional knowledge including the use of fur and local food, allowed the expedition to better cope with the harsh conditions. Combining the traditional knowledge and European technology, the base camp structures at Fort Conger were modified so as to function well in the cold arctic climate. Peary operated expeditions in 1900- 01, 1905-06, and 1908-09 from the refurbished Fort Conger. The fort later provided shelter to American, Norwegian, Danish, and British/Canadian expeditions in 1915, 1920, 1921, and 1935. The Fort Conger is presently a significant archaeological resource, and it has been designated as Classified Federal Heritage Buildings protected by Quttinirpaaq National Park as important cultural resources (Parks Canada, 2009a).Communities The closest community is the hamlet of Grise Fjord, which has a population of approximately 130 (as of the 2011 census), and it is located approximately 400 km south of Eureka, at the southern tip of Ellesmere Island. This Inuit community is the northernmost community in Canada (Parks Canada, 2009b; Statistics Canada, 2012a).Other communities on Ellesmere Island consist of transient communities conducting scientific research, including universities and government agencies, which is a major activity in the national park region, and in Eureka. The Polar Continental Shelf Project (PCSP) (Natural Resources Canada (NRCan)), based

in Resolute Bay, provides logistical support for these activities (Parks Canada, 2009b).The residents of Ellesmere Island include the year-round permanent residents of Grise Fjord, the military and civilian personnel associated with Canadian Forces Station, Alert (located approximately 480 km northeast of Eureka and 45 km northeast of the national park), the summer base of operations for the Canadian Department of National Defense at Eureka, the personnel working at the weather station at Eureka, and Parks Canada.

Miscellaneous Project Information

Note that for this application, the number of personnel, fuel usage and waste management is what is being used currently for the operation of the existing quarry. For example, the project is using the same fifty (50) personnel that are currently operating the quarry.

ᓇᓗᓇᐃᖅᑕᐅᓂᖅᑎᑦ ᐊᑦᑐᖅᑕᐅᓯᒪᔪᑦ ᖃᓄᐃᑦᑑᓂᖅᑎᑦ ᕿᓚᐅᒋᔭᓯᖅᑕᐅᓂᐊᖅᓂᖅᓴᓗ

Air qualityInteractions: Excavation activities have the potential to temporarily increase ambient air concentrations of dust (i.e., particulate) and greenhouse gas emissions. Effects: During excavation activities, there will be an increase in local airborne particulate (dust) and tailpipe (fuel combustion) emissions from the operation of heavy-duty equipment. The tailpipe emissions will include greenhouse gas emissions and therefore have the potential to contribute to climate change. Mitigation: •Optimize fuel consumption and minimize dust production resulting from vehicle/equipment travel: Employ standard operating procedures for equipment/machinery and ensure that regular maintenance is performed in accordance with good engineering practices or as recommended by suppliers such that the equipment is kept in good operating condition. Other activity-specific mitigation measures will include the use of appropriate exhaust emissions controls such as catalytic converters and diesel particulate filters to mitigate fuel combustion emissions from heavy equipment and vehicles. Additionally, the number of equipment/vehicle movements and travel distances will be optimized to reduce fuel consumption and minimize dust and greenhouse gas emissions. Lowering vehicle speeds on unpaved road surfaces, applying water as well as implementing good road maintenance practices will minimize the potential for road dust emissions. Excavation work will be completed by methods that minimize dust generation from operations. •Reduce dust resulting from excavation activities: Execute work using methods to minimize raising dust from quarry expansion operations. Implement and maintain dust and particulate control measures as determined necessary by applicable regulations and standards during quarry expansion and in accordance with applicable authorities. The use of oil for dust control is prohibited. Prevent dust from spreading to beyond the immediate work area. A Departmental Representative or designate may stop work at any time when Contractor's control of dusts and particulates is inadequate for worker exposure, or when air quality monitoring indicates that release of fugitive dusts and particulates into the work area equals or exceeds specified levels. If Contractor's dust and particulate control is not sufficient for controlling dusts and particulates into atmosphere, work must be stopped immediately. Contractor must then discuss and implement procedures to resolve the problem. Make all necessary changes to operations prior to resuming work that may cause release of dusts or particulates. Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures. Cover or wet down dry materials to prevent blowing dust and debris. Provide dust control for temporary roads.NoiseInteractions: Quarry expansion activities have the potential to temporarily increase ambient noise. Effects: During quarry excavation and expansion, there will be an increase in noise emissions from heavy-duty construction equipment operation and construction activities. These effects are typical of a construction site, localized, and of a temporary nature. The physiological and ecological impacts of noise on wildlife needs to be considered, acutely loud noises can cause hearing loss in wildlife. Behavior patterns of wildlife may differ from their natural suite of behaviors. Mitigation: •The Project will employ standard operating procedures for equipment/machinery and ensure that regular maintenance is performed. As well, personnel will adhere to conditions outlined in all permits, authorizations and/or approvals.Sediment and soil qualityInteractions: Quarry expansion activities have the potential to affect the soil including removal of soil/terrain, material handling (loading and dumping); and the refueling of vehicles/equipment.Effects: During quarry excavation and expansion, soil quality is most likely affected as a result of fuel spills and leaks from equipment refueling efforts or otherwise. Mitigation: •Protection of permafrost: Conduct a complete on-site evaluation of the area to determine exact measures to be taken to protect permafrost.•Prevention of fuel spills/leaks: Refueling of vehicles and equipment to occur in designated areas following all applicable regulations. •Sediment, erosion and drainage control: Effective sediment and erosion control measures will be installed prior to starting

work to prevent entry of sediment into watercourses and waterbodies. These measures will be inspected daily and repaired if damaged by construction, precipitation or snowmelt. Sufficient supplies for erosion, sediment and drainage control will be available on site to keep in compliance with federal and territorial fisheries and environmental protection legislation. Aquatic EnvironmentInteractions: Quarry expansion activities have the potential to affect the hydrology and water and sediment quality of the site. These activities include material handling (loading and dumping); the refueling of vehicles/equipment; and the crossing of West Remus and Remus CreekEffects: Surface water contamination could potentially occur due to leaks/spills that may occur during the re-fuelling of vehicles and construction machinery on site. Mitigation: •Suitable erosion and sediment suppression measures will be implemented to prevent sediment from entering Remus Creek, West Remus Creek or other water bodies. Erosion control structures (temporary matting, geotextile silt control filter (curtains) fabric, etc.) are to be used. Vehicles/machinery are to be checked for leakage of lubricants or fuel and are maintained in good working order. Re-fueling should occur in designated areas only. Basic petroleum spill clean-up equipment will be kept on-site. •The crossing of Remus Creek and West Remus Creek will be in accordance with direction provided from the Department of Fisheries and Oceans Canada.Aquatic CommunityInteractions: As part of the quarry expansion activities, it is planned to install culverts to support two temporary access crossings: one over Remus Creek and one over West Remus Creek. Effects: Concerns about sediment loading in nearby water bodies are important to address. West Remus Creek and Remus Creek drain a large area to the east of the Eureka runway, starting in June; however, flow most likely ceases in September and any remaining water freezes. There is no evidence of anadromous fish, such as arctic char, that move into the streams in summer to breed, as expected due to the ephemeral, temporary nature of the water bodies. Based on these observations, there is no critical fish habitat present at the HAWS site (including Remus Creek and West Remus Creek, in the immediate vicinity of the Project). Remus and West Remus Creeks are similar to nearby Black Top Creek. Staff working at the Eureka HAWS have reported that they do not believe that Black Top Creek is fish bearing, however, this has not been confirmed, but likely true due to the ephemeral nature of the water body.Mitigation: •Despite the lack of reported fish species, mitigation measures for construction activity are to be implemented as a precaution to prevent physical disturbance to the stream beds or margins including adherence to DFO Fish and Fish Habitat Policy Statement (2019). For instance, the crossings of Remus Creek and West Remus Creek will not interfere with fish passage, constrict the channel width, or reduce flows.•Site personnel will be instructed on the importance of keeping to designated areas for equipment. A setback of 30m from the highwater mark will be applied.Vegetation Communities and SpeciesInteractions: Physical damage to vegetation during construction and changes in the soil surface layer, leading to potential soil and permafrost erosion, changes in surface water hydrology and thermokarst. Fugitive dust may also suppress plant growth within a zone around construction zones.Effects: The damage to the vegetation will be equal to the footprint of the quarry expansion limits, transportation of equipment, and the dust footprint. Mitigation: •Due to the extreme conditions at Eureka, construction will be conducted during the brief summer months. Fugitive dust can be suppressed at its source. Additionally, vehicles will remain on pre-established roads/trails, where feasible. Workers are to be advised of sensitivity of environment and limits of equipment travel will be determined.Wildlife Communities and SpeciesInteractions: Quarry expansion activities will occur during the summer, the time that nesting and denning occur for many bird and mammal species. For birds and mammals, the interactions include behavioral changes such as avoidance and/or attraction to the site and changes in the dominant species in areas adjacent to the site.Effects: Effects are unlikely as quarry expansion activities will keep to vicinity of the already existing West Remus Creek quarry site, which has been previously disturbed. However, minimization of impacts is important as the area in general has the potential for sensitive species migration. Mitigation: •The Wildlife and Wildlife Habitat Management Plan (SLR, 2018) will be followed.•Temporary workers will be informed of station protocols for the control and disposal of food and refuse to ensure that local wildlife is not attracted to the site.•Temporary workers involved with quarry expansion activities will be trained to avoid contact with all wildlife and their nests (particularly with species at risk) and to report sightings to a central authority (i.e., supervisors) immediately. Movement of workers in off-hours should also be restricted to ensure nesting sites and denning areas are not disturbed.•In the event that SARA listed birds or mammals are located in the area, construction crews will be prepared to modify, or delay, activity that might harm the protected species. For example, if nests with eggs are located for a protected species, activity in the area might be delayed until after hatching.

Cumulative Effects

The proposed expansion of the existing quarry at West Remus Creek is not expected to have cumulative effects as the area will be restored as much as feasible once excavation is complete.

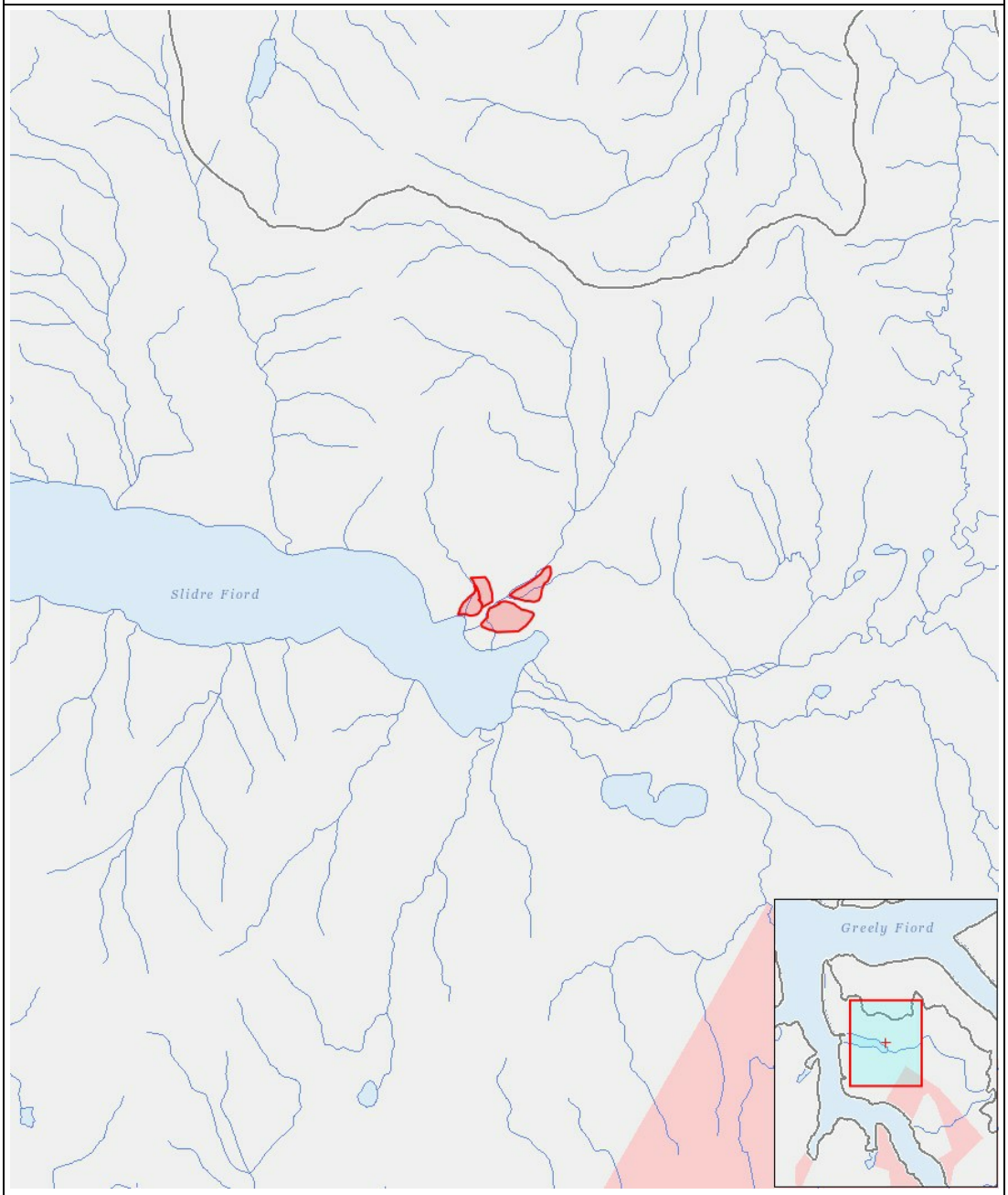
Impacts

ᓇᓗᓇᐃᖅᑕᐅᓂᖏᑦ ᐊᕿᑎᒥᐅᑕᓃᑦᑐᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᔪᑦ

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
ᓴᓇᓂᖅ																									
Quarry/Borrow pit		-	N	N	-	N	N	-	N	N	-	N	N		N	N	N	N	-		U	-	-	-	-
ᐅᔾᕋᒃᑕᕐᓂᖅ																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
ᐃᑐᑦᑎᕆᓂᖅ																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = ᐊᑲᐅᓈᕈᑎᔪᓐᓇᖅᑐᑦ, N = ᐊᑲᐅᙱᔾᔪᑕᐅᔪᓐᓇᖅᑐᑦ ᐸᓚᐅᒥᔾᔪᓯᖅᑐᖅᑕᐅᔪᓐᓇᙱᑦᑐᓪᓗ, M = ᐊᑲᐅᙱᔾᔪᑕᐅᔪᓐᓇᖅᑐᑦ ᐸᓚᐅᒥᔾᔪᓯᖅᑐᖅᑕᐅᔪᓐᓇᖅᑐᓪᓗ, U = ᖃᐅᔨᒪᓐᓇᙱᑦᑐᖅ)

ᓇᒋᒪᖃᕐᓂᖅ ᐱᓕᓇᐊᓇᕆᐅᔪᖅ



List of Project Geometries

1	polygon	Existing Quarry
2	polygon	Primary Quarry Expansion Area
3	polygon	Contingency Area 1
4	polygon	Contingency Area 2