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Comité consultatif de l'environnement Kativik
Katívik Environmental Advisory Committee

February 25, 2016

Christyne Tremblay
Provincial Administrator- James Bay
and Northern Quebec Agreement
Édifice Marie-Guyart, 30th Floor
675 boul. René-Lévesque East
Québec City, QC
G1R 5V7

Subject: Environmental assessment applicable to the Hopes Advance iron mining project

Dear Madam:

In its capacity as the preferential and official forum for the governments of Canada and Québec pursuant to Section 23 of the *James Bay and Northern Québec Agreement* (JBNQA), the Kativik Environmental Advisory Committee (KEAC) wishes to share with you its concerns regarding the Hopes Advance iron mining project situated near the Inuit community of Aupaluk. At the same time, the KEAC would like to submit recommendations to mitigate the difficulties faced by the residents of this community in relation to the project.

To begin, it should be recalled that the Hopes Advance iron mining project proposed by Oceanic Iron Ore Corp. is subject to three environmental assessment procedures, i.e. the provincial environmental and social impact assessment and review procedure under the JBNQA, the federal procedure under the *Canadian Environmental Assessment Act* (2012), and the review procedure under the *Nunavik Inuit Land Claims Agreement*. In addition to the fact that the application of these three environmental assessment procedures to a single project has generated a high degree of confusion among the residents of Aupaluk, the application of the federal procedure under the *Canadian Environmental Assessment Act* has regretfully been privileged over the federal JBNQA procedure. The KEAC is in particular of the opinion that the federal JBNQA procedure, which provides for direct Inuit participation, ensures more thorough consideration of the social impacts of projects subject to assessment.

In order to correct this situation that is unfair towards Inuit, the KEAC has examined the possibility of triggering the substitution and equivalence mechanism identified under the *Canadian Environmental Assessment Act*. Such an action, which must be requested by a provincial government, would permit the

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application of the provincial procedure in lieu of the procedure under the *Canadian Environmental Assessment Act*, serving to reduce the number of procedures applicable to the Hopes Advance iron mining project and fostering the participation of Inuit in the environmental and social impact assessment. In this context, the KEAC wishes to be informed of the thinking of the Provincial Administrator regarding the possibility of triggering the substitution and equivalence mechanism identified under the *Canadian Environmental Assessment Act*.

The KEAC would also like to make the Provincial Administrator aware of a further concern, specifically the prolonged uncertainty surrounding the implementation of the Hopes Advance iron mining project. The KEAC has been informed that the project is having significant psychosocial impacts on the residents of Aupaluk, prior even to its description in an impact study. For close to four years, the lack of concrete details on the project originating from either the project proponent or the government, the never-ending wait for the project's implementation and ongoing mineral exploration near the community have given rise to all kinds of speculation, producing uncertainty in the community that is unacceptable. Given that the directive for the provincial impact study by Oceanic Iron Ore Corp. has not been valid since September 2015, the KEAC would like to be informed of the next steps envisaged by the project proponent for its project and the expected positions of the Provincial Administrator regarding a possible renewal of its directive and a continuation of the environmental and social assessment.

In light of the circumstances, the KEAC recommends that the Provincial Administrator ensure that the community of Aupaluk is clearly informed of the project proponent's intentions regarding the Hopes Advance iron mining project. As well, the KEAC would like to obtain information regarding the possible future of the project and, should Oceanic Iron Ore Corp. indicate its intention to continue with the project, the position of the Provincial Administrator regarding the production of a new directive and the continuation of its environmental assessment, taking into consideration the KEAC questions above regarding the triggering of the substitution and equivalence mechanism identified under the *Canadian Environmental Assessment Act*.

Sincerely,

Michael Barrett
Chairperson

c.c. Ron Hallman, Federal Administrator, James Bay and Northern Quebec Agreement
Peter Jacobs, Chairperson, Kativik Environmental Quality Commission

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June, 2013

Mr. Yves LeBoeuf
President
Canadian Environmental Assessment Agency
160 Elgin St. 22nd Floor
Ottawa, ON
K1A 0H3

Subject: Hope's Advance Iron Mining Project in Nunavik Quebec.

Dear Mr. LeBoeuf,

On behalf of the Kativik Environmental Advisory Committee (KEAC), this is to acknowledge receipt of the letter from the Canadian Environmental Assessment Agency (CEAA) dated April 24, 2013 in response to our concerns with regards to the Hope's Advance Iron Mining Project. The KEAC would like to bring to your attention Section 23.4.14 of the James Bay and Northern Quebec Agreement (JBNQA) which stipulates that the Federal Review Panel (COFEX-North) shall review all development projects subject to federal jurisdiction. The letter we received states that:

"*As the components of the Project that are located within the territory to which Section 23 of the JBNQA applies (in particular, the construction and operation of a mine) are primarily under provincial jurisdiction, I am satisfied that the federal procedure under Section 23 of the JBNQA should not apply*".

The project as proposed includes a marine infrastructure component which according to Schedule 1 of Section 23 of the JBNQA is automatically subject to environmental and social impact assessment.

We understand from your letter and other communications that the process stipulated in Section 18 of the Canadian Environmental Assessment Act (2012) has been triggered by this project and that a review panel has been established. The COFEX-North has been directly involved in the evaluation of marine infrastructure projects in Nunavik since 1999. More recently, the COFEX-North undertook the review of Nunavik Nickel's project to modify proposed marine infrastructures in Deception Bay. In early May 2013, public hearings were held in Kangisujuaq and Salluit with regards to this project.

We do not understand why the federal environmental assessment process under Section 23 of the JBNQA is not being applied to the Hopes Advance Iron Mining Project. It is our opinion that the COFEX-North process must also be triggered for the review of this project.

Sincerely,

Michael Barrett

Canadian Environmental Assessment Agency
President
160 Elgin St., 22nd floor
Ottawa ON K1A 0H3

Agence canadienne d'évaluation environnementale
Président
160, rue Elgin, 22e étage
Ottawa ON K1A 0H3

Ms. Sylvie Létourneau
President
Kativik Environmental Advisory Committee
P.O. box 930
Kuujjuaq, Quebec
JOM 1C0

APR 2 4 2013

Dear Ms. Létourneau:

Thank you for your letter of February 11, 2013, regarding the environmental assessment of Hopes Advance Iron Mining Project (the Project).

With respect to the discrepancies found between the Project Descriptions provided by the proponent to the federal and provincial authorities, the Canadian Environmental Assessment Agency (the Agency) recognizes that, at this stage, information about a project is often preliminary and that projects are better defined from the moment proponents submit their impact assessment. Under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), changes to the proposed project can be accommodated during the ongoing environmental assessment process.

We note your comments regarding various environmental assessment procedures that apply to the Project and the potential risk of confusion for the participants in the processes. To address these situations, the Agency is developing collaborative approaches with the various review bodies. The Agency and the Nunavik Marine Region Impact Review Board (NMRIRB) have already established cooperative ties where the Agency and NMRIRB will coordinate public consultation activities to promote the participation of the Nunavik Inuit. The Agency has also approached the Ministère du Développement durable, de l'Environnement et des Parcs to discuss opportunities for coordinating assessment activities. In addition, the Agency also met the Mayor and people of Aupaluk to explain the environmental assessment process under CEAA 2012.

.../2

With respect to your comment regarding the federal procedure under the *James Bay and Northern Quebec Agreement* (JBNQA) for the Project, we are aware that the Provincial Administrator has submitted the Project Description to the provincial procedure under the JBNQA. As the components of the Project that are located within the territory to which section 23 of the JBNQA applies (in particular, the construction and operation of a mine) are primarily under provincial jurisdiction, I am satisfied that the federal procedure under section 23 of the JBQNA should not apply. Such an approach is consistent with the principle that there should generally be only one Administrator involved in the review of a project under section 23 of the JBNQA. This approach also meets your stated objective to simplify processers for projects review.

Yours sincerely,

Elaine Feldman

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Comité consultatif de l'environnement Kativik
Kativik Environmental Advisory Committee

February 11, 2013

Ms. Elaine Feldman
President
Canadian Environmental Assessment Agency
22nd Floor, Bell Place
160 Elgin Street
Ottawa ON K1A 0H3

Subject: Environmental assessment procedure applicable to the Hopes Advance Iron Mining Project

Dear Madam:

The Kativik Environmental Advisory Committee (KEAC) was created pursuant to Section 23 of the *James Bay and Northern Québec Agreement* (JBNQA) and is governed by the *Environment Quality Act* (R.S.Q., c. Q-2) and the *James Bay and Northern Québec Native Claims Settlement Act* (S.C. 1976-1979, c. 32). The KEAC acts as a consultative body for responsible governments regarding environmental and social protection in Nunavik (JBNQA, paragraphs 23.5.24 and 23.5.25). The KEAC is therefore the preferential and official forum for the governments of Canada and Québec, as well as the Kativik Regional Government and the northern villages.

During the KEAC's 134th meeting held in Kuujjuaq, Québec, on December 5–7, 2012, the members discussed the Hopes Advance Iron Mining Project. Under the project, Oceanic Iron Ore Corp. has proposed the construction, exploitation and decommissioning of an iron ore mine and all related infrastructure, including roads, an airport, worker accommodations, mine tailings sites, a pipeline, a power plant and a sea port.

The project was sent to the Canadian Environmental Assessment Agency and a decision was made regarding its coverage under the *Canadian Environmental Assessment Act* (CEAA 2012) based on a project notice submitted in August 2012. Under the Québec review procedure, a project notice was also submitted to the Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs du Québec (sustainable development, environment, wildlife and parks, MDDEFP) in January 2012.

Firstly, the KEAC feels it is pertinent to point a number of differences contained in the two project notices, specifically:

- The project territory differs. In one document it is noted at 33,100 hectares and the other it is noted at 49,100 hectares (a gain of 366 claims).
- The number of open pits changed from 10 to "several".
- The details regarding powering the mining facilities vary from a connection with a future Hydro-Québec grid system, to a self-generated power plant fuelled by petroleum products, to the possibility of using liquefied natural gas.
- The timelines regarding the commencement and longevity of the project vary in the two documents.
- The length of the pipeline that will carry slurry concentrate to the sea port varies from 21 to 26 kilometres.
- The distance of the road connecting the concentrator and mine area to the port site also varies from 21 to 26 kilometres.
- Details regarding the airstrip vary between updating and extending the current airstrip located in Aupaluk, to upgrading the existing historical airstrip located on the north side of Hopes Advance Bay.
- Details regarding camp facilities vary between each document, including location, number of camps, size and capacity.
- The number and location of the waste rock stockpiles as well as the tailings management facilities vary in each document.
- The January 2012 document describes subsequent phases and related projects in two other locations in the Hopes Advance area where the August 2012 document does not.
- Only the August 2012 document outlines concerns from Inuit communities and organizations voiced during several consultations carried out to date.

Although the project notices are only preliminary descriptions and the project will eventually be more clearly defined in the impact assessment studies to be prepared by the project proponent, the KEAC is concerned that there are so many important differences for such a large project. The KEAC believes it is essential that the different review bodies concerned conduct their analyses based on the same information for the same project.

As well, this project is subject to the environmental assessment requirements set out in Section 23 of the JBNQA. On the one hand, the Provincial Administrator has submitted the project to the Québec procedure set out that section. The project involves mining and is therefore subject to provincial jurisdiction. On the other hand, certain components of the project fall under federal jurisdiction and would seem to require the implementation of the federal procedure set out in Section 23 of the JBNQA and the involvement of the Environmental and Social Impact Review Panel (COFEX-North) to assess the project's environmental and social impacts. The KEAC therefore finds it unusual that the federal procedure under the JBNQA was not implemented.

In addition to these requirements, the project is also subject to the environmental assessment procedure under the *Nunavik Inuit Land Claims Agreement* (NILCA) due to its impacts on the Nunavik marine region. A third impact study will therefore be necessary.

The KEAC is of the opinion that the implementation of these different environmental assessment procedures will not foster an efficient, coherent and understandable process. The overlapping procedures will generate confusion in the Inuit communities affected by the project and will prevent their proper participation in the project assessment. In addition to considerable costs for the governments and project proponent, additional delays can only be expected in such a context before all the necessary authorizations can be obtained.

The KEAC also finds it unusual that two federal environmental assessment procedures are to be carried out for this project and wonders why the mechanisms provided in the CEAA 2012 have not been implemented for the purpose of applying a single procedure. Because the project will entail significant social impacts, in particular for the community of Aupaluk, the KEAC believes that the impact review must be carried out under the framework of the procedure provided for in Section 23 of the JBNQA rather than the procedures provided for under the CEAA 2012 and the NILCA. The KEAC feels that the JBNQA procedure ensures a better framework for reviewing the project's social impacts and for proposing appropriate mitigation and compensation measures for the Inuit of Nunavik.

In conclusion, the KEAC hereby requests responses to these questions and would like to see the environmental assessment procedures simplified so that the northern communities concerned are given a clearer understanding of and better enabled to participate in the process, while ensuring development that complies with the principles of sustainable development and the protection of Nunavik's natural and social environments.

Respectfully,

Sylvie Létourneau
Chairperson

c.c. Diane Jean, JBNQA Provincial Administrator
M. Peter Jacobs, President, Kativik Environmental Quality Commission
Putulik Papigatuk, President, Nunavik Marine Region Impact Review Board
Claude Langlois, Chairperson, COFEX-North

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Comité consultatif de l'environnement Kativik
Kativik Environmental Advisory Committee

Le 8 février 2013

Madame Elaine Feldman
Présidente
Agence canadienne d'évaluation environnementale
22e étage, Place Bell
160, rue Elgin
Ottawa (Ontario) K1A 0H3

Objet : **Processus d'évaluation environnementale s'appliquant au projet de mine de fer Hopes Advance**

Madame la Présidente,

Le Comité consultatif de l'environnement Kativik (CCEK) a été créé en vertu du chapitre 23 de la Convention de la Baie-James et du Nord québécois (CBJNQ) et est régi par la Loi sur la qualité de l'environnement (L.R.Q., c. Q-2) et la Loi sur le règlement des revendications des autochtones de la Baie James et du Nord québécois (S.C. 1976-1979, c. 32). Il est un organisme consultatif en matière de protection de l'environnement et du milieu social au Nunavik auprès des gouvernements responsables (CBJNQ, al. 23.5.24 et 23.5.25). Il est donc l'intermédiaire privilégié et officiel des gouvernements du Canada et du Québec, ainsi que de l'Administration régionale Kativik et des villages nordiques.

Lors de la 134e rencontre du CCEK tenue à Kuujjuaq (Québec) du 5 au 7 décembre 2012, les membres ont eu l'occasion de discuter du projet de mine de fer Hopes Advance. Ce projet, d'Oceanic Iron Ore Corp., vise la construction, l'exploitation et le déclassement d'une mine de fer et de toutes les infrastructures qui y sont associées, notamment des routes, un aéroport, des camps d'hébergement de travailleurs, des sites de dépôts des résidus miniers, un pipeline, une centrale électrique et un terminal maritime.

Le projet a été transmis à l'Agence canadienne d'évaluation environnementale qui a statué sur son assujettissement à la Loi canadienne sur l'évaluation environnementale (LCÉE 2012) sur la base d'un avis de projet déposé en août 2012. Dans le cadre du processus d'examen provincial, un avis de projet a aussi été déposé au ministère du Développement durable, de l'Environnement, de la Faune et des Parcs du Québec (MDDEFP) en janvier 2012.

Premièrement, le CCEK tient à souligner les nombreuses disparités que présentent ces deux avis de projet, notamment :

- la superficie du territoire occupée par le projet est différente. Dans un document, elle est de 33 100 hectares, alors que dans l'autre elle est de 49 100 hectares (ce qui représente une différence de 366 claims);
- le nombre de puits à ciel ouvert est de 10 ou « plusieurs »;
- les détails concernant l'alimentation en électricité des installations minières sont divergents. Il est question d'un raccordement au futur réseau d'Hydro-Québec, d'une centrale électrique autonome alimentée par des produits pétroliers ou de la possibilité d'utiliser du gaz naturel liquéfié;
- le calendrier concernant le début et la durée du projet est différent;
- la longueur du pipeline qui transportera la boue concentrée jusqu'au terminal maritime est différente, passant de 21 à 26 kilomètres;
- la longueur de la route reliant le concentrateur et les installations minières au terminal maritime est également différente, passant elle aussi de 21 à 26 kilomètres;
- les détails concernant la piste d'atterrissage sont divergents. D'une part, il est question de la réfection et du prolongement de la piste qui est actuellement utilisée dans la communauté d'Aupaluk et, d'autre part, il est question de la réfection de la piste d'atterrissage utilisée autrefois sur la rive nord de la baie Hopes Advance;
- les détails concernant l'emplacement, le nombre, la taille et la capacité des camps d'hébergement des travailleurs sont différents dans chaque document;
- le nombre et l'emplacement des dépôts et des installations de gestion de résidus miniers sont différents dans chaque document;
- le document de janvier 2012 décrit les phases subséquentes et les projets connexes à deux autres emplacements dans les environs de la baie Hopes Advance, alors qu'il n'en est pas fait mention dans le document d'août 2012.
- seul le document d'août 2012 décrit les préoccupations qu'ont exprimées des communautés et des organismes inuits lors de plusieurs consultations qui ont été tenues à ce jour.

Bien qu'il s'agisse de descriptions préliminaires et que le projet sera éventuellement mieux défini dans les études d'impact qui seront déposées par le promoteur, le CCEK s'inquiète de ces différences pour un projet d'une aussi grande envergure. Le CCEK considère essentiel que les différents organismes d'examen puissent appuyer leur analyse sur les mêmes renseignements et sur le même projet.

Par ailleurs, ce projet est assujetti aux exigences en matière d'évaluation environnementale du chapitre 23 de la CBJNQ. D'une part, l'administrateur provincial a soumis le projet à la procédure québécoise de ce chapitre puisqu'il s'agit d'un projet de mine qui relève de la compétence provinciale. D'autre part, certaines composantes du projet sont de compétence fédérale et semblent nécessiter l'application du processus fédéral du chapitre 23 de la CBJNQ et la participation du Comité fédéral d'examen des répercussions sur l'environnement et le milieu social (COFEX-Nord) pour évaluer des impacts environnementaux et sociaux du projet. Le CCEK se questionne donc sur l'absence de l'application de ce processus fédéral.

En plus de ces exigences, le projet est également assujetti au processus d'évaluation environnementale prévu dans l'Accord sur les revendications territoriales des Inuit du Nunavik (ARTIN), car il a des répercussions sur la région marine du Nunavik. Une troisième étude d'impact sera donc nécessaire.

Les membres du CCEK considèrent que l'application de ces nombreuses procédures d'évaluation environnementale ne favorisa pas une démarche efficiente, cohérente et compréhensible. Il s'agit de dédoublements de procédures qui engendreront confusion au sein des communautés inuites concernées par le projet et ne leur permettront pas d'intervenir adéquatement dans l'évaluation du projet. En plus des coûts importants pour les gouvernements et le promoteur, des délais supplémentaires pour l'obtention de toutes les autorisations nécessaires sont à prévoir dans un tel contexte.

Les membres du CCEK s'interrogent aussi sur le fait d'appliquer deux procédures fédérales d'évaluation environnementale pour ce projet et se demandent pourquoi les mécanismes prévus à la LCÉE 2012 n'ont pas été utilisés afin qu'un seul processus soit appliqué. De plus, comme ce projet fait planer des impacts sociaux importants, notamment pour la communauté inuite d'Aupaluk, le CCEK croit que l'examen de ces impacts devrait se faire dans le cadre de la procédure du chapitre 23 de la CBJNQ plutôt que dans celui du processus de la LCÉE 2012 ou dans celui de l'ARTIN. Le CCEK pense que le processus prévu à la CBJNQ pourra mieux encadrer ces impacts sociaux et proposer des mesures d'atténuation ou de compensation adéquates pour les Inuits du Nunavik.

Enfin, les membres du CCEK aimeraient obtenir des réponses à ses questions et souhaitent une simplification des procédures d'évaluation environnementale afin de permettre aux communautés nordiques une meilleure compréhension du processus et une plus grande participation, et ce, tout en assurant un développement harmonieux dans le respect des principes de développement durable et de la protection de l'environnement et du milieu social du Nunavik.

Je vous prie d'agréer, Madame la Présidente, l'assurance de ma considération distinguée.

La présidente,

Sylvie Létourneau

c. c. Mme Diane Jean, administrateur provincial de la CBJNQ
M. Peter Jacobs, président, Commission de la qualité de l'environnement Kativik
M. Putulik Papigatuk, président, Commission de la région marine du Nunavik chargée de l'examen des répercussions
M. Claude Langlois, président, COFEX-Nord

C. P. 930, Kuujjuaq QC J0M 1C0
Tél. : 819-964-2961, poste 2287 • Téléc. : 819-964-0694
Courriel : keac-ccek@krg.ca

Chris Chin

From: Chris Chin [cchin@krg.ca]
Sent: December-06-12 5:00 PM
To: Nancy Dea (nancyldea@gmail.com)
Subject: FW: FYI - Notes on newest Oceanic project proposal Hopes advance and Red dog lake

Christopher Chin
Blackberry: (819) 383-1103

From: Christopher Chin
Sent: August-31-12 3:41 PM
To: Michael Barrett
Cc: Selena Whiteley (SWhiteley@krg.ca)
Subject: FYI - Notes on newest Oceanic project proposal Hopes advance and Red dog lake

Mike,

A few observations on Oceanic's newest project proposal. It is the revision #3 of the August 2012 document.
Highlights:

- Project is still 48 year life span for the mine;
- Property is bigger as they must have acquired more claims moving from 33,100 hectares to 49,100 hectares (a gain of 366 claims);
- 2 open pits have been added bringing the total to 10; from "several" to 10
- Total NI 43-101 estimates is now 1.268 billion tons in the pit up from 1.030 billion tons;
- Same road, pipeline, camp, concentrator and dock facilities;
- The concentrator and housing is on the North East end of Red Dog Lake. Operational capacity is 500 persons to take into account transition of personnel.
- A smaller camp is at the dock facility and will house 25 to 50 people; more detail in CEAA doc.
- Peak capacity of permanent and temporary camps is 1,750 workers during construction;
- Dewatering facility at Hopes Advance instead of a pelletizer;
- Hydro Quebec grid service is still discussed, but is officially not part of the start-up 10 million tons per year capacity;
- Option to generate power with Liquefied Natural Gas is to be looked at;
- Oceanic states that Hydro grid connection is need to move up to target of 20 million tons per year;
- Shipping will be 56 per year at 180,000 dead weight tons and 10 million tons of ore. Use of 240,000 dwt summer ships can help reduce traffic. At 20 million tons of ore per year, there will be ships every 3.3 days.
- All project sites are on category III lands;
- Timeline:
  - Feasibility: 2012-2013 2011 - 2013
  - Environmental and social impact assessment: 2011-2014 2011 - 2013
  - Construction: 2014-2016 2014 - 2016
  - Start-up 2016-2017 2015 - 2014
  - Production: 2016-2065
  - Closure and restoration: 2065-2068

Jan August
pipeline 21 - 26 km

If you need further details, please let me know.

Christopher Chin

Assistant Director - Environment & Lands
Kativik Regional Government
(819) 964-2961 loc.2254

location to be determined → to actual location @ site

Subsequent projects @ Roberts + Moyer Lake → not in CEAA doc

Atmospheric contaminants (GHG) in CEAA doc

~~Stated~~

Malrivik study on land + resources use in Nunavik ? (in CEAA doc)

Added photos

OCEANIC
IRON ORE CORP

OCEANIC IRON ORE CORP.'S HOPES ADVANCE PROJECT PROPONENT'S PRELIMINARY INFORMATION

Sent to KEQC

Date: January 2012
Reference n°: 006-11-1222-0008 RA Rev0

Golder Associés

Table of Contents

TABLES

FIGURE

1.0 PROJECT PROPONENT

Name:	Oceanic Iron Ore Corp.
Address:	999 Maisonneuve Blvd W., Suite 560 Montréal QC H3A 3L4
Telephone:	514-289-1183
Fax:	514-289-1188
E-mail:	ec@oceanicironore.com
Project manager:	Eddy Canova
Certification number from Registraire des entreprises du Québec	1167151118

2.0 CONSULTANT MANDATED BY THE PROJECT PROPONENT

Name:	Golder Associés Ltée
Address:	9200 de l'Acadie Blvd. Suite 10 Montréal QC H4N 2T2
Telephone:	(514) 383-0990
Fax:	(514) 383-5332
E-mail:	r_methot@golder.com
Project manager:	Red Méthot
E-mail:	c_guay@golder.com
Project director:	Christine Guay

3.0 PROJECT NAME

"Hopes Advance Project"

4.0 OBJECTIVES AND JUSTIFICATION OF THE PROJECT

The high demand for metals, including iron, on the world market encourages mineral exploration and investment in subsequent developments. The Hopes Advance Project concerns the development of a deposit containing economic grades of iron ore. Demand for iron ore is high and is expected to continue to rise, as China continues its growth and other emerging economies develop.

The iron deposits owned by Oceanic Iron Ore Corp. in Québec include three areas: the Roberts Lake Area, the Morgan Lake Area and the Hopes Advance Area. Only the Hopes Advance Area is part of the current project description. Of the three, Hopes Advance Area iron deposit is the most advanced of the project. Extensive exploration drilling, metallurgical test work, process development, and an economic assessment have already been completed. An NI 43-101 global resource of 461.5 million tonnes Fe at 32% indicated and 1,030.5 million tonnes Fe at 32.3% inferred using a 25% cut-off grade has been published by Oceanic Iron Ore Corp.

5.0 LOCATION OF THE PROJECT

The Project is located in the region of Nunavik in Québec, on the western side of Ungava Bay, and close to the northern village of Aupaluk (Figure 1). The centroide of the project area is approximately 69° 58' 40.265" W / 59° 17' 9.631" N.

Besides Aupaluk, the nearby communities are Kangirsuk (around 80 km north of Aupaluk) and Tasiujaq (around 70 km south of Aupaluk). Kuujjuaq, the largest community of Nunavik, is located approximately 150 km south of Aupaluk.

The Project falls within Inuit territory governed by the James Bay and Northern Québec Agreement (JBNQA). The majority of the claims are located on Category III lands. However, a portion of the claims is located south of Red Dog River that is on Category II lands, but at this time, no mining activity is planned on these lands.

There are no roads in Nunavik outside the villages. As such, air transportation keeps the communities connected year-round, and the summer sealift ensures the delivery of necessary non-perishable food and supplies. It should be noted that a local airport is located in the village of Aupaluk. Locally, the Inuit depend on snowmobiles, all terrain vehicles and motor boats for transportation and traditional activities.

6.0 OWNERSHIP OF THE PROPERTIES

The rights on the deposit of the Hopes Advance Area are owned by Oceanic Iron Ore Corp., which holds 766 claims covering 33,101 hectares. All the lands concerned by the Project are public domain. As mentioned above, the deposit is on Category II and III land. Figure 1 shows the delimitation of the Oceanic Iron Ore Corp. properties of the Hopes Advance Area.

7.0 DESCRIPTION OF THE PROJECT AND ITS ALTERNATIVES

The project description is based on currently available data and is only conceptual at this stage. It is subject to modifications in light of the results of an ongoing prefeasibility study, which should be completed in mid-2012.

7.1 Overview of the Project

The Hope Advance Project involves the development of an open pit mine (including 10 pits, see Figure 1). Based on the current scenarios published by Oceanic Iron Ore Corp., the mine is expected to generate from 10 to 20 million tonnes per year of concentrate product over a planned period of up to 48 years, corresponding to an average iron ore extraction rate of 72,000 to 144,000 tonnes daily.

The ore from the mine will be treated at the concentrator to be located near the mine (see Figure 1). The preliminary process flowsheet for the ore is based upon gravity separation of coarsely liberated, predominately specular hematite, with magnetic separation to recover the finer grained magnetite. Intermediate products will be reground in secondary milling steps and reprocessed to recover the liberated fine iron.

The concentrate will be pumped to the port area via a 21 km long concentrate pipeline to the pelletizer plant for shipping of the concentrate or to pelletize some of it using grate-kiln induration technology before shipment. The scenarios currently assessed assume production of 10 to 20 million tonnes per year of 66.5% iron concentrate with the possibility of up to 20 million tonnes per year of iron pellets.

7.2 Ore Deposit Mining

There will be a total of 10 pits in the Hopes Advance Area (see Figure 1). The conceptual design requires maintaining a minimum setback of 100 m from Ford Lake, Red Dog Lake, and the Red Dog River. Open pit mining in the Hopes Advance Area is envisioned as a conventional drill/blast/load/haul mining operation. The sequence would involve drilling 15-m benches followed by blasting, loading, and haulage to the concentrator or waste dump. Large front shovels would load blasted material into haul trucks which would then haul ore to the concentrator and waste to the waste dumps. Mining operation will be carried out on a 24 hour per day and 365 day per year basis.

The following sections give an overview of the geology and mineralization of the Project area as well as main mineral processing techniques.

7.2.1 Geology and Mineralization

Located at the north end of the Labrador Trough, the mineralized ores within the Ungava Iron properties are composed basically of magnetite and hematite (hematite >magnetite).

The Labrador Trough or New Québec Orogen is a Paleoproterozoic (1,840 billion years ago (Ba)) fold and thrust belt that is situated between the Archean aged Superior and Rae Provinces. The iron formation in the Labrador Trough has been dated at 1,880 Ga ±2 million years (Ma), and the area presents the iron mineralization deposit type, with sparse iron formation outcrop. Chert-magnetite-hematite iron formation is overlain by spotted chert-carbonate rock. The iron formation in the Hopes Advance Area can be traced over a length of approximately 30 km and contains at least eight iron deposits.

The iron formation has been extensively metamorphosed, faulted, and folded. The Hopes Advance Area contains fold-thickened portions of the iron formation. The Sokoman Iron Formation is the stratigraphic/geological control of the iron mineralization in the region. Strong folding has resulted in a structural influence on the iron formation.

Low-grade iron formations such as those present in the Ungava Bay region of Northern Québec occur predominately as oxides with silica as the principal impurity. The iron oxides occur in two forms, magnetite, in which the iron mineral is magnetic, and hematite, a non-magnetic form of iron oxide.

In reference to the mineralogy, photomicrographs show the relatively simple mineralogy of the iron formation of the Ungava Iron Ore properties, with potential variation in grain size affecting the potential liberation and recovery of iron oxides.

Using the estimated cut-off grade of 25.0% iron, the Hopes Advance Area iron deposits have a global mineral resource as shown in Table 1.

Table 1: Hopes Advance Area In-pit Mineral Resources Estimate at a Cut-off Grade of 25.0% Fe

Classification	Tons	Fe (%)	Concentrate (Tons)
Measured (M)	0	0.0	0.0
Indicated (I)	461,533,000	32.0	177,541,000
M+I	461,533,000	32.0	177,541,000
Inferred	1,030,455,000	32.3	401,004,000

7.2.2 Mineral Processing

The type of iron formation of the Hopes Advance Area contains a variety of ore types that can all be grouped into the concentrating ores category. Concentrating ores are typically composed of magnetite and/or hematite and silicate minerals at relatively low grades (20-30% Fe) that require grinding to liberate magnetite and/or hematite from the silicate minerals. Magnetite is concentrated by magnetic methods and hematite is concentrated by gravity or flotation methods.

The process flowsheet for the Hopes Advance Area ore will be based upon gravity separation of coarsely liberated, predominately specular hematite, with magnetic separation to recover the finer grained magnetite. Intermediate products will be reground in secondary milling steps and reprocessed to recover the liberated fine iron.

Mineral processing facilities for the Project will comprise a concentrator that will be located near the mine (just north of Red Dog Lake), with a combination of spirals and magnetic separation and potentially a pelletizing plant that will be located in the port area (see Figure 1). In the concentrator, the mineral processing operations will involve the crushing and grinding of the ores to a size fine enough to free the iron mineral from the silica waste. If the hematite particles are coarse enough, the difference in specific gravity between heavier iron minerals, and

the silica can be exploited and gravity separation utilized. Magnetic separation may be used for finer magnetite particles.

Typical equipment such as spirals and thickening tanks are employed to segregate the heavier, iron rich stream from the waste. For finer iron mineralization, froth flotation is used on the iron oxide-silica slurry. This process utilizes reagents that have a specific affinity for iron or silica. The reagents, along with flotation machines, are used to mechanically separate the two minerals. In a flotation machine, utilizing the proper chemicals, air is introduced to the iron oxide-silica slurry. The air, along with the process chemicals, causes one of the two mineral species to attach itself to an air bubble and float to the surface.

Concentrate will be pumped to the pelletizing plant in the port area via a 21-km long concentrate pipeline (see Figure 1). Concentrate from this pipeline will then be filtered to achieve an acceptable moisture level for shipping or pelletized using grate-kiln induration technology. Products would be stored or directly loaded onto a ship for final delivery to a steel plant.

In the pelletizing process, the iron ore concentrate is dewatered and usually formed into 10-mm diameter balls. These balls are hardened by firing in a special furnace to produce pellets for transport to blast furnaces where the iron ore pellets will be converted into steel.

7.3 Mine Waste Management

7.3.1 Waste Rock

Three preliminary waste dump areas were designed for a capacity of about 1.4 billion Tonnes (Figure 1). However, further environmental, social and technical studies are needed to determine their exact location. Preliminary waste dump locations were selected to avoid sitting on potential iron formation. The Southwest waste dump is designed to handle waste from Castle Mountain, Zone 2, and Zone 4 pits. The Northwest waste dump is designed to handle waste from the Iron Valley Pit. The North waste dump is designed to handle waste from all of the Bay Zone Pits. All of the waste dumps have been designed with excess storage capacity to allow potential mine expansion in the future.

7.3.2 Tailings

Preliminary data indicates a life-of-mine production of over 750 million tonnes of tailings. The location of the tailings management facilities (TMF) is not yet determined. A full assessment of alternative sites, including supporting geotechnical, geochemistry, environmental and social investigations, will be carried out within the coming months.

7.4 Industrial Water Management

Industrial water management include the following components: mine water, waste dumps run-off, TMF run-off, industrial site run-off (e.g., concentrator area), and excess process water.

According to the topography, the mine sites will be partly surrounded by a network of ditches that will divert clean surface runoff water toward the receiving bodies of water. Water will be recycled as much as possible and only a small proportion of fresh water will be required in the mineral processing. The fresh water will come from an

undetermined natural water body. All industrial wastewater will be managed according to its quality and the environmental discharge objectives, that is to say:

- storage for settling and polishing; and
- treatment, if required, followed by discharge in the receptor body of water.

At this time, the location of the outfall is not yet determined.

7.5 Petroleum Products Management

Use of diesel, fuel oil, gasoline, liquefied natural gas and coal is anticipated for the Project. Storage and management of these products will be required in the mine, concentrator and the pelletizing plant/port areas. Special storage equipment will be needed for liquefied natural gas.

Petroleum products will be used to operate machinery, to fuel ships, in the mineral processing and for emergency generators. In addition, petroleum products may be used as sole power source during the construction phase and until Hydro-Québec's power line is in operation.

7.6 Explosive Management

Explosive storage facilities will be located close to the mine pits. Exact locations have not been determined at this stage of the Project.

7.7 Deep-Water Port, Shipment and Related Equipment

7.7.1 Deep-Water Port

A preliminary design of the port facility required for the Hopes Advance Project has been done. The assumptions were for the shipment of 10 to 20 million of tonnes per year of iron ore products to steel mills in Europe and Asia, with marine structures designed for a 365 days per year operation.

Three potential locations were evaluated for the construction of the proposed port facility and its onshore infrastructure. The preliminary criteria for the site selection were the distance from the concentrator, the distance from onshore facilities to deep water port and shelter water (required for ship loading operation). Further analysis will be performed to include environmental and social criteria for the port site selection.

The proposed marine facilities consist of: an iron ore wharf (330 m), a tug boat wharf (90 m), a commercial wharf (240 m), and a causeway (328 m). The wharf is a caisson gravity base structure containing hollow concrete pre-cast boxes for the iron ore wharf, commercial and tug wharf in a series configuration. Each caisson is 30 m X 30 m X 42.5 m. The gravity structure compartments are filled with sand/rock, when connected together. The caisson will be submerged without hammering and anticipated dredging is limited to the preparation of a flat base to place the caissons. The wharf will be equipped with ship loading equipment and conveyor systems. No dredging is anticipated for the vessel approach channel. Total superficies occupied by wharfs will be around 2 ha. Moreover, area from the shore to the wharf and causeways including tidal flat will need to be filled (around 20 ha).

7.7.2 Shipment

The shipment of iron ore from the Hopes Advance Project to European and Asian markets requires navigation through Ungava Bay and the entrance to Hudson Strait and Labrador Sea. During winter, 180,000 DWT[1] ice class vessels will be used, while 240,000 DWT vessels will be used during ice-free season. For other shipping requirements (such as consumables, spare parts, etc.), it is assumed that general cargo will be transported in 10,000 DWT vessels. Delivery of fuel oil will be in 25,000 DWT ice-class tankers.

The Arctic Shipping Pollution Prevention Regulations regulate navigation north of 60° through the Zone/Date System. The proposed Hopes Advance Bay port location is outside the Zone/Date System, but vessels have to navigate through Zone 15. Currently, all year commercial shipping in Zone 15 is to Deception Bay to service the Raglan mine in northern Nunavik.

The number of required shipments by 180,000 DWT vessels is 56 for 10Mt/y production, and 111 for 20Mt/y. Consequently, vessels must depart on average every 3.3 days for the 20Mt/y production scenario. It should be noted that an alternative scenario would be to raise ice-free season shipping volumes and reduce winter shipping volumes.

7.7.3 Onshore Related Equipment

Iron Ore Conveyor

Iron ore products will be reclaimed by a slewing type bucket stacker/reclaimer with reclaiming capacity of 16,000 tonnes per hour. Belt conveyors will convey reclaimed iron ore products from the stockyard to the shiploader at the berth for ship loading operation.

Shiploading Equipment

The iron ore berth at Hopes Advance Bay will have the capability to load ocean-going vessels up to 240,000 DWT. The shiploader will be a standard long-travel shiploader with slewing and luffing capability. The shiploader loading capacity will be 16,000 tonnes per hour.

7.8 Ancillary Infrastructures

Besides the mine, concentrator, pelletizing plant and the port facilities, additional infrastructure will be required to support the operation. The main additional infrastructures are described below.

7.8.1 Concentrate Pipeline

It is planned that a 21 km long buried pipeline will transport slurried concentrate to the port site (Figure 1). The pipeline will be 14 inches in diameter for the 10 tonnes per year concentrate production scenarios and 20 inches in diameter for the 20 tonnes per year scenarios. A water pipeline from the dewatering facilities (pelletizing plant) in the port area returning to the concentrator has also been included. The pipeline route is preliminary, but it is anticipated that water crossing will be needed.

[1] Deadweight tonnage

7.8.2 Site Roads

A 21 km long permanent road connecting the concentrator and mine area to the port and worker camp site areas will be part of the Project. Road access to other Project infrastructure such as the waste dumps and TMF will also have to be constructed. The road route is not determined yet, but it is anticipated that a water crossing will be needed.

7.8.3 Worker Camp

A permanent camp will be included to provide accommodation for the workers during construction and operation. The camp will house approximately 650 to 1,400 people, including an allowance for transitional occupancy during turnarounds and for inoperable occupancy. The provisional location for the permanent camp is near the port site. A temporary camp is anticipated for the construction phase. Its location has not yet been determined.

Sewage systems, waste disposal facility and fresh water supply will service the camps.

7.8.4 Service Buildings

A building complex will be required in the concentrator area to house the offices, maintenance shops, warehouse, analytical and metallurgical testing laboratory, and changing rooms.

Similarly, the port area operations will require office spaces for various disciplines, warehouses, maintenance garage, etc.

7.9 Reclamation and Closure

At this stage in Project development, a reclamation and closure plan has not been developed. A site restoration plan will be submitted to the Ministère des Ressources Naturelles (MRNF) before the beginning of the construction phase. Discussions will be held with the Inuit with regards to potential reuse of some facilities/infrastructures by them.

7.10 Infrastructures External to the Project

Some important infrastructures will have to be built in order to support the mine operations. However, Oceanic Iron Ore Corp. is not the proponent of these projects and they are not intended for the exclusive of the Hopes Advance Project.

7.10.1 Power Line

Oceanic Iron Ore Corp. is exploring the option of tying into the Hydro Québec power grid with the installation of a new power line from the most suitable northern Quebec generating station (possibly Brisay or Laforge 2) to the mine site. The needs of the Hopes Advance Project will be about 250 to 300 MW.

7.10.2 Airport

The existing airstrip in Aupaluk will need to be improved to meet the requirements of a large mining operation, notably by extending its runway.

8.0 ENVIRONMENTAL COMPONENTS AND MAIN CONSTRAINTS TO THE PROJECT

8.1 Physical Environment

Physical components include hydrology and coastal processes; surface water and sediment quality; hydrogeology and groundwater quality; soil and terrain; climate and air quality; and noise and vibrations. The next section describes the components from which relevant data are already available.

8.1.1 Hydrology and Coastal Processes

The watercourses within the Project region belong to the Hudson Bay Seaboard drainage basin, and more specifically, the Leaf River watershed. The main lakes within the region (i.e., Ford, Red Dog, Ippialuup and Ungallijuap Qamaninga lakes) all drain into the Red Dog River, which in turn flows into Hopes Advance Bay, a part of Ungava Bay. With a mean tidal range of 8.2 metres, Hopes Advance Bay is amongst the top 30 locations around the world where the largest range of tides has been observed. Normally, Ungava Bay begins to freeze up around mid-November and ice begins to break up around mid-June, creating a seven month cover.

8.1.2 Surface Water and Sediment Quality

Water and substrate of fine particles were collected in September 2011 in lakes and watercourses of the Project region for analysis.

Preliminary water quality analysis showed low nutrient concentrations typical of oligotrophic and uncontaminated lakes. Typically the metals concentrations were below detection limits, and below federal or provincial guidelines.

In general, preliminary sediment quality analysis showed low metal concentrations into lake and river sediments.

8.1.3 Soil and Terrain

Surficial deposits within the Project region consist mainly of sediments deposited from meltwater and floating ice in marine waters, during deglaciation and subsequent regression that have been classified as lag glaciomarine deposits. Also found in the Project region are till blanket (thick and continuous) and till veneer (thin and discontinuous, areas of rock outcrop) glacial deposits.

The land within the Project region is inclined towards Ungava Bay, which is surrounded by land that is at sea level. Furthermore, aside from a series of low hills reaching a maximum height of around 110 metres north of Ford Lake, the rest of the Project region is relatively flat (mean elevation of around 40 m), and has been grouped within a slope gradient class of 10-15%.

The Project region is located within the zone of continuous permafrost, within which the layer of permafrost can reach thicknesses of about 25 m.

8.2 Biological Environment

Biological components include vegetation and wetlands, mammals, birds, reptiles, amphibians and fish/fish habitat. Particular attention has been paid to protected areas and to species of special concern.

8.2.1 Protected Areas

The closest protected area, located 15 km South of the mining site is called the *Réserve de parc national du Québec de la Baie-aux-Feuilles*. This area is entirely located outside of the Project works and activities.

No *Zone importante pour la conservation des oiseaux* (ZICO) has been identified within the Project region.

8.2.2 Vegetation and Wetlands

The Project region is located within the low subarctic, shrub arctic tundra bioclimatic domain. In this domain, willows (*Salix* spp.) and dwarf birch (*Betula nana*) grow alongside herbaceous species (mostly graminoids), mosses and lichens. The vegetation canopy rarely grows beyond two metres, and it is only arctic willows that can reach this height.

The Project region is found within the natural province of the Ungava Bay basin (called natural province K), an area of 103,000 km^2 of which 3,136 km^2 consist of wetlands. These wetlands, which are for the most part unclassified, likely include:

- Peatlands as well as swamps and marshes bordering lakes and streams;
- Important wetlands in some estuaries and sheltered bays along Ungava Bay; and
- Fens and palsa bogs (influenced by the permafrost) along the Ungava Bay coast.

8.2.3 Mammals and Birds

Those large mammal species are present in the Project region: caribou (*Rangifer tarandus,* Leaf River caribou herd), muskox (*Ovibos moschatus*), red foxes (*Vulpes vulpes*), marten (*Martes americana*), wolves (*Canis lupus*), polar bears (*Ursus maritimus*), Canada lynx (*Lynx canadensis*), and arctic foxes (*Alopex lagopus*). The habitat is suitable for Wolverine (*Gulo gulo*), but they have been no verified reports of this species in Québec since 1978.

The following marine mammals (amongst others), based on their general distribution, may frequent Hopes Advance Bay: harbour seal (*Phoca vitulina*), bearded seal (*Erignathus barbatus*), ringed seal (*Pusa hispida*), beluga whale (*Delphinapterus leucas*, Ungava Bay population) Sei whale, (*Balaenptera borealis*) and Blue whale (*Balaenoptera musculus*).

Some 37 bird species were reportedly observed in the Red Dog Lake area. Most of them only migrate through the region, but the Peregrine falcon (*Falco peregrines*)) use the area for reproduction and 5 more species may potentially use the area for this same purpose: Snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), Greater scaup (*Aythya marila*), Herring gull (*Larus argentatus*) and King eider (*Somateria spectabilis*). Among the species observed are Peregrine falcon, Golden eagles (*Aquila chrysaetos*), Common eiders (*Somateria mollissima*), Black guillemots (*Cepphus grylle*), Surf scoter (*Melanitta perspicillata*), and several species of seagulls.

8.2.4 Reptiles and Amphibians

No reptile or amphibian species distributions go as far north as the Project region.

8.2.5 Fish and Fish Habitat

The following fish species have been captured during gillnet and electric fishing surveys performed in September 2011:

- Lake trout (*Salvelinus namaycush*)
- Arctic char (*Salvelinus alpinus*)
- Brook trout (*Salvelinus fontinalis*)
- Round whitefish (*Prosopium cylindraceum*)
- Mottled Sculpin (*Cottus Bairdi*)
- Ninespine Stickleback (*Pungitius pungitius*)
- Threespines Stickleback (*Gasterosteus aculeatus*)
- Burbot (*Lota lota*)

Although not captured during September survey, the following fish species, amongst others, are also likely to frequent the Project surrounding area according to their general distribution: northern pike (*Esox lucius*), suckers (*Catostomus* spp.), lake whitefish (*Coregonus clupeaformis*) and some Cyprinid species. Amongst marine and anadromous species, Greenland halibut (*Reinhardtius hippoglossoides*), Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) inhabit Ungava Bay.

The marine benthic community of the region includes such species as, Iceland scallop (*Chlamys islandica*), blue mussels (*Mytilus edulis*) and clams (*Mya arenaria*) which can be found off the shores of Hopes Advance Bay.

8.2.6 Species of Special Concern

Some species or populations in the Project region are protected at the federal level by the Species at Risk Act (SARA) and/or at the provincial level by the Act respecting threatened or vulnerable species (LEMV). In addition, migratory bird species are protected by the Migratory Birds Convention Act (MBCA), 1994, administered by the Canadian Wildlife Service of Environment Canada in collaboration with the Canadian provincial and territorial governments.

According to the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ), no floristic species at risk or any important terrestrial habitats have been recorded within the Project region (Benoît Larouche, August 2011, pers. comm.). It should be noted, however, that the lack of special status species in the Project region may simply be a result of a lack of field investigations in this remote area of Québec.

The following special concern wildlife species are present in the Project region:

- Peregrine falcon *tundrius* (*Falco peregrinus tundrius*): susceptible of being designated threatened or vulnerable according to the LEMV and listed as a special concern species according to the SARA.
- Golden eagle (*Aquila chrysaetos*): listed as vulnerable according to the LEMV and not at risk according to Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

- Polar bear (*Ursus maritimus*): listed as vulnerable under the LEMV and of special concern by COSEWIC.
- Ungava Bay beluga whale (*Delphinapterus leucas*) population: susceptible of being designated endangered or vulnerable under the LEMV, has been designated endangered by COSEWIC and is under consideration for listing under the SARA.
- Eastern Arctic population of Bowhead whale (*Balaena mysticetus*): listed in Schedule 2 of SARA as endangered.

Based on their general distribution, the following species listed as a special status species might possibly be found in the Project region:

- Wolverine (*Gulo gulo*): designated threatened in Québec according to the LEMV and endangered according to SARA).
- Harlequin duck *(Histrionicus histrionicus*): designated as special concern species by SARA.
- Red knot *(Calidris canutus)*: susceptible of being designated threatened or vulnerable under the LEMV and endangered by COSEWIC.
- Rusty blackbird (*Euphagus carolinus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Short-eared Owl (*Asio flammeus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Atlantic cod *(Gadus morhua*): designated as special concern species by SARA.
- Fourhorn sculpin (*Triglopsis* (*Myoxocephalus*) *quadricornis*): susceptible of being designated threatened or vulnerable under the LEMV.

Note that although the Woodland caribou, muskox, Arctic char, Canada goose, snow goose , and ptarmigan (*Lagopus* spp) are not officially listed as a special status species at the provincial or federal levels, they warrant a special mention as they are important to the local Inuit population.

8.3 Human Environment

Human components include socioeconomic, land and resource use, archaeology, and landscape. The next section describes the components from which relevant data are already available.

8.3.1 Socio-economics

The Inuit community of Aupaluk is one of the fourteen Inuit communities in the Nunavik territory. In 2006, the total population in Aupaluk was 174, having increased by 9.4% since 2001. In 2006, the median age within the village of Aupaluk was 19.5 years, which is slightly younger than that of the Inuit population (22 years), and other indigenous groups (25 years), but is more than twice as young compared to the province of Québec (41 years).

Within the village of Aupaluk, 94.1% of the population can express themselves in Inuktitut (i.e., non-official language according to Statistics Canada), 60% of the population can converse in English, while 14.3% of the population can communicate in English and French.

The region is developing slowly and its economic situation is still difficult due to its dependence on government assistance. This limited development is attributed to the climatic constraints, the scattered resources, the distance from major cities and the lack of a skilled work force.

8.3.2 Land and Resource Use

Inuit subsistence and game harvesting (hunting, fishing and trapping) occurs along the coast as well as inland.

Large game hunting starts around mid-November and continues into mid-May. During the summer period, the Inuit spend more time fishing and hunting marine mammals. Of particular interest is that since 1998, licensed community hunts of the Bowhead whale (*Balaena mysticetus*) were permitted in Nunavik by the Federal Department of Fisheries and Oceans, when it was proven that the Bowhead, once almost at the point of extinction due to the activities of international whalers in the past two centuries, is now rebounding.

During meetings with Inuit representatives in September 2011, the species of importance to the Inuit of Aupaluk that were mentioned are arctic char, brook trout, lake trout, fox, polar bear, seal, geese, ptarmigan, and caribou.

The region surrounding Aupaluk is entirely within UGAF 96 and hunting area 23.

8.3.3 Archaeology

According to the ISAQ (*Inventaire des sites archéologiques du Québec*) database, 50 archaeological sites have been discovered near Aupaluk. The vast majority of those sites are located outside of the Project region. Only two archaeological sites are located close to some of the Project activities.

9.0 MAIN APPREHENDED IMPACTS

For the construction, operation and decommissioning phases of the Project, the identification of incidences addresses the physical, biological and human environments.

9.1 Physical Environment

The main environmental impacts that will be assessed for the physical environment are:

- potential contamination of soil and water: concerning accidental spillage of petroleum products and other contaminants;
- effects on surface water quality and availability: concerning water runoff modification, higher suspended matter associated with potential subsidence and erosion risks and potential contamination from effluents;
- effects on hydrodynamic conditions in Hopes Advance Bay that could be created by frequent visits of large sea vessels throughout the year;
- effects associated with air quality: concerning dust and contaminants originating from the operations;

- effects associated with noise and vibrations from the operations.

9.2 Biological Environment

The main environmental impacts that will be assessed for the biological environment are:

- effects on vegetation and wetlands: considering loss and modification caused by new infrastructures, especially open mine pits, waste dumps and TMF sites;
- effects on fish habitat and fish populations: considering loss and modification to fish habitat by new infrastructures, especially open mine pits, waste dumps and TMF sites, port infrastructure and water crossings; the effluents, and effects associated with drainage and erosion;
- effects on terrestrial and avian fauna; considering loss and change of habitat created by new infrastructures, especially open mine pits, waste dumps and TMF sites; perturbation caused by the workers' presence as well as noises and vibrations;
- effects on marine mammals: considering the port construction (dredging and potential blasting) and perturbation caused by vessel traffic.

For the biological environment, special attention will be given to species of concern and of interest to the Inuit.

9.3 Human Environment

As for the incidences on the social environment, the main aspects that will be assessed are the following:

- the current and anticipated future land and resource uses;
- the potential changes in traditional hunting, fishing, trapping, and gathering activities of the Inuit in the area;
- the number of jobs created by the Project in the local and regional native population;
- the introduction of a new economy within the Aupaluk and surrounding communities, which has little work experience with the mining industry, and what it can involve for the community in the short and long term;
- the expected short and long-term socio-economic benefits;
- the historical and archaeological sites;
- the visual integration of the Project in its environment;
- the demographic imbalance due to population influx of non-Inuit in a small Inuit community including possible intercultural and/or linguistic tensions;
- the effects on Inuit social organization and cohesion;
- the effects on community and worker's health and safety;
- the effects on humans associated with air quality;
- effects associated with noise from the mine site and port activities;

- the social acceptability of the Project for Inuit population and other stakeholders, particularly in the context of Plan Nord.

10.0 PROJECT SCHEDULE

The preliminary timeline of the Project is articulated around the following dates:

Table 2: Preliminary Timeline of the Project

Phase	Beginning	End
Preliminary studies (including the ESIA) and feasibility study	2011	2013
Construction	2014	2015
Start-up & commissioning	2015	2016
Production	2016	2065
Closure and site restoration	2065	2068

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11.0 SUBSEQUENT PHASES AND RELATED PROJECTS

Potential additional exploration might be conducted at Hopes Advance Area. Moreover, as mentioned previously, Oceanic Iron Ore Corp. also conducts exploration activities at two other iron mining projects namely Morgan Lake and Roberts Lake, both located north of Hopes Advance Area.

11.1.1 Roberts Lake Area

Active exploration has been performed during the 1950s at the Roberts Lake area. This period of exploration work consisted of surface mapping, channel sampling, exploration drilling, and metallurgical testing. Additional work was completed during 1972 with a geophysical survey of the area and in the 1990s with additional metallurgical testing. Exploration work completed on the property includes exploration drilling, surface sampling, surface mapping, and metallurgical test work. At the Kayak Bay deposit, a preliminary pit was laid out to develop the drill indicated resource. A total of 97 drillholes were completed in the Roberts Lake area totalling 5,115 m.

The historical estimated resource is 439 million metric tonnes at a grade of 36.8% $Fe_{soluble}$.

11.1.2 Morgan Lake Area

The Morgan Lake area iron deposits were first discovered in 1953 with active exploration commencing in 1955 and continuing through 1957. Exploration work completed on the property includes exploration drilling, surface sampling, surface mapping, and metallurgical test work. Detailed site layouts were completed for a processing plant and harbour near the Payne Range iron deposits. A total of 45 drillholes were completed in the Morgan Lake area totalling 3,611 m.

The historical estimated resource for the Payne Range and Morgan Lake deposits is slightly more than 510 million metric tonnes at a grade of 22.1% $Fe_{magnetic}$.

12.0 MODALITIES OF PUBLIC CONSULTATION

Oceanic Iron Ore Corp. initiated consultations in February 2011 before the beginning of the exploration program at the Hope Advance area. Moreover, meetings were held in Aupaluk and Kuujjuaq in September and December 2011 and will continue until the environmental and social impact assessment (ESIA) is filed with the authorities.

Oceanic Iron Ore Corp. has prepared a consultation plan for the duration of the Project's ESIA. The objective of this plan is to gain knowledge from the Inuit, so that the Project may be best adapted to their needs, and to keep the Inuit involved so that their participation into the Project is maximized. The consultations with the stakeholders will ensure that the ESIA report will include all measures required for the social acceptability of the Project.

At this stage, the consultation plan identifies the following potential stakeholders:

- Nunavik Landholding Corporation
- Kativik Regional Government (KRG)
- Makivik Corporation
- Makivik Research Centre
- Nunavik Mining Exploration Fund (NMEF)
- Nunavik Regional Board of Health and Social Services (NRBHSS)
- Avataq Cultural Institute
- ANGUVIGAQ (Nunavik Hunting Fishing and Trapping Association)
- Nunavik Tourism Association (NTA)
- Saputiit Youth Association
- Local community of Aupaluk
- Other local communities which use the land and resources within the Project region, notably Kangirsuk (North of Aupaluk) and Tasiujaq (South of Aupaluk);
- Groups or organizations from Nunavik with special interests.

Besides stakeholders directly related to Inuit communities, other stakeholders have been identified:

- Organizations and Government Ministries; and
- Non governmental organizations (NGOs) from the South with special interests who have the ability to influence the Project's outcome (to be identified).

Identification of stakeholders is an ongoing process; some new stakeholders may be identified during the consultation process and the baseline study.

The consultation program includes three key activities:

1) **Consultation on the current and anticipated land and resource uses** within the Project region. This activity will be conducted through interviews with key informants. These Interviews will also be an opportunity for Inuit to make suggestions for the subsequent consultation activities in accordance with their interests and preferences. Taking into account these suggestions will insure an adequate consultation process.

2) **Identification of stakeholders' issues and concerns on potential impacts of the Project and identification of the appropriate mitigation measures**. This activity will likely be based on public consultation sessions and be completed with focus groups on specific matters;

3) **Disclosure of the draft ESIA** through public consultation sessions.

The proceedings of the consultation activities will be appended to the ESIA report.

13.0 COMMENTS

I hereby certify that all the information mentioned in the present Proponent Preliminary Information is true and exact to the best of my knowledge and belief.

14.0 SIGNATURES

GOLDER ASSOCIÉS LTÉE

Red Méthot, M.Sc.
Project Manager

Christine Guay, M.Sc.
Project Director, Associate

OCEANIC IRON ORE CORP.

Eddy Canova
Project Manager

Irfan Shariff
Chief Financial Officer (CFO)

RM/CG/kr

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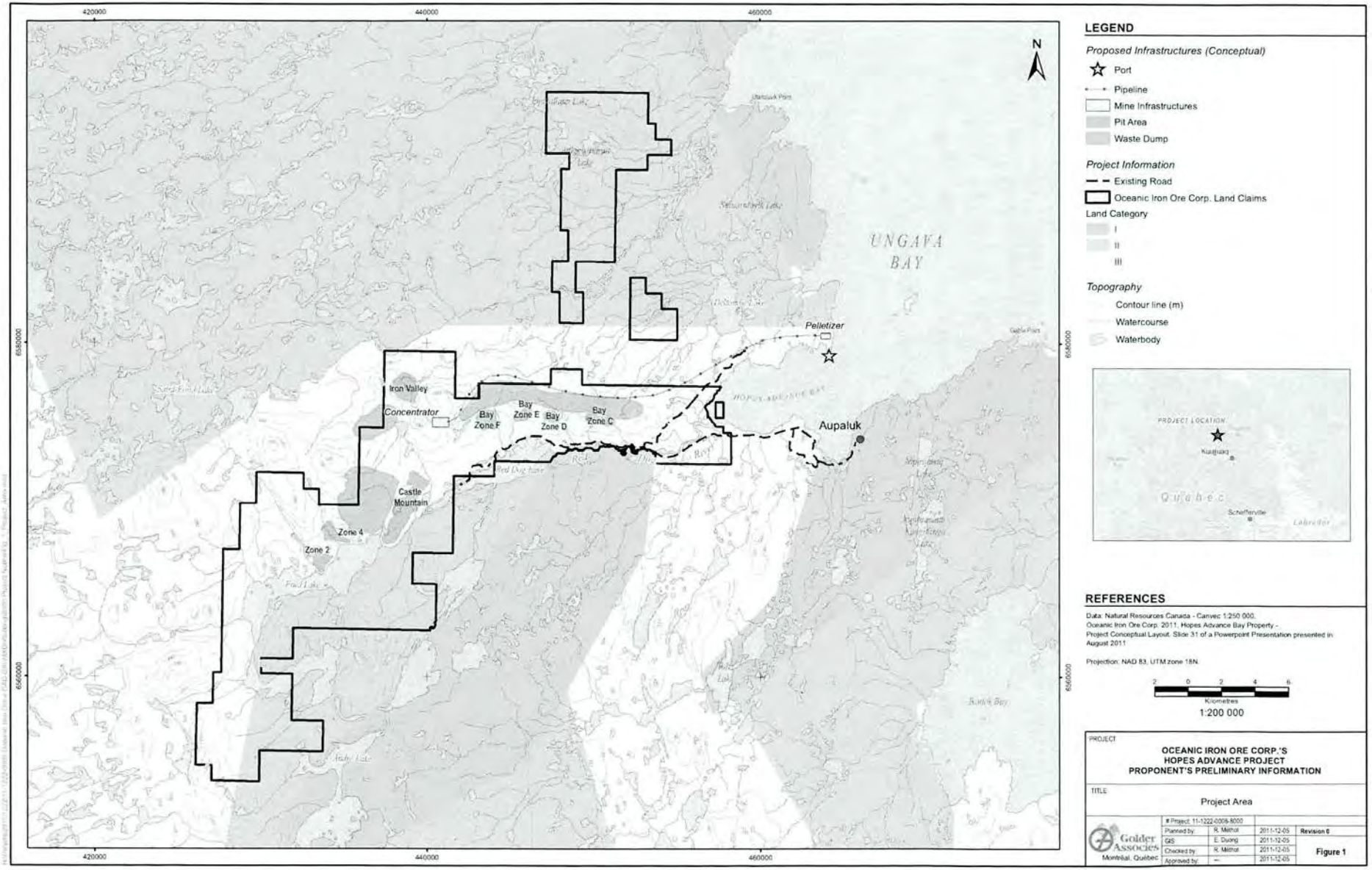

LEGEND

Proposed Infrastructures (Conceptual)

- Port
- Pipeline
- Mine Infrastructures
- Pit Area
- Waste Dump

Project Information

- Existing Road
- Oceanic Iron Ore Corp. Land Claims

Land Category

- I
- II
- III

Topography

- Contour line (m)
- Watercourse
- Waterbody

REFERENCES

Data: Natural Resources Canada - Canvec 1:250 000.
Oceanic Iron Ore Corp. 2011. Hopes Advance Bay Property - Project Conceptual Layout. Slide 31 of a Powerpoint Presentation presented in August 2011

Projection: NAD 83, UTM zone 18N.

2 0 2 4 6
Kilometres

1:200 000

PROJECT

OCEANIC IRON ORE CORP.'S HOPES ADVANCE PROJECT PROPONENT'S PRELIMINARY INFORMATION

TITLE

Project Area

# Project: 11-1222-0008-8000			
Planned by:	R. Méthot	2011-12-05	Revision 0
GIS	E. Duong	2011-12-05	
Checked by:	R. Méthot	2011-12-05	Figure 1
Approved by:	---	2011-12-05	

Golder Associés
Montréal, Québec

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Golder Associés

OCEANIC
IRON ORE CORP

OCEANIC IRON ORE CORP.'S HOPES ADVANCE PROJECT

DESCRIPTION OF A DESIGNATED PROJECT UNDER THE CANADIAN ENVIRONMENTAL ASSESSMENT ACT, 2012

Date: August 2012
Reference n°: 014-11-1222-0008 RA Rev3

Golder Associés

Executive Summary

(English Version)

General Information

Oceanic Iron Ore Corp. intends to develop the Hopes Advance Project, an iron ore mine located in the region of Nunavik in Québec and close to the northern village of Aupaluk.

Proponent Contact Information

Name of the designated Project:	**Hopes Advance Project**
Name of the proponent:	Oceanic Iron Ore Corp.
Address:	1000 Sherbrooke Street West, Suite 700 Montréal QC H3A 3G4
Telephone:	514-289-1186
Fax:	514-289-1188
Principal Contact:	Alan Gorman, Chief Operative Officer agorman@oceanicironore.com 514-289-1186
Secondary Contact:	Eddy Canova, Project Manager ec@oceanicironore.com 514-289-1186

In addition to federal regulatory requirements, the Project is also subject to the Québec provincial environmental and social impact assessment and review procedure as per Chapter 23 of the James Bay and Northern Québec Agreement (JBNQA) and Chapter II of the Québec Environment Quality Act (EQA). A project description (preliminary information) was filed with the provincial Administrator of the JBNQA on January 23, 2012. The Environmental Assessment process under the Nunavik Inuit Land Claims Agreement (NILCA) could also apply to parts of the project that impact the marine region.

Project Information

The provisions in the schedule to the Regulations Designating Physical Activities describing the Project in whole or in part are the following:

- Section 15. The construction, operation, decommissioning and abandonment of:
  - (a) a metal mine, other than a gold mine, with an ore production capacity of 3,000 t/d or more;
  - (b) a metal mill with an ore input capacity of 4,000 t/d or more.
- Section 20(k). The construction, operation, decommissioning and abandonment, or an expansion that would result in an increase in its production capacity of more than 35% of a factory for the manufacture of chemical explosives employing chemical processes.
- Section 27(c). The construction, operation, decommissioning and abandonment of a marine terminal designed to handle vessels larger than 25,000 DWT unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation.

Other provisions that could potentially be applicable are:

- Section 2(a). The construction, operation, decommissioning and abandonment of a fossil fuel-fired electrical generating station with a production capacity of 200 MW or more[1].
- Section 29. The construction, operation, decommissioning and abandonment of:
  - (b) an airport;
  - (c) an all-season runway with a length of 1,500 m or more.

The project description is subject to modifications in light of the results of an ongoing prefeasibility study, which should be completed in September 2012.

The high demand for metals, including iron, on the world market encourages mineral exploration and investment in subsequent developments. Extensive activities have already been completed for the Hopes Advance Project and a global resource of 1.268 billion tonnes of measured and indicated in-pit resource at 32.3% using a 25% cut-off grade has been estimated.

The Hopes Advance Project involves the development of several open pit mines. The mine is expected to generate from 10 to 20 million tonnes per year of iron concentrate product over a planned period of up to 48 years. Open pit mining in the Hopes Advance Area is envisioned as a conventional drill/blast/load/haul mining operation. Mining operations will be carried out on a 24-hour per day and 365-day per year basis. The ore from the mine will be treated at the concentrator to be located near the mine. The concentrate will then be pumped to the port area via a 26 km long concentrate pipeline for shipping.

[1] Note that the anticipated production capacity of the generation station is 190 MW.

The shipment will require new deep water marine facilities consisting of an iron ore wharf and a causeway. The wharf is a caisson gravity base structure. Apart from the preparation for flat base, no dredging is anticipated for the port and the vessel approach channel.

The shipment of iron ore requires navigation through Ungava Bay and the entrance to Hudson Strait and Labrador Sea. Ice class vessels with capacity of 180,000 deadweight tons (DWT) will be used for shipping, while 240,000 DWT vessels may be used during ice-free season. Smaller vessels will be used for other shipping requirements (such as consumables, spare parts, etc.).

During construction and the first years of operation, a self-generated power plant fuelled by petroleum products will be used. The Project would connect to the provincial power grid once Hydro-Québec has advanced its transmission line to Ungava Bay.

Additional infrastructure will be required to support the operation including an upgraded existing airstrip, a 26 km long pipeline, a permanent road, a worker camp, service buildings and storage, management equipment of petroleum products and explosives and mine waste management infrastructures.

The Environmental and Social Impact Assessment (ESIA) completion and the beginning of the construction are anticipated for 2014. Operation would start in 2016.

Project Location

The Project is located in the region of Nunavik in Québec, on the western side of Ungava Bay, and close to the northern village of Aupaluk (figure 1 and appendix A). Besides Aupaluk, the nearby communities are Kangirsuk and Tasiujaq. The centroide of the Project area is approximately 69° 58' 40.265" W / 59° 17' 9.631" N.

The Project falls within Inuit territory governed by the James Bay and Northern Québec Agreement. The planned mining activities are all located on Category III lands.

A few fishing cabins are located near the Project area (figure 1). The most valued areas and natural resources in the Project area are fish and fish habitats within Hopes Advance Bay, the lakes and the rivers (especially Red Dog River, Ford Lake and Saint-Fond River). Areas of caribou, ducks, geese, seals, polar bears and beluga hunting and berries picking are other valued land interests in the Project area. Hopes Advance Bay is also important for seafood collecting such as mussels and clams. It should be noted that a regional environmental study has not been conducted in the Project area.

Federal Involvement

To date, the federal authorities have not proposed financial support for the Project and no federal lands are part of the Project area.

We anticipate that the following federal acts or regulations may apply for the design and operation of the project (non exhaustive list):

- *Migratory Birds Convention Act, 1994;*
- *Fisheries Act;*
- *Navigable Waters Protection Act;*

- *Explosives Act;*
- *Arctic Waters Pollution Prevention Act;*
- *Species at Risk Act;*
- *Canadian Environmental Assessment Act, 2012;*
- *Ammonium Nitrate Storage Facilities Regulations; and*
- *Migratory Birds Regulations*

Environmental Components and Main Constraints to the Project

Physical Environment

Physical components include hydrology and coastal processes; surface water and sediment quality; hydrogeology and groundwater quality; soil and terrain; climate and air quality; and noise and vibrations. The next section describes the components from which relevant data are already available.

Hydrology and Coastal Processes

The watercourses within the Project area belong to the Hudson Bay Seaboard drainage basin, and more specifically, the Leaf River watershed. The main lakes within the region (i.e., Ford, Red Dog, Ippialuup and Ungallijuap Qamaninga lakes) all drain into the Red Dog River, which in turn flows into Hopes Advance Bay, a part of Ungava Bay. From another watershed, the Saint-Fond River also flows into the Ungava Bay north of the Project area.

Apart from the Red Dog River and Saint-Fond River, only small to medium streams are found in the Project area. From preliminary surveys, many rapids, cascades or braided sections with very low depth were observed in these streams. However, some channels of up to 1 metre in depth are present in some sections of these streams.

With a mean tidal range of 8.2 metres, Hopes Advance Bay is amongst the top 30 locations around the world where the largest range of tides has been observed. Normally, Ungava Bay begins to freeze up around mid-November and ice begins to break up around mid-June, creating a seven month ice cover.

Surface Water and Sediment Quality

Water and sediments (substrate of fine particles) were collected in September 2011 in lakes and watercourses of the Project area for analysis.

Water quality analysis showed low nutrient concentrations typical of oligotrophic and uncontaminated lakes. Typically the metal concentrations were below detection limits, and below federal or provincial guidelines.

In general, sediment quality analysis showed low metal concentrations into lake and river sediments.

Soil and Terrain

Surficial deposits within the Project area consist mainly of sediments deposited from melt water and floating ice in marine waters, during deglaciation and subsequent regression that have been classified as lag glaciomarine

deposits. Also found in the Project area are till blanket (thick and continuous) and till veneer (thin and discontinuous, areas of rock outcrop) glacial deposits.

The land within the Project area is inclined towards Ungava Bay, which is surrounded by land that is at sea level. Furthermore, aside from a series of low hills reaching a maximum height of around 110 metres north of Ford Lake, the rest of the Project area is relatively flat (mean elevation of around 40 m), and has been grouped within a slope gradient class of 10-15%.

The Project area is located within the zone of continuous permafrost, within which the layer of permafrost can reach thicknesses of about 25 m.

Biological Environment

Biological components include vegetation and wetlands, mammals, birds, reptiles, amphibians and fish/fish habitat. Particular attention has been paid to protected areas and to species of special concern.

Protected Areas

The closest protected area, located 15 km south of the Project area is called the *Réserve de parc national du Québec de la Baie-aux-Feuilles*. This area is entirely located outside of the Project area.

No Important Bird Area (IBA) has been identified within the Project area.

Vegetation and Wetlands

The Project area is located within the low subarctic, shrub arctic tundra bioclimatic domain. In this domain, willows (*Salix* spp.) and birch (*Betula* spp.) grow alongside herbaceous species (mostly graminoids), mosses and lichens. The vegetation canopy rarely grows beyond two metres.

The Project area is found within the natural province of the Ungava Bay basin (called natural province K), an area of 103,000 km^2 of which 3,136 km^2 consist of wetlands. These wetlands, which are for the most part unclassified, likely include:

- Peatlands, as well as swamps and marshes, bordering lakes and streams;
- Important wetlands in some estuaries and sheltered bays along Ungava Bay; and
- Fens and palsa bogs (influenced by the permafrost) along the Ungava Bay coast.

Mammals and Birds

The following large mammal species are present in the Project area: caribou (*Rangifer tarandus,* Leaf River caribou herd), muskox (*Ovibos moschatus*), red foxes (*Vulpes vulpes*), marten (*Martes americana*), wolves (*Canis lupus*), polar bears (*Ursus maritimus*), Canada lynx (*Lynx canadensis*), and arctic foxes (*Alopex lagopus*). The habitat is suitable for Wolverine (*Gulo gulo*), but no verified reports of this species in Québec exist since 1978.

The following marine mammals (amongst others), based on their general distribution, may frequent Hopes Advance Bay: harbour seal (*Phoca vitulina*), bearded seal (*Erignathus barbatus*), ringed seal (*Pusa hispida*), beluga whale (*Delphinapterus leucas*, Ungava Bay population), Sei whale, (*Balaenptera borealis*), and Blue whale (*Balaenoptera musculus*).

Some 37 bird species were reportedly observed in the Red Dog Lake area. Most of them only migrate through the region, but the peregrine falcon (*Falco peregrines*) uses the area for reproduction and 5 more species may potentially use the area for this same purpose: snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), greater scaup (*Aythya marila*), herring gull (*Larus argentatus*), and king eider (*Somateria spectabilis*). Among the species observed at or near the project area are peregrine falcon, golden eagle (*Aquila chrysaetos*), common eider (*Somateria mollissima*), black guillemot (*Cepphus grylle*), surf scoter (*Melanitta perspicillata*), and several species of seagulls.

Reptiles and Amphibians

No reptile or amphibian species distributions go as far north as the Project area.

Fish and Fish Habitat

The following fish species have been captured during gillnet and electric fishing surveys performed in September 2011:

- Lake trout (*Salvelinus namaycush*)
- Arctic char (*Salvelinus alpinus*)
- Brook trout (*Salvelinus fontinalis*)
- Round whitefish (*Prosopium cylindraceum*)
- Mottled sculpin (*Cottus bairdi*)
- Ninespine stickleback (*Pungitius pungitius*)
- Threespines stickleback (*Gasterosteus aculeatus*)
- Burbot (*Lota lota*)

Although not captured during the September 2011 survey, the following fish species, amongst others, are also likely to frequent the Project surrounding area according to their general distribution: northern pike (*Esox lucius*), suckers (*Catostomus* spp.), lake whitefish (*Coregonus clupeaformis*) and some Cyprinid species. Amongst marine and anadromous species, Greenland halibut (*Reinhardtius hippoglossoides*), Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) inhabit Ungava Bay.

The marine benthic community of the region includes such species as: Iceland scallop (*Chlamys islandica*), blue mussels (*Mytilus edulis*) and clams (*Mya arenaria*) which can be found off the shores of Hopes Advance Bay.

Species of Special Concern

Some species or populations in the Project area are protected at the federal level by the Species at Risk Act (SARA) and/or at the provincial level by the Act respecting threatened or vulnerable species (LEMV). In addition, migratory bird species are protected by the Migratory Birds Convention Act, 1994, administered by the Canadian Wildlife Service of Environment Canada in collaboration with the Canadian provincial and territorial governments.

According to the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ), no floristic species at risk or any important terrestrial habitats have been recorded within the Project area. It should be noted, however, that

the lack of special status species in the Project area may simply be a result of a lack of field investigations in this remote area of Québec.

The following special concern wildlife species are present in the Project area:

- Peregrine falcon *tundrius* (*Falco peregrinus tundrius*): susceptible of being designated threatened or vulnerable according to the LEMV and listed as a special concern species according to the SARA.
- Golden eagle (*Aquila chrysaetos*): listed as vulnerable according to the LEMV and not at risk according to Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Polar bear (*Ursus maritimus*): listed as vulnerable under the LEMV and of special concern by COSEWIC.
- Ungava Bay beluga whale (*Delphinapterus leucas*) population: susceptible of being designated endangered or vulnerable under the LEMV, has been designated endangered by COSEWIC and is under consideration for listing under the SARA.
- Eastern Arctic population of Bowhead whale (*Balaena mysticetus*): listed in Schedule 2 of SARA as endangered.

Based on their general distribution, the following species listed as a special status species might possibly be found in the Project area:

- Wolverine (*Gulo gulo*): designated threatened in Québec according to the LEMV and endangered according to SARA.
- Harlequin duck *(Histrionicus histrionicus*): designated as special concern species by the SARA.
- Red knot *(Calidris canutus)*: susceptible of being designated threatened or vulnerable under the LEMV and endangered by COSEWIC.
- Rusty blackbird (*Euphagus carolinus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Short-eared Owl (*Asio flammeus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Atlantic cod *(Gadus morhua*): designated as special concern species by SARA.
- Fourhorn sculpin (*Triglopsis* (*Myoxocephalus*) *quadricornis*): susceptible of being designated threatened or vulnerable under the LEMV.

It should be noted that although the caribou, muskox, salmonids, Canada goose, snow goose, seals, and ptarmigan (*Lagopus* spp) are not officially listed as a special status species at the provincial or federal levels, they warrant a special mention as they are important to the local Inuit population.

Human Environment

Human components include socio-economic, land and resource use, archaeology, and landscape. The next section describes the components from which relevant data are already available.

Socio-economics

The Inuit community of Aupaluk is one of the fourteen Inuit communities in the Nunavik territory. In 2006, the total population in Aupaluk was 174. The median age within the village of Aupaluk was 19.5 years, which is slightly younger than that of the Inuit population (22 years), and other indigenous groups (25 years), but is more than twice as young compared to the province of Québec (41 years).

Within the village of Aupaluk, 94.1% of the population can express themselves in Inuktitut (i.e., non-official language according to Statistics Canada), 60% of the population can converse in English, while 14.3% of the population can communicate in English and French.

The region is developing slowly and its economic situation is still precarious due to its dependence on government assistance. This limited development is attributed to the climatic constraints, the scattered resources, the distance from major cities, and the lack of a skilled work force.

Land and Resource Use

Inuit subsistence and game harvesting (hunting, fishing and trapping) occurs along the coast as well as inland. The region surrounding Aupaluk is entirely within UGAF 96 (Unité de gestion des animaux à fourrure) and hunting area 23.

Large game hunting starts around mid-November and continues into mid-May. During the summer period, the Inuit spend more time fishing and hunting marine mammals. Of particular interest is that, since 1998, licensed community hunts of the Bowhead whale (*Balaena mysticetus*) were permitted in Nunavik by the Federal Department of Fisheries and Oceans, when it was proven that the Bowhead, once almost at the point of extinction due to the activities of international whalers in the past two centuries, is now rebounding.

During meetings with Inuit representatives, the species of importance to the Inuit of Aupaluk that were mentioned are salmonids (arctic char, brook trout, lake trout), muskox, polar bear, seal, geese, ptarmigan, and caribou.

Makivik is currently performing an extensive study on land and resource use on Nunavik territory; the results will complete Makivik's database and GIS on that subject. Oceanic Iron Ore Corp. plans on acquiring the data from Aupaluk, Kangirsuk and Tasiujaq communities.

Archaeology

According to the ISAQ (*Inventaire des sites archéologiques du Québec*) database, 50 archaeological sites have been discovered near Aupaluk. The vast majority of those sites are located outside of the Project area. Only two archaeological sites are located close to some of the Project activities.

Main Apprehended Impacts

For the construction, operation and decommissioning phases of the Project, the identification of incidences addresses the physical, biological and human environments.

Physical Environment

The main environmental impacts and risks apprehended for the physical environment are:

- potential contamination of soil and water: concerning accidental spillage of petroleum products and other contaminants;

- effects on surface water quality and availability: concerning water runoff modification, higher suspended matter associated with potential subsidence and erosion risks and potential contamination from effluents;
- effects on hydrodynamic conditions in Hopes Advance Bay that could be created by frequent visits of large sea vessels throughout the year;
- effects associated with air quality: concerning dust and contaminants originating from the operations; and
- effects associated with noise and vibrations from the operations.

Biological Environment

The main environmental impacts apprehended for the biological environment are:

- effects on vegetation and wetlands: considering loss and modifications caused by new infrastructures, especially open mine pits, waste dumps and tailings management facilities (TMF sites);
- effects on fish habitat and fish populations: considering loss and modifications to fish habitat by new infrastructures, especially open mine pits, waste dumps and TMF sites, port infrastructure and water crossings; the effluents, and effects associated with drainage and erosion;
- effects on terrestrial and avian fauna (including migratory birds); considering loss and change of habitat created by new infrastructures, especially open mine pits, waste dumps and TMF sites; perturbation caused by the workers' presence as well as noise and vibrations;
- effects on marine mammals: considering the port construction (dredging and potential blasting) and perturbation caused by vessel traffic.

For the biological environment, special attention will be given to species of concern and of interest to the Inuit.

Human Environment

As for the incidences on the social environment, the main impacts and benefits apprehended are the following:

- the current and anticipated future land and resource uses;
- the potential changes in traditional hunting, fishing, trapping, and gathering activities of the Inuit in the area;
- the number of jobs created by the Project in the local and regional native population;
- the introduction of a new economy within the Aupaluk and surrounding communities, which has little work experience with the mining industry, and what it can involve for the community in the short and long term;
- the expected short and long-term socio-economic benefits;
- the historical and archaeological sites;
- the visual integration of the Project in its environment;

- the demographic imbalance due to population influx of non-Inuit in a small Inuit community including possible intercultural and/or linguistic tensions;
- the effects on Inuit social organization and cohesion;
- the effects on community and worker's health and safety;
- the effects on humans associated with air quality;
- effects associated with noise from the mine site and port activities;
- the social acceptability of the Project for Inuit population and other stakeholders, particularly in the context of Plan Nord.

Modalities of Public Consultation with Aboriginal Groups

Oceanic Iron Ore Corp. initiated consultations before the beginning of the exploration program of the Hopes Advance Project and has prepared a consultation plan for the duration of the Project's Environmental and Social Impact Assessment (ESIA). The objective of this plan is to gain traditional knowledge from the Inuit and to keep the Inuit engaged in dialogue, and involved, to maximize their participation in the Project. The consultations with the stakeholders will ensure that the ESIA report maximizes the measures required for the social acceptability of the Project.

At this stage, the jurisdictions and parties consulted include mostly Inuit organizations such as the Northern Village of Aupaluk, Kativik Regional Government, Kativik Municipal Housing Bureau or Nunavik Mineral Exploration Fund and Makivik Corporation. Additional stakeholders will be consulted within the coming months.

The consultation program includes three key activities: 1) Consultation on the current and anticipated land and resource uses; 2) Identification of stakeholders' issues and concerns on potential impacts and benefits of the Project and identification of the appropriate mitigation measures; 3) Disclosure of the draft ESIA through public consultation sessions.

Main concerns expressed during the first consultation activities with the Inuit are related to the employment situation, the potential social iniquity in the community and the possible rise of drug and alcohol consumption. Concern has also been raised about loss and deterioration of wildlife habitat caused by the Project.

(Version française)

Renseignements généraux

Oceanic Iron Ore Corp. souhaite développer le projet de Hopes Advance, une mine de minerai de fer située dans la région du Nunavik au Québec et à proximité du village nordique d'Aupaluk.

Information sur le promoteur

Nom du projet désigné:	**Hopes Advance Project**
Nom du promoteur:	Oceanic Iron Ore Corp.
Adresse:	1000, rue Sherbrooke Ouest, Suite 700 Montréal (Québec) H3A 3G4
Téléphone:	514-289-1186
Télécopieur:	514-289-1188
Contact principal:	Alan Gorman, Directeur des opérations agorman@oceaniciron ore.com 514-289-1186
Contact secondaire:	Eddy Canova, Gérant de projet ec@oceaniciron ore.com 514-289-1186

En plus des exigences fédérales, le projet minier est assujetti à la procédure québécoise d'évaluation et d'examen des impacts sur l'environnement et le milieu social en vertu du chapitre 23 de la Convention de la Baie-James et du Nord québécois (CBJNQ) et en vertu du chapitre II de la Loi sur la qualité de l'environnement (LQE). La description de projet (informations préliminaires) a été soumise à l'Administrateur provincial de la CBJNQ le 23 janvier 2012. Le régime d'évaluation environnementale prévu à l'Accord sur les revendications territoriales des Inuit du Nunavik (ARTIN) pourrait également s'appliquer pour les parties du projet qui affectent la région marine.

Renseignements sur le projet

Les dispositions du Règlement désignant les activités concrètes qui décrivent le projet en tout ou en partie sont les suivantes :

- Section 15. La construction, l'exploitation, la désaffectation et la fermeture :
  - a) d'une mine métallifère, autre qu'une mine d'or, d'une capacité de production de minerai de 3 000 t/jour ou plus;
  - b) d'une usine métallurgique d'une capacité d'admission de minerai de 4 000 t/jour ou plus.
- Section 20(k). La construction, l'exploitation, la désaffectation et la fermeture ou l'agrandissement entraînant une augmentation de la capacité de production de plus de 35 % d'une usine de fabrication d'explosifs chimiques faisant appel à des procédés chimiques.
- Section 27(c). La construction, l'exploitation, la désaffectation et la fermeture d'un terminal maritime conçu pour recevoir des navires de plus de 25 000 TPL, sauf s'il est situé sur des terres qui sont utilisées de façon courante comme terminal maritime et qui l'ont été par le passé ou que destine à une telle utilisation un plan d'utilisation des terres ayant fait l'objet de consultations publiques.

De plus, les dispositions suivantes pourraient potentiellement s'appliquer:

- Section 2(a). La construction, l'exploitation, la désaffectation et la fermeture d'une centrale électrique alimentée par un combustible fossile d'une capacité de production de 200 MW ou plus.
- Section 29. La construction, l'exploitation, la désaffectation et la fermeture :
  - b) d'un aéroport;
  - c) d'une piste utilisable en toute saison d'une longueur de 1 500 m ou plus.

La description de projet pourrait être modifiée en fonction des résultats d'une étude de préfaisabilité qui devrait être complétée en septembre 2012.

La forte demande des métaux, dont le fer, sur le marché mondial, encourage l'exploration minière et les investissements pour l'exploitation ultérieure. Des activités intensives ont déjà été réalisées et les ressources globales indiquées et présumées sont de 1,268 milliard de tonnes de fer à 32,3 % en utilisant une teneur de coupure de 25 %.

Le projet Hopes Advance implique le développement de plusieurs mines à ciel ouvert. La mine devrait générer entre 10 et 20 millions de tonnes de concentré par année sur une période s'étendant jusqu'à 48 ans. Les opérations minières à ciel ouvert sont envisagées sous la forme conventionnelle d'activités de forage, de dynamitage, de chargement et de transport. Les opérations minières se dérouleront 24 heures par jour, 365 jours par année. Le minerai de la mine sera traité au concentrateur, lequel sera situé près de la mine. Le concentré sera acheminé vers la zone du port pour l'expédition par un pipeline de concentré long de 26 km.

De nouvelles installations portuaires constituées d'un quai de chargement du minerai de fer et d'une jetée seront nécessaires pour l'expédition. Le quai sera formé de plusieurs caissons ancrés par gravité. En excluant la

préparation d'une assise plate afin de recevoir les caissons, aucun dragage n'est anticipé pour le port et le chenal d'approche des navires.

Les navires qui transporteront le minerai de fer devront passer par la baie d'Ungava, l'entrée du détroit d'Hudson et la mer du Labrador. Des navires de type brise-glace d'une capacité de 180 000 tonnes port en lourd (tpl) seront utilisés pour l'expédition, alors que des navires de 240 000 tpl pourraient être utilisés durant la saison libre de glace. Des navires de plus petites dimensions seront utilisés pour les autres besoins en transport maritime (ex. consommables, pièces de remplacement, etc.).

Pendant la construction et les premières années d'opération, une centrale électrique alimentée aux hydrocarbures pétroliers sera utilisée. Le site du projet pourrait se raccorder au réseau d'Hydro-Québec lorsque sa ligne de transmission atteindra la baie d'Ungava.

Des infrastructures additionnelles seront requises pour assurer le soutien à l'exploitation incluant une piste d'aéroport existante qui devra être améliorée, un pipeline de 26 km de long, une route permanente, un camp de travailleurs, des bâtiments de services, des entrepôts, des équipements pour gérer les produits explosifs et pétroliers et des infrastructures de gestion des déchets miniers.

L'achèvement de l'étude d'impact sur l'environnement et le milieu social (ÉIES) et le début des travaux sont prévus pour 2014. Les opérations débuteraient en 2016.

Emplacement du projet

Le projet est situé dans la région du Nunavik au Québec, sur la côte ouest de la baie d'Ungava et à proximité du village nordique d'Aupaluk (figure 1 et annexe A). En plus d'Aupaluk, les communautés environnantes sont Kangirsuk et Tasiujaq. Les coordonnées géographiques approximatives au centre du projet sont : 69° 58' 40.265" W 1 59°17' 9.631" N.

Le projet se trouve à l'intérieur du territoire inuit régi par la Convention de la Baie-James et du Nord québécois. Toutes les activités minières prévues se dérouleront sur des terres de catégorie III.

Quelques chalets de pêche sont situés près du projet (figure 1). Les zones et les ressources naturelles les plus valorisées dans la zone du projet sont le poisson et son habitat dans la baie de Hopes Advance, les lacs et les rivières (notamment la rivière au Chien Rouge, le lac Ford et la rivière Saint-Fond). Les zones de chasse aux caribous, aux canards, aux oies, aux phoques, aux ours blancs et aux bélugas et les aires de cueillette de petits fruits sont d'autres secteurs valorisés dans la zone du projet. La baie de Hopes Advance est aussi importante pour la cueillette de mollusques tels que les moules et les myes. Il convient de noter qu'aucune évaluation environnementale régionale n'a été produite pour le secteur du projet.

Participation du gouvernement fédéral

À ce jour, les autorités fédérales n'ont proposé aucun support financier pour ce projet et aucun territoire domanial ne se trouve dans la zone du projet.

Nous anticipons que les lois et règlements fédéraux suivants pourraient s'appliquer pour la conception et les opérations du projet (liste non exhaustive):

- *Loi de 1994 sur la convention concernant les oiseaux migrateurs;*

- *Loi sur les pêches;*
- *Loi sur la protection des eaux navigables;*
- *Loi sur les explosifs;*
- *Loi sur la prévention de la pollution des eaux arctiques;*
- *Loi sur les espèces en péril;*
- *Loi canadienne sur l'évaluation environnementale, 2012;*
- *Règlement sur le stockage de l'ammoniac anhydre;*
- *Règlement sur les oiseaux migrateurs.*

Composantes du milieu et principales contraintes à la réalisation du projet

Milieu physique

Les composantes physiques incluent les phénomènes hydrologiques et côtiers; la qualité des eaux de surface et des sédiments; l'hydrogéologie et la qualité des eaux souterraines; les sols et le terrain; le climat et la qualité de l'air; ainsi que le bruit et les vibrations. La section qui suit décrit les composantes pour lesquelles des données pertinentes sont déjà disponibles.

Phénomènes hydrologiques et côtiers

Les cours d'eau dans la région du projet appartiennent au bassin hydrologique du littoral de la baie d'Hudson, et plus précisément, le bassin versant de la rivière aux Feuilles. Les principaux lacs de la région (c.-à.-d., les lacs Ford, au Chien Rouge, Ippialuup et Ungallijuap Qamaninga) se jettent tous dans la rivière au Chien Rouge, laquelle se jette à son tour dans la baie de Hopes Advance, dans la baie d'Ungava. D'un autre bassin versant, la rivière Saint-Fond s'écoule également dans la baie d'Ungava au nord du projet.

En excluant la rivière au Chien Rouge et la rivière Saint-Fond, seuls des petits et moyens cours d'eau se trouvent dans la zone du projet. Les premiers inventaires ont permis d'observer de nombreux rapides, cascades ou sections anastomosées avec de très faibles profondeurs dans ces cours d'eau. Cependant, certains canaux allant jusqu'à 1 mètre de profondeur sont présents dans certaines sections de ces cours d'eau.

Avec une amplitude moyenne de marée de 8,2 mètres, la baie de Hopes Advance compte parmi les 30 sites où l'on peut observer les plus grands marnages à travers le monde. Habituellement, la baie d'Ungava commence à geler autour de la mi-novembre et la glace commence à se briser autour de la mi-juin, ce qui donne une couverture de glace d'une durée de sept mois.

Qualité des eaux de surface et des sédiments

Des échantillons d'eau et du substrat fin ont été recueillis pour analyse en septembre 2011 dans les lacs et cours d'eau de la région du projet.

L'analyse de la qualité de l'eau a démontré des concentrations faibles en nutriments, ce qui est typique des lacs oligotrophes et non pollués. Généralement, les concentrations de métaux se situaient sous les limites de détection ou en deçà des critères fédéraux ou provinciaux.

De manière générale, l'analyse préliminaire de la qualité des sédiments a démontré de faibles concentrations de métaux dans les sédiments des lacs et des rivières.

Sols et terrain

Les dépôts superficiels dans la région du projet se composent principalement de sédiments déposés par les eaux de fonte et les glaciers flottant dans les eaux marines pendant la déglaciation et leur retrait subséquent. Ces dépôts sont classés comme étant de type glacio-marin. On trouve également des dépôts glaciaires de nappes de till (épaisses et continues) et de placages de till (des zones d'affleurements rocheux minces et discontinus).

Les terres situées dans la région du projet sont inclinées vers la baie d'Ungava, qui est entourée par des terres au niveau de la mer. Par ailleurs, outre une série de collines peu élevées atteignant une hauteur maximale d'environ 110 mètres au nord du lac Ford, le reste de la région est relativement plat (altitude moyenne d'environ 40 m), et se caractérise par des pentes de 10 à 15 %.

La région du projet est située dans la zone de pergélisol continu, ou celui-ci peut atteindre une épaisseur d'environ 25 m.

Milieu biologique

Les composantes biologiques incluent la végétation et les milieux humides, les mammifères, les oiseaux, les reptiles, les amphibiens ainsi que les poissons et leur habitat. Une attention particulière a été apportée aux zones protégées et aux espèces préoccupantes.

Zones protégées

La zone protégée la plus proche est située à 15 km au sud du site minier et porte le nom de « Réserve de parc national du Québec de la Baie-aux-Feuilles ». Cette zone est entièrement située à l'extérieur des zones de travaux et d'activités liées au projet.

Aucune zone importante pour la conservation des oiseaux (ZICO) n'a été identifiée dans la région du projet.

Végétation et milieux humides

La région du projet est située dans le domaine bioclimatique de la toundra arctique arbustive. Dans ce domaine, les saules (*Salix* spp.) et les bouleaux (*Betula* spp.) côtoient des plantes herbacées (principalement des graminoïdes), des mousses et des lichens. La végétation dépasse rarement 2 m.

La région du projet se trouve dans la province naturelle du bassin de la baie d'Ungava (appelée province naturelle K), un territoire de 103 000 km^2 dont 3 136 km^2 sont constitués de milieux humides. Ces zones humides, qui sont pour la plupart non classifiées, comprennent notamment :

- les tourbières ainsi que les marais et les marécages bordant les lacs et les ruisseaux;
- les zones humides importantes dans certains estuaires et certaines baies abritées le long de la baie d'Ungava; et
- des tourbières minérotrophes et des tourbières à palses (influencées par le pergélisol) le long de la côte de la baie d'Ungava.

Mammifères et oiseaux

Les espèces suivantes de mammifères sont présentes dans la région du projet : le caribou *(Rangifer tarandus,* troupeau de la rivière aux Feuilles), le bœuf musqué (*Ovibos moschatus*), le renard roux (*Vulpes vulpes*), la martre (*Martes americana*), le loup (*Canis lupus*), l'ours blanc *(Ursus maritimus*), le lynx du Canada (*Lynx canadensis*) et le renard arctique (*Alopex lagopus*). L'habitat convient au carcajou (*Gulo gulo*), mais il n'y pas eu d'observation confirmée de carcajous signalée au Québec depuis 1978.

Certains mammifères marins peuvent, d'après leur répartition générale, fréquenter la baie de Hopes Advance, notamment : le phoque commun (*Phoca vitulina*), le phoque barbu (*Erignathus barbatus*), le phoque annelé (*Pusa hispida*), le béluga (*Delphinapterus leucas*, population de la baie d'Ungava), le rorqual boréal (*Balaenoptera borealis*) et le rorqual bleu (*Balaenoptera musculus*).

L'observation de quelque 37 espèces d'oiseaux a été rapportée dans la région du lac au Chien Rouge. La plupart d'entre elles ne font que migrer dans la région, mais le faucon pèlerin (*Falco peregrines*) utilise ce secteur pour se reproduire. Cinq autres espèces sont aussi susceptibles d'utiliser la zone pour les mêmes raisons : oie des neiges (*Chen caerulescens*), bernache du Canada (*Branta canadensis*), fuligule milouinan (*Aythya marila*), goéland argenté (*Larus argentatus*) et eider à tête grise (*Somateria spectabilis*). Parmi les espèces observées, on trouve le faucon pèlerin, l'aigle royal *(Aquila chrysaetos),* l'eider à duvet *(Somateria mollissima),* le guillemot à miroir *(Cepphus grylle),* la macreuse à front blanc *(Melanitta perspicillata),* et plusieurs espèces de goélands.

Reptiles et amphibiens

Aucune espèce de reptile ou d'amphibien ne montre une distribution aussi nordique que la région du projet.

Poissons et habitat du poisson

Les espèces de poissons suivantes ont été capturées durant des pêches scientifiques aux filets maillants et à l'électricité effectuées en septembre 2011 :

- Touladi (*Salvelinus namaycush*);
- Omble chevalier (*Salvelinus alpinus*);
- Omble de fontaine (*Salvelinus fontinalis*);
- Ménomini rond (*Prosopium cylindraceum*);
- Chabot tacheté (*Cottus Bairdi*);
- Épinoche à neuf épines (*Pungitius pungitius*);
- Épinoche à trois épines (*Gasterosteus aculeatus*);
- Lotte (*Lota lota*).

Bien qu'aucune capture n'ait été rapportée durant l'étude de septembre 2011, en raison de leur répartition générale, les espèces suivantes, entre autres, sont aussi susceptibles de fréquenter la zone du projet : le grand brochet (*Esox lucius*), les meuniers (*Catostomus* spp.), le grand corégone (*Coregonus clupeaformis*) et certaines espèces de cyprinidés. Parmi les espèces marines et anadromes, le flétan du Groenland (*Reinhardtius*

hippoglossoides), la morue Atlantique (*Gadus morhua*) et le saumon Atlantique (*Salmo salar*) fréquentent la baie d'Ungava.

La communauté benthique marine de la région comprend des espèces telles que le pétoncle d'Islande *(Chlamys islandica)*, la moule bleue *(Mytilus edulis)* et la mye *(Mya arenaria)* que l'on trouve au large dans la baie de Hopes Advance.

Espèces préoccupantes

Dans la région du projet, certaines populations ou espèces sont protégées au niveau fédéral par la Loi sur les espèces en péril (LEP) ou au niveau provincial par la Loi sur les espèces menacées ou vulnérables (LEMV). En outre, les espèces d'oiseaux migrateurs sont protégées par la Loi de 1994 sur la convention concernant les oiseaux migrateurs (LCOM), administrée par le Service canadien de la faune d'Environnement Canada en collaboration avec les gouvernements provinciaux et territoriaux canadiens.

Selon le Centre de données sur le patrimoine naturel du Québec (CDPNQ), aucune espèce floristique à statut précaire ni aucun habitat terrestre important n'ont été enregistrés dans la région du projet. Il convient toutefois de noter que l'absence d'espèces à statut précaire dans la région du projet peut simplement être le résultat de l'absence de relevé sur le terrain dans cette région éloignée du Québec.

Ces espèces fauniques préoccupantes sont présentes dans la région du projet :

- Le faucon pèlerin tundrius *(Falco peregrinus tundrius)* : susceptible d'être désigné espèce menacée ou vulnérable selon la LEMV et considéré comme une espèce préoccupante selon la LEP.
- L'aigle royal *(Aquila chrysaetos)* : classé comme étant une espèce vulnérable selon la LEMV, mais non en péril selon le Comité sur la situation des espèces en péril au Canada (COSEPAC).
- L'ours blanc (*Ursus maritimus*) : classé comme espèce vulnérable selon la LEMV et espèce préoccupante selon le COSEPAC.
- La population du béluga de la baie d'Ungava *(Delphinapterus leucas)* : susceptible d'être désignée espèce en voie de disparition ou vulnérable en vertu de la LEMV, est désignée en voie de disparition par le COSEPAC et son statut est présentement à l'étude en vertu de la LEP.
- La population de baleines boréales de l'est de l'Arctique *(Balaena mysticetus)* : figure à l'annexe 2 de la LEP comme étant une espèce en voie de disparition.

Selon leur répartition générale, les espèces suivantes classées comme préoccupantes pourraient aussi se trouver dans la région du projet :

- Le carcajou *(Gulo gulo)* : désigné comme espèce menacée au Québec selon la LEMV et en voie de disparition selon la LEP.
- L'arlequin plongeur (*Histrionicus histrionicus*) : désigné comme espèce préoccupante selon la LEP.
- Le bécasseau maubèche (*Calidris canutus*) : susceptible d'être désigné comme espèce menacée ou vulnérable selon la LEMV et en voie de disparition par le COSEPAC.

- Le quiscale rouilleux (*Euphagus carolinus*) : susceptible d'être désigné comme espèce menacée ou vulnérable en vertu de la LEMV.
- Le hibou des marais (*Asio flammeus*) : susceptible d'être désigné comme espèce menacée ou vulnérable en vertu de la LEMV.
- La morue (*Gadus morhua*) : désignée comme une espèce préoccupante par la LEP.
- Le chaboisseau à quatre cornes (*Triglopsis (myoxocephalus) quadricornis*) : susceptible d'être désigné menacé ou vulnérable en vertu de la LEMV.

Bien que le caribou des bois, le bœuf musqué, les salmonidés, la bernache du Canada, l'oie des neiges, les phoques et le lagopède (*Lagopus spp*) ne soient pas officiellement répertoriés comme étant des espèces préoccupantes au niveau provincial ou fédéral, ils méritent tout de même une mention spéciale, car ils sont importants pour la population inuit locale.

Milieu humain

Les composantes humaines incluent les aspects socio-économiques, l'utilisation du territoire et des ressources, l'archéologie et le paysage. La section qui suit décrit les composantes pour lesquelles des données pertinentes sont déjà disponibles.

Aspects socio-économiques

La communauté d'Aupaluk est l'une des 14 communautés inuit sur le territoire du Nunavik. En 2006, la population totale était de 174 habitants à Aupaluk. L'âge médian dans le village d'Aupaluk était de 19,5 ans, ce qui est légèrement plus jeune que celui de la population inuit (22 ans) et des autres groupes autochtones (25 ans), mais deux fois plus jeune par rapport à la province du Québec (41 ans).

Dans le village d'Aupaluk, 94,1 % de la population peut s'exprimer en inuktitut (c.-à-d., une langue non officielle, selon Statistique Canada), 60 % de la population peut s'exprimer en anglais, tandis que 14,3 % de la population peut communiquer en anglais et en français.

La région du Nunavik se développe lentement et sa situation économique demeure difficile en raison de sa dépendance à l'aide gouvernementale. Ce développement limité est attribuable aux contraintes climatiques, aux ressources dispersées, à l'éloignement par rapport aux grandes villes et au manque de main-d'œuvre qualifiée.

Utilisation du territoire et des ressources

Les activités de subsistance des Inuit (chasse, pêche et piégeage) ont lieu aussi bien le long de la côte qu'à l'intérieur des terres. La région entourant Aupaluk est entièrement à l'intérieur de l'unité de gestion des animaux à fourrure (UGAF) 96 et de la zone de chasse 23.

La chasse au gros gibier commence vers la mi-novembre et se poursuit jusqu'à la mi-mai. Pendant la période estivale, les Inuit consacrent plus de temps à la pêche et à la chasse des mammifères marins. Notons que depuis 1998, le ministère fédéral des Pêches et des Océans autorise des chasses communautaires aux baleines boréales (*Balaena mysticetus*) au Nunavik. Il a été démontré que la population, autrefois en voie de disparaître en raison de l'activité des baleiniers internationaux survenue au cours des deux derniers siècles, connait une hausse de croissance.

Lors de réunions avec les représentants des Inuit, les salmonidés (l'omble chevalier, l'omble de fontaine, le touladi), le bœuf musqué, l'ours blanc, le phoque, les oies, le lagopède et le caribou ont été mentionnés comme étant des espèces importantes pour les Inuit d'Aupaluk.

La Société Makivik fait présentement une étude exhaustive sur l'utilisation des terres et des ressources sur le territoire du Nunavik. Les résultats vont compléter la base de données géoréférencées de Makivik sur le sujet. Oceanic Iron Ore Corp. prévoit acquérir les données pour les communautés d'Aupaluk, Kangirsuk et Tasiujaq.

Archéologie

Selon la base de données ISAQ (Inventaire des sites archéologiques du Québec), 50 sites archéologiques ont été découverts près d'Aupaluk. La grande majorité de ces sites est située à l'extérieur de la région du projet. Seuls deux sites archéologiques sont situés près de certaines des activités du projet.

PRINCIPAUX IMPACTS APPRÉHENDÉS

En ce qui concerne les phases de construction, d'exploitation et de fermeture du projet, l'identification des impacts concerne les milieux physique, biologique et humain.

Milieu physique

Concernant le milieu physique, les principaux impacts environnementaux appréhendés sont :

- la contamination potentielle du sol et de l'eau en raison de déversements accidentels de produits pétroliers et d'autres contaminants;
- les effets sur la qualité et la disponibilité des eaux de surface en raison de modifications du ruissellement, du taux plus élevé de matières en suspension associés aux risques potentiels d'érosion et d'affaissement et de la contamination potentielle par les effluents;
- les effets sur les conditions hydrodynamiques dans la baie de Hopes Advance qui pourraient être engendrés par des passages fréquents de grands navires océaniques tout au long de l'année;
- les effets associés à la qualité de l'air en raison de l'émission de poussières et contaminants provenant des activités d'exploitation;
- les effets associés au bruit et aux vibrations provoqués par les activités d'exploitation.

Milieu biologique

Concernant le milieu biologique, les principaux impacts environnementaux appréhendés sont :

- les effets sur la végétation et les milieux humides : perte et modification causées par l'implantation de nouvelles infrastructures, particulièrement les fosses à ciel ouvert, les haldes à stériles et le parc à résidus;
- les effets sur les populations de poissons et leurs habitats : perte et modification de l'habitat du poisson par l'implantation de nouvelles infrastructures, particulièrement les fosses à ciel ouvert, les haldes à stériles et le parc à résidus, les infrastructures portuaires et les traverses de cours d'eau; les effluents et les effets associés au drainage et à l'érosion;

- les effets sur la faune terrestre et aviaire : perte et modification de l'habitat engendrées par l'implantation de nouvelles infrastructures, particulièrement les fosses à ciel ouvert, les haldes à stériles et le parc à résidus; perturbation causée par la présence humaine ainsi que le bruit et les vibrations;
- les effets sur les mammifères marins : construction du port (dragage et dynamitage potentiel) et perturbation causée par la circulation maritime.

En ce qui concerne le milieu biologique, une attention particulière sera accordée aux espèces préoccupantes et d'intérêt pour les Inuit.

Milieu humain

En ce qui a trait aux impacts sur le milieu humain, les principaux aspects appréhendés sont :

- l'utilisation actuelle et prévue du territoire et des ressources;
- les changements potentiels des activités traditionnelles de chasse, de pêche, de trappage et de cueillette des Inuit;
- le nombre d'emplois créés par le projet pour la population Inuit locale régionale;
- l'introduction d'une nouvelle économie à Aupaluk et au sein des communautés voisines, lesquelles détiennent peu d'expérience dans le domaine de l'industrie minière, et les implications pour ces communautés à court et à long terme;
- les bénéfices socioéconomiques prévus à court et à long terme;
- les sites historiques et archéologiques;
- l'intégration visuelle du projet dans le paysage et dans l'environnement;
- le déséquilibre démographique en raison du flux de population non inuit dans une petite communauté inuit, incluant de possibles tensions interculturelles et/ou linguistiques;
- les effets sur l'organisation et la cohésion sociales des Inuit;
- les effets sur la santé et la sécurité de la communauté et des travailleurs;
- les effets de la qualité de l'air sur les humains;
- les effets associés au bruit provenant des activités portuaires et minières;
- l'acceptabilité sociale du projet pour la population inuit et pour les autres parties prenantes, particulièrement dans le contexte du Plan Nord.

Activités de participation et de consultation auprès des groupes autochtones

Oceanic Iron Ore Corp. a entamé des consultations avant d'entreprendre les activités d'exploration à Hopes Advance et a préparé un plan de consultation pour toute la durée de l'évaluation des impacts sur l'environnement et le milieu social (ÉIES) du projet. L'objectif de ce plan est de permettre aux Inuit de partager leurs connaissances traditionnelles et également d'encourager le dialogue et leur implication afin de maximiser

leur participation au projet. Les consultations avec les parties prenantes assureront que le rapport de l'ÉIES optimise les mesures nécessaires à l'acceptabilité sociale du projet.

À cette étape, les groupes consultés incluent principalement des organisations Inuit telles que le village nordique d'Aupaluk, l'administration régionale Kativik, l'office municipal d'habitation Kativik, le fonds d'exploration minière du Nunavik et la société Makivik. D'autres parties prenantes seront consultées au cours des prochains mois.

Le programme de consultation inclut trois activités clés : 1) consultation sur l'utilisation actuelle et anticipée du territoire et des ressources dans la région du projet; 2) Identification des questions et enjeux des parties prenantes concernant les impacts et les avantages potentiels du projet et identification des mesures d'atténuation appropriées; 3) Divulgation de la version préliminaire de l'ÉIES au moyen de consultations publiques.

Les principales préoccupations exprimées au cours des premières activités de consultation auprès des Inuit sont reliées à la situation de l'emploi, les inégalités sociales potentielles dans la communauté d'Aupaluk et la possible augmentation des problèmes liés à la consommation de drogue et d'alcool. Des préoccupations ont également été soulevées à propos des pertes et de la détérioration des habitats fauniques que pourraient provoquer le projet.

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APPENDIX A
Photographs

1.0 GENERAL INFORMATION AND CONTACTS

1.1 Nature of the Designated Project

The Hopes Advance Project (Project) concerns the development of several deposits containing economic grades of iron ore. The Project is located in the region of Nunavik in Québec, on the western side of Ungava Bay, and close to the northern village of Aupaluk (Figure 1).

The Project is in the early stages of development (prefeasibility). It is anticipated that the Project would include the following components:

- Open pit mines;
- Tailings management facilities;
- Waste rock and overburden deposits;
- Concentrator;
- Concentrate pipeline;
- Deep water port;
- Power plant;
- Fuel storage depot;
- Explosives plant;
- Truck maintenance shop;
- Airstrip upgrade;
- Access roads and electric lines; and
- Accommodations for the workers.

1.2 Proponent Contact Information

Name of the designated Project:	**Hopes Advance Project**
Name of the proponent:	Oceanic Iron Ore Corp.
Address:	1000 Sherbrooke Street West, Suite 700
	Montréal QC H3A 3G4

Telephone:	514-289-1186
Fax:	514-289-1188
Principal Contact:	Alan Gorman, Chief Operative Officer agorman@oceanicironore.com 514-289-1186
Secondary Contact:	Eddy Canova, Project Manager ec@oceanicironore.com 514-289-1186

1.3 List of Jurisdiction and Other Parties Consulted

At this stage, the jurisdictions and parties consulted are the following:

- Northern Village (NV) of Aupaluk:
  - Mayor;
  - Elder representative and City councillor;
  - Land Holding representatives; and
  - Hunters, Fishermen and Trappers representative.
- Kativik Regional Government (KRG):
  - Associate Director of renewable resources and President of the Kativik, Environmental Advisory Committee;
  - Land Use Department representative;
  - Cleaning of abandoned mining exploration sites project representative; and
  - Sustainable Employment Department representative.
- Kativik Municipal Housing Bureau (KMHB);
- Makivik Corporation:
  - Legal Department representative;
  - Resource Development Department representative
  - Economic Development representative; and

- Marine Division representative.

- Nunavik Mineral Exploration Fund; and
- Wildlife Protection Office of Kuujjuaq.

1.4 Other Relevant Information

The Project is subject to the Québec provincial environmental and social impact assessment and review procedure as per Chapter 23 of the James Bay and Northern Québec Agreement (JBNQA) and Chapter II of the Québec Environment Quality Act (EQA). A project description (preliminary information) has been filed with the provincial Administrator of the JBNQA on January 23, 2012. The Environmental Assessment process under the Nunavik Inuit Land Claims Agreement (NILCA) could apply to parts of the project that impact the marine region.

No regional environmental study has been conducted in the Project area.

N.B. Please note that the requirements above are provided as an indication only and are based on technical knowledge and experience. It does not constitute or intend to replace a legal opinion on the same.

2.0 PROJECT INFORMATION

2.1 Context and Objectives of the Project

The high demand for metals, including iron, on the world market encourages mineral exploration and investment in subsequent developments. Demand for iron ore is high and is expected to continue to rise, as China and other developing countries continue their growth and other emerging economies develop.

Extensive exploration drilling, metallurgical test work, process development, and an economic assessment have already been completed for the Hopes Advance Project. An NI 43-101 global resource of 1.268 billion tonnes of measured and indicated in-pit resource at 32.3% using a 25% cut-off grade has been published by Oceanic Iron Ore Corp. (April 2, 2012).

2.2 Provisions in the Regulations Designating Physical Activities Applicable to the Project

The provisions in the schedule to the Regulations Designating Physical Activities describing the Project in whole or in part are the following:

- Section 15. The construction, operation, decommissioning and abandonment of:
  - (a) a metal mine, other than a gold mine, with an ore production capacity of 3,000 t/d or more;
  - (b) a metal mill with an ore input capacity of 4,000 t/d or more.

- Section 20(k). The construction, operation, decommissioning and abandonment, or an expansion that would result in an increase in its production capacity of more than 35% of a factory for the manufacture of chemical explosives employing chemical processes.
- Section 27(c). The construction, operation, decommissioning and abandonment of a marine terminal designed to handle vessels larger than 25,000 DWT unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation.

Other provisions that could potentially be applicable are:

- Section 2(a). The construction, operation, decommissioning and abandonment of a fossil fuel-fired electrical generating station with a production capacity of 200 MW or more[2].
- Section 29. The construction, operation, decommissioning and abandonment of:
  - (b) an airport;
  - (c) an all-season runway with a length of 1,500 m or more.

The project description is based on currently available data and is preliminary at this stage. It is subject to modifications in light of the results of an ongoing prefeasibility study, which should be completed in September 2012.

2.2.1 Overview of the Project

The Hopes Advance Project involves the development of open pit mines. Based on the current scenarios published by Oceanic Iron Ore Corp., the mine is expected to generate from 10 to 20 million tonnes per year of 66.5% iron concentrate product over a planned period of up to 48 years, corresponding to an average iron ore extraction rate of 72,000 to 144,000 tonnes daily.

The ore from the mine will be treated at the concentrator to be located near the mine (see Figure 1). The preliminary process flow sheet for the ore is based upon gravity separation of coarsely liberated, predominately specular hematite, with magnetic separation to recover the finer grained magnetite. Intermediate products will be reground in secondary milling steps and reprocessed to recover the liberated fine iron.

The concentrate will be pumped to the port area via a 26 km long concentrate pipeline for shipping of the concentrate.

2.2.2 Ore Deposit Mining

There will be several pit areas in the Hopes Advance Area (see Figure 1). The conceptual design requires maintaining a minimum setback of 100 m from Ford Lake, Red Dog Lake, and the Red Dog River. Open pit mining in the Hopes Advance Area is envisioned as a conventional drill/blast/load/haul mining operation. The sequence would involve drilling 15-m benches followed by blasting, loading, and haulage to the concentrator or waste dump. Large front shovels would load blasted material into haul trucks which would then haul ore to the

[2] Note that the anticipated production capacity of the generation station is 190 MW.

concentrator and waste to the waste dumps. Mining operation will be carried out on a 24 hour per day and 365 day per year basis.

The following sections give an overview of the geology and mineralization of the Project area as well as main mineral processing techniques.

2.2.2.1 Geology and Mineralization

Located at the north end of the Labrador Trough, the mineralized ores within the Ungava Iron properties are composed basically of magnetite and hematite (hematite >magnetite).

The Labrador Trough or New Québec Orogen is a Paleoproterozoic (1,840 billion years ago (Ba)) fold and thrust belt that is situated between the Archean aged Superior and Rae Provinces. The iron formation in the Labrador Trough has been dated at 1,880 Ga ±2 million years (Ma), and the area presents the iron mineralization deposit type, with sparse iron formation outcrop. Chert-magnetite-hematite iron formation is overlain by spotted chert-carbonate rock. The iron formation in the Hopes Advance Area can be traced over a length of approximately 30 km.

The iron formation has been extensively metamorphosed, faulted, and folded. The Hopes Advance Area contains fold-thickened portions of the iron formation. The Sokoman Iron Formation is the stratigraphic/geological control of the iron mineralization in the region. Strong folding has resulted in a structural influence on the iron formation.

Low-grade iron formations such as those present in the Ungava Bay region of Northern Québec occur predominately as oxides with silica as the principal impurity. The iron oxides occur in two forms, magnetite, in which the iron mineral is magnetic, and hematite, a non-magnetic form of iron oxide.

In reference to the mineralogy, photomicrographs show the relatively simple mineralogy of the iron formation of the Ungava Iron Ore properties, with potential variation in grain size affecting the potential liberation and recovery of iron oxides.

Using the estimated cut-off grade of 25.0% iron, the Hopes Advance Area iron deposits have a global mineral resource as shown in Table 1.

Table 1: Hopes Advance Area In-pit Mineral Resources Estimate at a Cut-off Grade of 25.0% Fe

Classification	Tonnes	Fe (%)	Concentrate (Tonnes)
Measured (M)	720,765,000	32.4	279,806,000
Indicated (I)	547,518,000	32.3	211,516,000
M+I	1,268,283,000	32.3	491,322,000
Inferred	193,403,000	32.9	75,112,000

2.2.2.2 Mineral Processing

The type of iron formation of the Hopes Advance Area contains a variety of ore types that can all be grouped into the concentrating ores category. Concentrating ores are typically composed of magnetite and/or hematite and silicate minerals at relatively low grades (20-40% Fe) that require grinding to liberate magnetite and/or hematite

from the silicate minerals. Magnetite is concentrated by magnetic methods and hematite is concentrated by gravity and/or flotation methods.

The process flow sheet for the Hopes Advance Area ore will be based upon gravity separation of coarsely liberated, predominately specular hematite, with magnetic separation to recover the finer grained magnetite. Intermediate products will be reground in secondary milling steps and reprocessed to recover the liberated fine iron.

Mineral processing facilities for the Project will comprise a concentrator that will be located near the mine (north of Red Dog Lake), with a combination of spirals and magnetic separation (see Figure 1). In the concentrator, the mineral processing operations will involve the crushing and grinding of the ores to a size fine enough to free the iron mineral from the silica waste. If the hematite particles are coarse enough, the difference in specific gravity between heavier iron minerals and the silica can be exploited, and gravity separation utilized. Magnetic separation may be used for finer magnetite particles.

Typical equipment such as spirals and thickening tanks are employed to segregate the heavier, iron rich stream from the waste. For finer iron mineralization, magnetic separators will be employed and froth flotation may be used on the iron oxide-silica slurry. Flotation processes utilize reagents that have a specific affinity for iron or silica. The reagents, along with flotation machines, are used to mechanically separate the two minerals. In a flotation machine, utilizing the proper chemicals, air is introduced to the iron oxide-silica slurry. The air, along with the process chemicals, causes one of the two mineral species to attach itself to an air bubble and float to the surface.

Concentrate will be pumped to the port area via a 26 km long concentrate pipeline (see Figure 1). Concentrate from this pipeline will then be filtered to achieve an acceptable moisture level for shipping. Products would be stored or directly loaded onto a ship for final delivery to a steel plant.

2.2.3 Deep-Water Port, Shipment and Related Equipment

2.2.3.1 Deep-Water Port

A preliminary design of the port facility required for the Hopes Advance Project has been done. The assumptions were for the shipment of 10 to 20 million tonnes per year of iron ore products to steel mills in Europe and Asia, with marine structures designed for a 365 day per year operation.

Three potential locations were evaluated for the construction of the proposed port facility and its onshore infrastructure. The preliminary criteria for the site selection were the distance from the concentrator, the distance from onshore facilities to deep water port and shelter water (required for ship loading operation). Further analysis will be performed to include environmental and social criteria for the port site selection.

The proposed marine facilities consist of an iron ore wharf (330 m) and a causeway (328 m). The wharf is a caisson gravity base structure containing hollow concrete precast boxes for the iron ore wharf, commercial and tug wharf in a series configuration. Each caisson is 30 m X 30 m X 42.5 m. The gravity structure compartments are filled with sand/rock, when connected together. The caisson will be submerged without hammering and anticipated dredging is limited to the preparation of a flat base to place the caissons. The method of dredging will depend on soil type and other conditions. No data is available on the soil at this time. The dredged material will

be used as much as possible as backfill. Again, the disposal scenario will have to be evaluated with regards to the soil type and quality.

The wharf will be equipped with ship loading equipment and conveyor systems. No dredging is anticipated for the vessel approach channel. Total surface areas occupied by wharfs will be around 1 ha.

2.2.3.2 *Shipment*

The shipment of iron ore from the Hopes Advance Project to European and Asian markets requires navigation through Ungava Bay and the entrance to Hudson Strait and Labrador Sea. Ice class vessel with a capacity of 180,000 DWT[3] will be used for shipping, while 240,000 DWT vessels may be used during the ice-free season. For other shipping requirements (such as consumables, spare parts, etc.), it is assumed that general cargo will be transported in 10,000 DWT vessels. Delivery of fuel oil will be in 25,000 DWT ice-class tankers.

The Arctic Shipping Pollution Prevention Regulations regulate navigation north of 60° through the Zone/Date System. The proposed Hopes Advance Bay port location is outside the Zone/Date System, but vessels have to navigate through Zone 15. Currently, all year commercial shipping in Zone 15 is to Deception Bay to service the Raglan mine in northern Nunavik.

The number of required shipments by 180,000 DWT vessels is 56 for 10Mt/y production, and 111 for 20Mt/y. Consequently, vessels must depart on average, every week for the 10Mt/y scenario, and every 3.3 days for the 20Mt/y production scenario. It should be noted that variations may be considered in order to raise ice-free season shipping volumes and reduce winter shipping volumes.

2.2.3.3 *Onshore Related Equipment*

Iron Ore Conveyor

Iron ore products will be reclaimed by a slewing type bucket stacker/reclaimer with reclaiming capacity of 16,000 tonnes per hour. Belt conveyors will convey reclaimed iron ore products from the stockyard, adjacent to the port, to the ship loader at the berth for ship loading operations.

Ship loading Equipment

The iron ore berth at Hopes Advance Bay will have the capability to load ocean-going vessels up to 240,000 DWT. The ship loader will be a standard long-travel ship loader with slewing and luffing capability. The ship loader loading capacity will be 16,000 tonnes per hour.

2.2.4 Power Plant

Oceanic Iron Ore Corp. will construct the Project and commence operations utilizing a self-generated power plant, fuelled by oil, with the intention of connecting to the grid when Hydro-Québec has advanced its transmission line to Ungava Bay. Our understanding is that Hydro-Québec needs to rationalize construction of an intermediary power generation facility in order for the capital costs associated with the transmission line to be viable for both Hydro-Québec and Oceanic Iron Ore Corp. Hydro-Québec has advised that they intend to

[3] Deadweight tonnage

proceed with a feasibility study for the intermediary power generating station and, based on the outcome, would proceed with the ESIA.

The self-generation power plant would be fuelled with Bunker C oil. It would have a base load of 126 MW and an installed capacity of 190 MW based on the initial concentrate production of 10 million tonnes of concentrate per year. During the subsequent feasibility study, Oceanic Iron Ore Corp. will evaluate an alternative of liquefied natural gas (LNG) fuel for generators.

2.2.5 Ancillary Infrastructures

Besides the mine, the concentrator and the port facilities, additional infrastructure will be required to support the operation. The main additional infrastructures are described below.

2.2.5.1 Airstrip Upgrade

The Aupaluk airport will provide an initial means of transportation for employees travelling to and from the site. However, Oceanic Iron Ore Corp. anticipates upgrading the existing historic airstrip located on the north side of Hopes Advance Bay (Figure 1) by lengthening it from around 1,470 m (4,820 feet) to approximately 1,980 m (6,500 feet) and paving the runway to facilitate landing of jet aircraft. In addition, a modest terminal/ air traffic control facility adjacent to the airstrip will be established.

2.2.5.2 Concentrate Pipeline

It is planned that a 26 km long buried pipeline will transport slurried concentrate to the port site (Figure 1). The pipeline will be 20 inches in diameter. A water pipeline from the dewatering facilities in the port area returning to the concentrator has also been included. The pipeline route is preliminary, but it is anticipated that water crossings will be needed.

2.2.5.3 Site Roads

A 26 km long permanent road connecting the concentrator and mine area to the port and worker camp site areas will be part of the Project. Road access to other Project infrastructure such as the waste dumps and tailings management facilities (TMF) will also have to be constructed. The road route has not been determined yet, but it is anticipated that water crossings will be needed.

2.2.5.4 Worker Camp

A permanent camp will be included to provide accommodation for the workers during construction and operation. The camp will house approximately 500 people, including an allowance for transitional occupancy during turnarounds and for inoperable occupancy. The permanent camp will be located adjacent to the concentrator. A 25-50 person permanent camp will also be located at the port site to facilitate port operation and ship loading.

A temporary camp is anticipated for the construction phase at the Ungava Bay port site and the concentrator site. An alternative that will be evaluated during feasibility study is a self-contained barge camp that would be located at Ungava Bay. Workers will be housed using a combination of the permanent camp and temporary camps. The total camp loading during peak construction will range from 1,250 to 1,750 people.

Sewage systems, waste disposal facility and fresh water supply will service the camps. The source for drinking potable water is anticipated to be Ford Lake. At this time, the location of the outfall for treated water has not yet been determined.

2.2.5.5 *Service Buildings*

A building complex will be required in the concentrator area to house the offices, maintenance shops, warehouse, analytical and metallurgical testing laboratory, and changing rooms.

Similarly, the port area operations will require office spaces for various disciplines, warehouses, maintenance garage, etc.

The number and dimension of service buildings have not yet been determined.

2.2.6 Petroleum Products Management

Use of diesel, fuel oil, gasoline, bunker C, and potentially LNG is anticipated for the Project. Storage and management of these products will be required in the mine, concentrator and the port areas. Special storage equipment would be needed for LNG if that alternative is viable.

Petroleum products will be used to operate machinery, to fuel ships, in the mineral processing and for emergency generators. In addition, petroleum products will be used as the sole power source during the construction phase and until Hydro-Québec's power line is in operation.

2.2.7 Explosive Management

Explosive manufacturing and storage facilities will be located close to the mine pits. Exact locations have not been determined at this stage of the Project. The explosives will be manufactured on site.

2.2.8 Reclamation and Closure

At this stage in Project development, a reclamation and closure plan has not been developed. A site restoration plan will be submitted to the Québec's *Ministère des Ressources Naturelles* (MRNF) before the beginning of the construction phase. Discussions will be held with the Inuit with regards to potential reuse of some facilities/infrastructures by them.

2.3 Infrastructures External to the Project – Power Line

One important infrastructure related to the Hopes Advance Project to support the mine operations is a grid power line. However, Oceanic Iron Ore Corp. is not the proponent of this project and it is not intended for the exclusive use of the Hopes Advance Project.

Oceanic Iron Ore Corp. will review the option of tying into the Hydro-Québec power grid with the installation of a new power line from the most suitable northern Québec generating station (possibly Brisay or Laforge 2) to the mine site in the event that Hydro-Québec advances the transmission line. The ultimate requirement of the Hopes Advance Project will approximate 220 MW considering the 20 million tonnes per year of concentrate production. Oceanic Iron Ore anticipates increasing its output capacity from 10 to 20 million tonnes per year concentrate to coincide with the availability of grid power in the future, once Hydro-Québec has advanced the transmission line.

2.4 Emission, Discharges and Waste

2.4.1 Mine Waste Management

2.4.1.1 Waste Rock

Five potential waste rock stockpile footprints could provide sufficient waste rock storage (1,000 M-m^3) with all drainage directed to the Red Dog River watershed (Figure 1). The proximity of waste rock stockpiles to open pit mines to reduce haul distance is an important consideration. Potential waste rock stockpile locations are currently being evaluated with regard to geotechnical, geochemistry, environmental and social criteria.

2.4.1.2 Tailings

Preliminary data indicates a life-of-mine production of about 918 million tonnes of tailings requiring a storage volume of approximately 600 million cubic metres. An assessment of alternative tailings sites, including supporting geotechnical, geochemistry, environmental and social investigations, is currently being carried out. Four potential Tailings Management Areas (TMAs) were identified for further evaluation (Figure 1) and a preferred TMA will be recommended. Placement of tailings in a mined out open pit may be considered, depending on the order of pit mining and availability of an open pit for this purpose. Use of an open pit for tailings disposal would reduce the volume of tailings placed on surface in a TMA.

2.4.2 Industrial Water Management

Industrial water management includes the following components: mine water, waste dump run-off, TMF run-off, industrial site run-off (e.g., concentrator area), and excess process water.

According to the topography, the mine sites will be partly surrounded by a network of ditches that will divert clean surface runoff water toward the receiving bodies of water. Water will be recycled as much as possible and some proportion of fresh water (make up water) will be required for mineral processing. The fresh water is anticipated to come from Ford Lake, but alternatives will be evaluated. All industrial wastewater will be managed according to its quality and the environmental discharge objectives, that is to say:

- storage for settling and polishing; and
- treatment, if required, followed by discharge in the receptor body of water.

At this time, the location of the outfall is not yet determined.

2.4.3 Atmospheric Contaminant

Mining and metallurgy requires significant amounts of energy and fuel. The Project area including the northern village of Aupaluk is not currently serviced by Hydro-Québec's electricity and thus the Project requires building a fossil fuel power plant and will incidentally contribute to greenhouse gas emissions (amount not calculated yet). Alternate sources of energy such as hydroelectricity, when it becomes available, instead of fossil fuels are, therefore, being considered.

2.5 Activities Phases and Schedule

The preliminary timeline of the Project is articulated around the following dates:

Table 2: Preliminary Timeline of the Project

Phase	Beginning	End
Feasibility study	2012	2013
Environmental and Social Impact Assessment (ESIA)	2011	2014
Construction ■ Land clearing ■ Excavating and infilling ■ Blasting and drilling ■ Installing structures ■ Dredging and disposal of dredged sediment (port)	2014	2016
Start-up & commissioning	2016	2017
Production ■ Mining activities (blasting and hauling, waste and petroleum product management, maintenance of structures) ■ Shipping (transhipment, vessel traffic including icebreaker)	2016	2065
Closure and site restoration	2065	2068

3.0 PROJECT LOCATION

The Project is located in the region of Nunavik in Québec, on the western side of Ungava Bay, and close to the northern village of Aupaluk (Figure 1). The centroide of the Project area is approximately 69° 58' 40.265" W / 59° 17' 9.631" N.

Besides Aupaluk, the communities nearby are Kangirsuk (around 80 km north of Aupaluk) and Tasiujaq (around 70 km south of Aupaluk). Kuujjuaq, the largest community of Nunavik, is located approximately 150 km south of Aupaluk.

The Project falls within Inuit territory governed by the James Bay and Northern Québec Agreement (JBNQA). The majority of the claims are located on Category III lands. However, a portion of the claims is located south of Red Dog River that is on Category II lands, but at this time, no mining activity is planned on these lands.

There are no roads in Nunavik outside the villages. As such, air transportation keeps the communities connected year-round, and the summer sealift ensures the delivery of necessary non-perishable food and supplies. It should be noted that a local airport is located in the village of Aupaluk and a historical airstrip is located at the project site. Locally, the Inuit depend on snowmobiles, all terrain vehicles and motor boats for transportation and traditional activities.

The rights on the deposit of the Hopes Advance Area are owned by Oceanic Iron Ore Corp., which holds 1,132 claims covering 491 km^2. All the lands concerned by the Project are public domain. Figure 1 shows the delimitation of the Oceanic Iron Ore Corp. properties of the Hopes Advance Area.

Only a few residences are located near the Project area. Four fishing cabins are sited at the mouth of Red Dog River on the south shore and two others close to Red Dog Lake (Figure 1). These cabins belong to Aupaluk residents. Another cabin is found near the proposed port facilities and an old village with a few inhabited cabins are upstream (west) of the port location.

For Aupaluk community and other stakeholders, the most valued areas and natural resources in the Project area are fish and fish habitats within Hopes Advance Bay, the lakes and the rivers (especially Red Dog River, Ford Lake and Saint-Fond River). Caribou, duck, geese, seal and beluga hunting and berry-picking areas represent other valued land in the Project area. Hopes Advance Bay is also important for seafood collection such as mussels and clams.

Another mining project is located in vicinity of the Project area. The Hawk Ridge mine project (Nickel North Exploration Corp.) is located south of Aupaluk (Figure 2) and is at the stage of advanced exploration. The commodities are copper, nickel, platinum, palladium and gold.

Source: Virginia Energy Resource website (http://www.virginiaenergyresources.com/s/HawkRidge.asp)

Figure 2: Hawk Ridge Project Location

Photographs of Project area can be found in Appendix A.

4.0 FEDERAL INVOLVEMENT

To date, the federal authorities have not proposed financial support for the Project. However, Oceanic Iron Ore Corp. is pursuing ongoing talks with Transports Canada representatives to determine whether there may be funding available at the federal level with respect to a deep water port at Ungava Bay. Oceanic Iron Ore Corp. does not anticipate financial support from the federal government concerning the airstrip.

No federal lands are part of the Project area.

We anticipate that the following federal acts or regulations may apply for the design and operation of the project:

- Migratory Birds Convention Act, 1994;
- Fisheries Act;
- Navigable Waters Protection Act;
- Explosives Act;
- Arctic Waters Pollution Prevention Act;
- Species at Risk Act;
- Canadian Environmental Assessment Act, 2012;
- Ammonium Nitrate Storage Facilities Regulations; and
- Migratory Birds Regulations.

N.B. Please note that the list of requirements above is provided as an indication only and is based on technical knowledge and experience. It does not constitute or intend to replace a legal opinion on the same.

5.0 ENVIRONMENTAL COMPONENTS AND MAIN CONSTRAINTS TO THE PROJECT

5.1 Physical Environment

Physical components include hydrology and coastal processes; surface water and sediment quality; hydrogeology and groundwater quality; soil and terrain; climate and air quality; and noise and vibrations. The next section describes the components from which relevant data are already available.

5.1.1 Hydrology and Coastal Processes

The watercourses within the Project area belong to the Hudson Bay Seaboard drainage basin, and more specifically, the Leaf River watershed. The main lakes within the region (i.e., Ford, Red Dog, Ippialuup and

Ungallijuap Qamaninga lakes) all drain into the Red Dog River, which in turn flows into Hopes Advance Bay, a part of Ungava Bay. From another watershed, the Saint-Fond River also flows into the Ungava Bay north of the Project area.

Apart from the Red Dog River and Saint-Fond River, only small to medium streams are found in the Project area. From preliminary surveys, many rapids, cascades or braided sections with very low depth were observed in these streams. However, some channels of up to 1 metre in depth are present in some sections of these streams.

With a mean tidal range of 8.2 metres, Hopes Advance Bay is amongst the top 30 locations around the world where the largest range of tides has been observed. Normally, Ungava Bay begins to freeze up around mid-November and ice begins to break up around mid-June, creating a seven month ice cover.

5.1.2 Surface Water and Sediment Quality

Water and sediments (substrate of fine particles) were collected in September 2011 in lakes and watercourses of the Project area for analysis.

Water quality analysis showed low nutrient concentrations typical of oligotrophic and uncontaminated lakes. Typically the metal concentrations were below detection limits, and below federal or provincial guidelines.

In general, sediment quality analysis showed low metal concentrations into lake and river sediments.

5.1.3 Soil and Terrain

Surficial deposits within the Project area consist mainly of sediments deposited from melt water and floating ice in marine waters, during deglaciation and subsequent regression that have been classified as lag glaciomarine deposits. Also found in the Project area are till blanket (thick and continuous) and till veneer (thin and discontinuous, areas of rock outcrop) glacial deposits.

The land within the Project area is inclined towards Ungava Bay, which is surrounded by land that is at sea level. Furthermore, aside from a series of low hills reaching a maximum height of around 110 metres north of Ford Lake, the rest of the Project area is relatively flat (mean elevation of around 40 m), and has been grouped within a slope gradient class of 10-15%.

The Project area is located within the zone of continuous permafrost, within which the layer of permafrost can reach thicknesses of about 25 m.

5.2 Biological Environment

Biological components include vegetation and wetlands, mammals, birds, reptiles, amphibians and fish/fish habitat. Particular attention has been paid to protected areas and to species of special concern.

5.2.1 Protected Areas

The closest protected area, located 15 km south of the Project area is called the *Réserve de parc national du Québec de la Baie-aux-Feuilles*. This area is entirely located outside of the Project area.

No Important Bird Area (IBA) has been identified within the Project area.

5.2.2 Vegetation and Wetlands

The Project area is located within the low subarctic, shrub arctic tundra bioclimatic domain. In this domain, willows (*Salix* spp.) and birch (*Betula* spp.) grow alongside herbaceous species (mostly graminoids), mosses and lichens. The vegetation canopy rarely grows beyond two metres.

The Project area is found within the natural province of the Ungava Bay basin (called natural province K), an area of 103,000 km^2 of which 3,136 km^2 consist of wetlands. These wetlands, which are for the most part unclassified, likely include:

- Peatlands, as well as swamps and marshes, bordering lakes and streams;
- Important wetlands in some estuaries and sheltered bays along Ungava Bay; and
- Fens and palsa bogs (influenced by the permafrost) along the Ungava Bay coast.

5.2.3 Mammals and Birds

The following large mammal species are present in the Project area: caribou (*Rangifer tarandus,* Leaf River caribou herd), muskox (*Ovibos moschatus*), red foxes (*Vulpes vulpes*), marten (*Martes americana*), wolves (*Canis lupus*), polar bears (*Ursus maritimus*), Canada lynx (*Lynx canadensis*), and arctic foxes (*Alopex lagopus*). The habitat is suitable for Wolverine (*Gulo gulo*), but no verified reports of this species in Québec exist since 1978.

The following marine mammals (amongst others), based on their general distribution, may frequent Hopes Advance Bay: harbour seal (*Phoca vitulina*), bearded seal (*Erignathus barbatus*), ringed seal (*Pusa hispida*), beluga whale (*Delphinapterus leucas*, Ungava Bay population), Sei whale, (*Balaenptera borealis*), and Blue whale (*Balaenoptera musculus*).

Some 37 bird species were reportedly observed in the Red Dog Lake area. Most of them only migrate through the region, but the peregrine falcon (*Falco peregrines*) uses the area for reproduction and 5 more species may potentially use the area for this same purpose: snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), greater scaup (*Aythya marila*), herring gull (*Larus argentatus*), and king eider (*Somateria spectabilis*). Among the species observed at or near the project area are peregrine falcon, golden eagle (*Aquila chrysaetos*), common eider (*Somateria mollissima*), black guillemot (*Cepphus grylle*), surf scoter (*Melanitta perspicillata*), and several species of seagulls.

5.2.4 Reptiles and Amphibians

No reptile or amphibian species distributions go as far north as the Project area.

5.2.5 Fish and Fish Habitat

The following fish species have been captured during gillnet and electric fishing surveys performed in September 2011:

- Lake trout (*Salvelinus namaycush*)
- Arctic char (*Salvelinus alpinus*)
- Brook trout (*Salvelinus fontinalis*)
- Round whitefish (*Prosopium cylindraceum*)
- Mottled sculpin (*Cottus bairdi*)
- Ninespine stickleback (*Pungitius pungitius*)
- Threespines stickleback (*Gasterosteus aculeatus*)
- Burbot (*Lota lota*)

Although not captured during the September 2011 survey, the following fish species, amongst others, are also likely to frequent the Project surrounding area according to their general distribution: northern pike (*Esox lucius*), suckers (*Catostomus* spp.), lake whitefish (*Coregonus clupeaformis*) and some Cyprinid species. Amongst marine and anadromous species, Greenland halibut (*Reinhardtius hippoglossoides*), Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) inhabit Ungava Bay.

The marine benthic community of the region includes such species as: Iceland scallop (*Chlamys islandica*), blue mussels (*Mytilus edulis*) and clams (*Mya arenaria*) which can be found off the shores of Hopes Advance Bay.

5.2.6 Species of Special Concern

Some species or populations in the Project area are protected at the federal level by the Species at Risk Act (SARA) and/or at the provincial level by the Act respecting threatened or vulnerable species (LEMV). In addition, migratory bird species are protected by the Migratory Birds Convention Act, 1994, administered by the Canadian Wildlife Service of Environment Canada in collaboration with the Canadian provincial and territorial governments.

According to the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ), no floristic species at risk or any important terrestrial habitats have been recorded within the Project area (Benoît Larouche, August 2011, pers. comm.). It should be noted, however, that the lack of special status species in the Project area may simply be a result of a lack of field investigations in this remote area of Québec.

The following special concern wildlife species are present in the Project area:

- Peregrine falcon *tundrius* (*Falco peregrinus tundrius*): susceptible of being designated threatened or vulnerable according to the LEMV and listed as a special concern species according to the SARA.
- Golden eagle (*Aquila chrysaetos*): listed as vulnerable according to the LEMV and not at risk according to Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Polar bear (*Ursus maritimus*): listed as vulnerable under the LEMV and of special concern by COSEWIC.
- Ungava Bay beluga whale (*Delphinapterus leucas*) population: susceptible of being designated endangered or vulnerable under the LEMV, has been designated endangered by COSEWIC and is under consideration for listing under the SARA.

- Eastern Arctic population of Bowhead whale (*Balaena mysticetus*): listed in Schedule 2 of SARA as endangered.

Based on their general distribution, the following species listed as a special status species might possibly be found in the Project area:

- Wolverine (*Gulo gulo*): designated threatened in Québec according to the LEMV and endangered according to SARA.
- Harlequin duck *(Histrionicus histrionicus*): designated as special concern species by the SARA.
- Red knot *(Calidris canutus)*: susceptible of being designated threatened or vulnerable under the LEMV and endangered by COSEWIC.
- Rusty blackbird (*Euphagus carolinus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Short-eared Owl (*Asio flammeus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Atlantic cod *(Gadus morhua*): designated as special concern species by SARA.
- Fourhorn sculpin (*Triglopsis* (*Myoxocephalus*) *quadricornis*): susceptible of being designated threatened or vulnerable under the LEMV.

It should be noted that although the caribou, muskox, salmonids, Canada goose, snow goose, seals, and ptarmigan (*Lagopus* spp) are not officially listed as a special status species at the provincial or federal levels, they warrant a special mention as they are important to the local Inuit population.

5.3 Human Environment

Human components include socio-economic, land and resource use, archaeology, and landscape. The next section describes the components from which relevant data are already available.

5.3.1 Socio-economics

The Inuit community of Aupaluk is one of the fourteen Inuit communities in the Nunavik territory. In 2006, the total population in Aupaluk was 174, having increased by 9.4% since 2001. In 2006, the median age within the village of Aupaluk was 19.5 years, which is slightly younger than that of the Inuit population (22 years), and other indigenous groups (25 years), but is more than twice as young compared to the province of Québec (41 years).

Within the village of Aupaluk, 94.1% of the population can express themselves in Inuktitut (i.e., non-official language according to Statistics Canada), 60% of the population can converse in English, while 14.3% of the population can communicate in English and French.

The region is developing slowly and its economic situation is still precarious due to its dependence on government assistance. This limited development is attributed to the climatic constraints, the scattered resources, the distance from major cities, and the lack of a skilled work force.

5.3.2 Land and Resource Use

Inuit subsistence and game harvesting (hunting, fishing and trapping) occurs along the coast as well as inland. The region surrounding Aupaluk is entirely within UGAF 96 and hunting area 23.

Large game hunting starts around mid-November and continues into mid-May. During the summer period, the Inuit spend more time fishing and hunting marine mammals. Of particular interest is that, since 1998, licensed community hunts of the Bowhead whale (*Balaena mysticetus*) were permitted in Nunavik by the Federal Department of Fisheries and Oceans, when it was proven that the Bowhead, once almost at the point of extinction due to the activities of international whalers in the past two centuries, is now rebounding.

During meetings with Inuit representatives, the species of importance to the Inuit of Aupaluk that were mentioned are salmonids (arctic char, brook trout, lake trout), muskox, polar bear, seal, geese, ptarmigan, and caribou.

Makivik is currently performing an extensive study on land and resource use on Nunavik territory; the results will complete Makivik's database and GIS on that subject. Oceanic Iron Ore Corp. plans on acquiring the data from Aupaluk, Kangirsuk and Tasiujaq communities.

5.3.3 Archaeology

According to the ISAQ (*Inventaire des sites archéologiques du Québec*) database, 50 archaeological sites have been discovered near Aupaluk. The vast majority of those sites are located outside of the Project area. Only two archaeological sites are located close to some of the Project activities (Figure 3).

5.4 Main Apprehended Impacts

For the construction, operation and decommissioning phases of the Project, the identification of incidences addresses the physical, biological and human environments.

5.4.1 Physical Environment

The main environmental impacts and risks that will be assessed for the physical environment are:

- potential contamination of soil and water: concerning accidental spillage of petroleum products and other contaminants;
- effects on surface water quality and availability: concerning water runoff modification, higher suspended matter associated with potential subsidence and erosion risks and potential contamination from effluents;
- effects on hydrodynamic conditions in Hopes Advance Bay that could be created by frequent visits of large sea vessels throughout the year;
- effects associated with air quality: concerning dust and contaminants originating from the operations; and
- effects associated with noise and vibrations from the operations.

5.4.2 Biological Environment

The main environmental impacts that will be assessed for the biological environment are:

- effects on vegetation and wetlands: considering loss and modifications caused by new infrastructures, especially open mine pits, waste dumps and TMF sites;
- effects on fish habitat and fish populations: considering loss and modifications to fish habitat by new infrastructures, especially open mine pits, waste dumps and TMF sites, port infrastructure and water crossings; the effluents, and effects associated with drainage and erosion;
- effects on terrestrial and avian fauna (including migratory birds); considering loss and change of habitat created by new infrastructures, especially open mine pits, waste dumps and TMF sites; perturbation caused by the workers' presence as well as noise and vibrations;
- effects on marine mammals: considering the port construction (dredging and potential blasting) and perturbation caused by vessel traffic.

For the biological environment, special attention will be given to species of concern and of interest to the Inuit.

5.4.3 Human Environment

As for the incidences on the social environment, the main impacts and benefits that will be assessed are the following:

- the current and anticipated future land and resource uses;
- the potential changes in traditional hunting, fishing, trapping, and gathering activities of the Inuit in the area;
- the number of jobs created by the Project in the local and regional native population;
- the introduction of a new economy within the Aupaluk and surrounding communities, which has little work experience with the mining industry, and what it can involve for the community in the short and long term;
- the expected short and long-term socio-economic benefits;
- the historical and archaeological sites;
- the visual integration of the Project in its environment;
- the demographic imbalance due to population influx of non-Inuit in a small Inuit community including possible intercultural and/or linguistic tensions;
- the effects on Inuit social organization and cohesion;
- the effects on community and worker's health and safety;
- the effects on humans associated with air quality;
- effects associated with noise from the mine site and port activities;

- the social acceptability of the Project for Inuit population and other stakeholders, particularly in the context of Plan Nord.

6.0 MODALITIES OF PUBLIC CONSULTATION WITH ABORIGINAL GROUPS

Oceanic Iron Ore Corp. initiated consultations with aboriginal groups in February 2011 before the beginning of the exploration program of the Hopes Advance Project. Consultations have continued during 2012.

Oceanic Iron Ore Corp. has prepared a consultation plan for the duration of the Project's ESIA. The objective of this plan is to gain traditional knowledge from the Inuit, so that the Project may be best adapted to their needs, and to keep the Inuit involved so that their participation into the Project is maximized. The consultations with the stakeholders will ensure that the ESIA report will include all measures required for the social acceptability of the Project.

At this stage, the consultation plan identifies the following potential stakeholders:

- Nunavik Landholding Corporation
- Kativik Regional Government (KRG)
- Makivik Corporation
- Makivik Research Centre
- Nunavik Mining Exploration Fund (NMEF)
- Nunavik Regional Board of Health and Social Services (NRBHSS)
- Avataq Cultural Institute
- Nunavik Hunting Fishing and Trapping Association (ANGUVIGAQ)
- Nunavik Tourism Association (NTA)
- Saputiit Youth Association
- Local community of Aupaluk
- Other local communities which use the land and resources within the Project area, notably Kangirsuk (North of Aupaluk) and Tasiujaq (South of Aupaluk)
- Groups or organizations from Nunavik with special interests.

For confidentiality purposes, we have not included the contact information. This information could be provided separately, on request.

Identification of stakeholders is an ongoing process; some new stakeholders may be identified during the consultation process and the baseline study.

The consultation program includes three key activities:

1) **Consultation on the current and anticipated land and resource uses** within the Project area. This activity will be conducted through interviews with key informants. These interviews will also be an opportunity for Inuit to propose suggestions for the subsequent consultation activities in accordance with their interests and preferences. Taking into account these suggestions will ensure an adequate consultation process. This activity has already begun. Meetings were held in Aupaluk and Kuujjuaq in September 2011, December 2011, March 2012 and July 2012, and will continue until the ESIA is filed with the authorities.

2) **Identification of stakeholders' issues and concerns on potential impacts of the Project and identification of the appropriate mitigation measures**. This activity will be conducted once the prefeasibility study is completed so that details on the project preliminary design can be provided. This activity will likely be based on public consultation sessions and be completed with focus groups on specific matters;

3) **Disclosure of the draft ESIA** through public consultation sessions.

The Inuit have expressed some concerns and some optimism during the initial consultation activities. People believe the project will trigger opportunities for jobs; training and partnership, but to them, this also means that the development of the project should maximize training, employment and business opportunities that would benefit most of the local people. Concern has also been raised about potential social consequences due to salary imbalance between Inuit workers and the rest of the community. Also, the potential effect on Inuit organization caused by the loss of qualified employees for the mine has been mentioned. The possible rise in drug and alcohol consumption is also a concern.

Concern has been raised about loss and deterioration of wildlife habitat due to the project. Also, game fishing and hunting from non-Inuit workers could potentially be a problem on wildlife stocks. Other preoccupations are archaeology sites that may be important in the project area. Land reclamation has also been identified as an important issue.

It should be noted that issues, concerns and expectations are those recorded during the consultation without any judgement on their legitimacy. At this stage of the project, all the concerns and comments are taken into consideration and will be addressed during the next steps of the ESIA as well as the project design.

For the Aupaluk community stakeholders, the most valued areas and natural resources in the project area are fish and fish habitats within Hopes Advance Bay, the lakes and the rivers (especially Red Dog River, Ford Lake and Saint-Fond River). Caribou, muskox, ducks, geese, ptarmigan, seals, polar bears, beluga and berries are other valued resources in the region, including the project area. Also, seafood such as mussels and clams are collected in the Hopes Advance Bay.

The proceedings of the consultation activities will be appended to the ESIA report. Table 3 summarizes the consultation activities carried out to date.

Table 3: Consultation Carried Out to Date

Name	Date of Consultation	Means of Communication
Kativik Municipal Housing Bureau (KMHB)	December 2011 and March 2012	Interviews with representatives
Kativik Regional Government	December 2011 and March 2012	Interviews with representatives
	July 2012	Project update review with senior representatives
Northern Village (NV) of Aupaluk	September 2011, December 2011 and March 2012	Interviews with representatives
Makivik Corporation	September 2011, December 2011 and March 2012	Interviews with representatives
	July 2012	Project update review with senior representatives
Makivik Research Centre	September 2011	Interviews with representatives
Nunavik Mineral Exploration Fund	September 2011 and December 2011	Interviews with representatives
Wildlife Protection Office of Kuujjuaq	December 2011	Interviews with representatives

7.0 CONSULTATION WITH THE PUBLIC AND OTHER PARTIES

Besides stakeholders directly related to Inuit communities, other stakeholders have been identified:

- Organizations and Government Ministries; and
- Non governmental organizations (NGOs) from the South with special interests who have the ability to influence the Project's outcome (to be identified).

Identification of stakeholders is an ongoing process; some new stakeholders may be identified during the consultation process and the baseline study. No consultation activity has yet been initiated on groups unrelated to the Inuit Communities.

8.0 COMMENTS

I hereby certify that all the information mentioned in the present Proponent Preliminary Information is true and exact to the best of my knowledge and belief.

9.0 SIGNATURES

GOLDER ASSOCIÉS LTÉE

Red Méthot, M.Sc.
Project Manager

Christine Guay, M.Sc.
Project Director, Associate

OCEANIC IRON ORE CORP.

Eddy Canova
Project Manager

Alan Gorman
Chief Operational Officer

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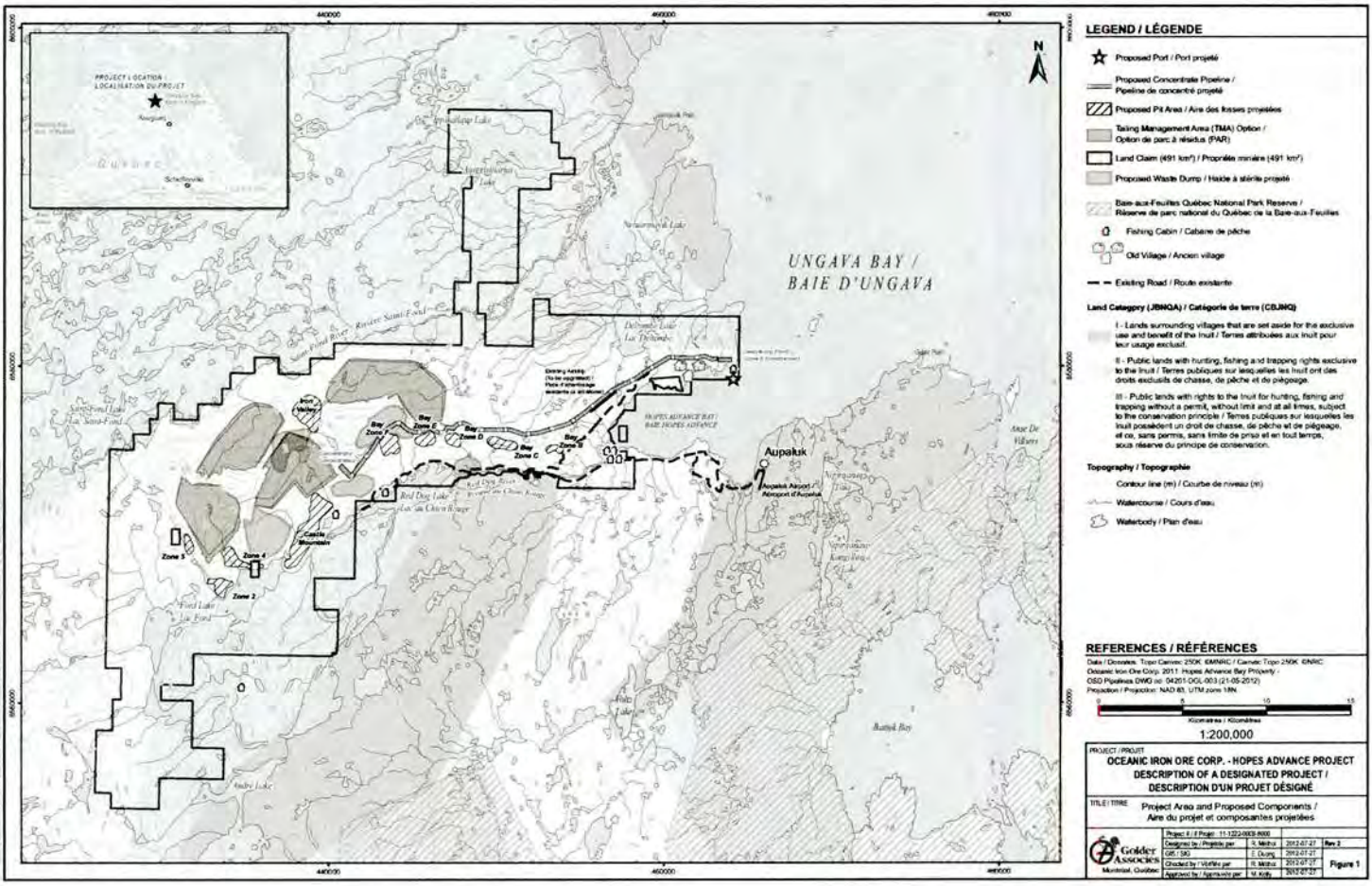


LEGEND / LÉGENDE

- Proposed Port / Port projeté
- Proposed Concentrate Pipeline / Pipeline de concentré projeté
- Proposed Pit Area / Aire des fosses projetées
- Tailing Management Area (TMA) Option / Option de parc à résidus (PAR)
- Land Claim (491 km²) / Propriété minière (491 km²)
- Proposed Waste Dump / Halde à stérile projeté
- Baie-aux-Feuilles Québec National Park Reserve / Réserve de parc national du Québec de la Baie-aux-Feuilles
- Fishing Cabin / Cabane de pêche
- Old Village / Ancien village
- Existing Road / Route existante

Land Category (JBNQA) / Catégorie de terre (CBJNQ)

I - Lands surrounding villages that are set aside for the exclusive use and benefit of the Inuit / Terres attribuées aux Inuit pour leur usage exclusif.

II - Public lands with hunting, fishing and trapping rights exclusive to the Inuit / Terres publiques sur lesquelles les Inuit ont des droits exclusifs de chasse, de pêche et de piégeage.

III - Public lands with rights to the Inuit for hunting, fishing and trapping without a permit, without limit and at all times, subject to the conservation principle / Terres publiques sur lesquelles les Inuit possèdent un droit de chasse, de pêche et de piégeage, et ce, sans permis, sans limite de prise et en tout temps, sous réserve du principe de conservation.

Topography / Topographie

- Contour line (m) / Courbe de niveau (m)
- Watercourse / Cours d'eau
- Waterbody / Plan d'eau

REFERENCES / RÉFÉRENCES

Data / Données: Topo Canvec 250K ©MRNC / Canvec Topo 250K ©NRC
Oceanic Iron Ore Corp. 2011. Hopes Advance Bay Property -
OSD Pipelines DWG ref.: 04251-DGL-003 (21-05-2012)
Projection / Projection: NAD 83, UTM zone 18N

0 5 10 15
Kilometres / Kilomètres

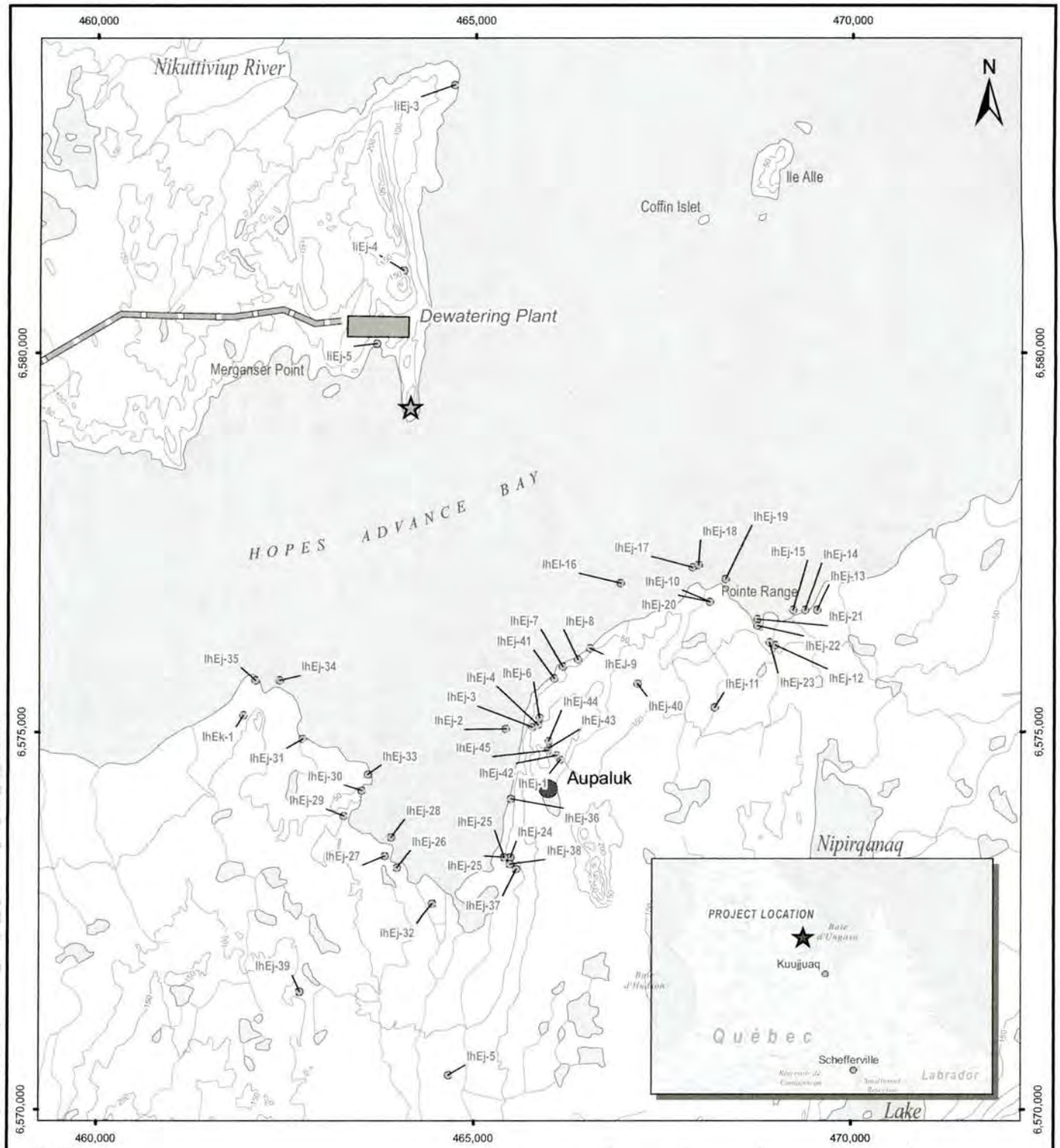
1:200,000

PROJECT / PROJET
OCEANIC IRON ORE CORP. - HOPES ADVANCE PROJECT
DESCRIPTION OF A DESIGNATED PROJECT /
DESCRIPTION D'UN PROJET DÉSIGNÉ

TITLE / TITRE
Project Area and Proposed Components /
Aire du projet et composantes projetées

Golder Associates
Montréal, Québec

Project # / Projet: 11-1322-0003-9000			
Designed by / Préparé par	R. Mishra	2012-07-27	Rev 3
GIS / SIG	E. Duong	2012-07-27	
Checked by / Vérifié par	R. Mishra	2012-07-27	Figure 1
Approved by / Approuvé par	M. Kelly	2012-07-27	



LEGEND

Archaeological Features
- Known Archaeological Site

Proposed Infrastructures
- Port
- Proposed Concentrate Pipeline
- Mine Infrastructures

Topography
- Contour Line (ft)
- Watercourse
- Waterbody

REFERENCES

Data: Natural Resources Canada - Canvec 1:250 000 ; Oceanic Iron Ore Corp. 2011-Hopes Advance Bay Property, Project Conceptual Layout, Slide 31 of a Powerpoint Presentation presented in August 2011 ; Jean-Jacques Adjizian, MCCCF, 19 July 2011, pers. comm

Projection: NAD 83, UTM zone 19N.

0 1 2 3 4 Kilometres

Scale: 1:70,000

PROJECT

OCEANIC IRON ORE CORP. – HOPES ADVANCE PROJECT
DESCRIPTION OF A DESIGNATED PROJECT

TITLE

Known Archaeological Sites

Golder Associés
Montréal, Québec

# Project: 11-1222-0008-8000			
Planned by	R. Méthot	2012-07-27	Rev. 0
GIS	E. Duong	2012-07-27	
Checked by	R. Méthot	2012-07-27	**Figure 3**
Approved by	M. Kelly	2012-07-27	

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APPENDIX A

Photographs

Photo 1. Fishing cabins at Red Dog River / Cabanes de pêche à la rivière au Chien Rouge

Photo 2. Red Dog Lake / Lac au Chien Rouge

Photo 3. Red Dog River / Rivière au Chien Rouge

Photo 4. Waterfall on the Red Dog River / Chute sur la rivière au Chien Rouge

Photo 5. Stream in the project area / Ruisseau dans la zone du projet

Photo 6. Vegetation of the project area / Végétation dans la zone du projet

Part 1 - Background

1 INTRODUCTION

The purpose of this document is to identify for the proponent the information requirements for the preparation of an Environmental Impact Statement (EIS) for a designated project[1] to be assessed pursuant to the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). This document specifies the nature, scope and extent of the information required.

It is the responsibility of the proponent to provide sufficient data and analysis on any potential changes to the environment to permit a thorough evaluation of the environmental effects of the project by the Canadian Environmental Assessment Agency (the Agency). The EIS Guidelines set out minimum information requirements. It is the proponent's responsibility to provide any additional information required to assess the environmental effects of the project. Except where specified by the Agency, the proponent has the discretion to select the most appropriate methods to compile and present data, information and analysis in the EIS.

2 GUIDING PRINCIPLES

2.1 Environmental assessment as a planning tool

Environmental Assessment (EA) is a planning tool used to ensure that projects are considered in a careful and precautionary manner in order to avoid or mitigate the possible adverse effects of projects on the environment. It encourages decision makers to take actions that promote sustainable development.

2.2 Public participation

One of the purposes of CEAA 2012 is to ensure opportunities for meaningful public participation during an EA. The public will have an opportunity to provide their comments and concerns on the proponent's EIS. The public will also have an opportunity to provide their comments on the Agency's draft report.

For the public to participate effectively, the proposed project must be well explained and the information must be available as early as possible in the review process. The proponent is required to provide current information about the project. The Agency could hold one or two information evenings on the EIS during the public consultation period. During this stage, it is essential that the proponent be present. The proponent must contribute by preparing appropriate materials to facilitate consultation (executive summaries, visual aids, maps, tables, etc.).

The proponent must adopt a communications plan and involve in the planning of its project all parties concerned, individuals, groups, communities, government departments, and public and parapublic organizations.

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[1] In this document, "project" has the same meaning as "designated project" as defined in the CEAA 2012.

2.3 Aboriginal consultation

One of the purposes of CEAA 2012 is to promote communication and cooperation with Aboriginal peoples. To work toward this goal, the proponent must ensure that it engages with Aboriginal people and groups that may be affected by the project, or that have potential or established Aboriginal and Treaty rights and related interests in the project area, as early as possible in the project planning process. The proponent must make a real effort to come to an agreement on a mutually acceptable consultation process with them. In addition, the Aboriginal persons involved must have access to all relevant information that allows them to understand the proposed project and to determine its impacts on their rights and interests. The proponent must make reasonable efforts to integrate "traditional Aboriginal knowledge" that will contribute to the assessment of environmental impacts.

All information gathered through the EA process and associated consultation and engagement with Aboriginal peoples will be used to inform decisions under CEAA 2012, as well as the Crown's understanding of the potential adverse impacts of the project on potential or established Aboriginal and Treaty rights and related interests, and the effectiveness of measures proposed to avoid or minimise those impacts.

3 PREPARATION AND PRESENTATION OF THE EIS

3.1 Agency guidance

The proponent is encouraged to consult relevant Agency Policy and Guidelines[2] on topics to be addressed in the EIS. The proponent is further encouraged to consult with the Agency and federal authorities (see section 3.4.1) during the planning and development of the EIS materials.

3.2 Study strategy and methodology

The proponent is expected to respect the intent of the EIS Guidelines and to consider the effects that are likely to arise from the project (including situations not explicitly identified in these guidelines), the technically and economically feasible mitigation measures that will be applied, and the significance of any residual effects. It is possible that the EIS Guidelines may include matters that, in the judgement of the proponent, are not relevant or significant to the project. If such matters are omitted from the EIS, they must be clearly indicated and the justification for their conclusion provided so that the Agency, federal authorities, Aboriginal groups, the public and any other interested party have an opportunity to comment on this decision. Where the Agency disagrees with the proponent's decision, it may require the proponent to provide the specified information.

In describing methods, the proponent will document how it used scientific, engineering, traditional and local knowledge to reach its conclusions. Assumptions must be clearly identified and justified. All data, models and studies should be documented such that the analyses are transparent and reproducible. All data collection methods should be specified. The uncertainty, reliability and sensitivity of models used to reach conclusions should be indicated.

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[2] Visit the Canadian Environmental Assessment Agency website at: www.ceaa-acee.gc.ca/default.asp?lang=En&n=F1F30EEF-1

All significant gaps in knowledge and understanding related to key conclusions presented in the EIS should be identified. The steps to be taken by the proponent to address these gaps should also be identified. The EIS must discuss situations where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from traditional knowledge.

3.3 Integration of EA, Aboriginal and public consultation information

In preparing the EIS, the proponent is encouraged to integrate Aboriginal and public consultation outcomes into the consideration and mitigation of environmental effects at the appropriate EA analytical steps shown on the next page (Figure 1). The proponent must ensure that public and Aboriginal concerns are well documented at each stage of the environmental assessment. The proponent must identify and explain all unresolved questions or concerns as part of its analysis of the impacts of the project.

This information will help the Crown assess adequacy of consultation, the as set out in the Updated Guidelines for Federal Officials to Fulfill the Duty to Consult (2011)[3].

[3] Visit the Aboriginal Affairs and Northern Development Canada website at: www.aadnc-aandc.gc.ca/eng/1100100014680/1100100014681

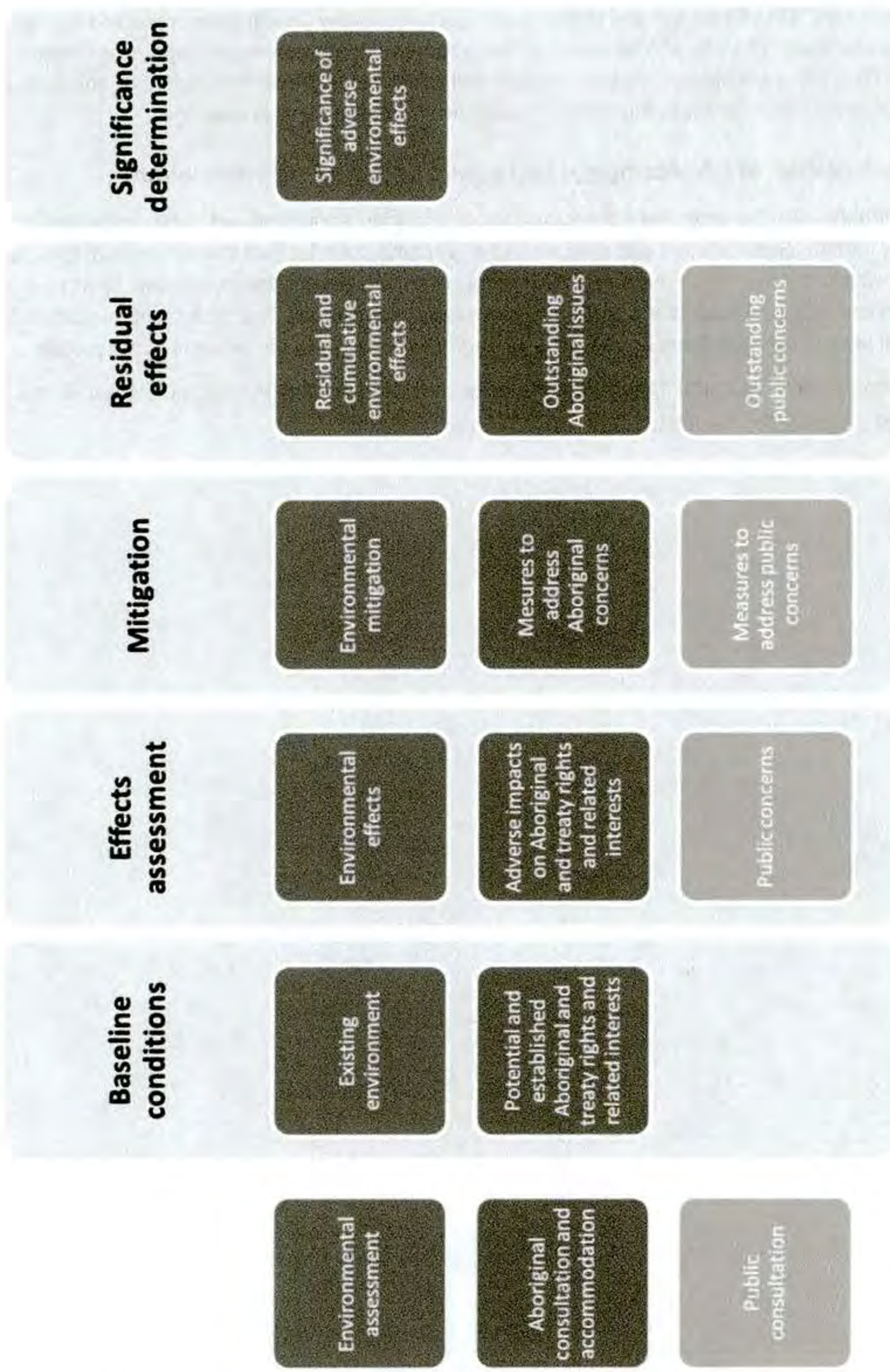


Figure 1. Integration of environmental assessment, Aboriginal and public consultation information into the Environmental Impact Statement.

3.4 Use of information

3.4.1 Scientific advice

Section 20 of CEAA 2012 requires that every federal authority with specialist or expert information or knowledge with respect to a project subject to an EA make that information or knowledge available to the Agency. The Agency will advise the proponent of the availability of any pertinent information or knowledge so that it can be incorporated into the EIS, along with, as appropriate, expert and specialist knowledge provided by other levels of government.

3.4.2 Community knowledge and Aboriginal traditional knowledge

Sub-section 19(3) of the Act states that "community knowledge and Aboriginal traditional knowledge may be considered in conducting an EA". For the purposes of these guidelines, community knowledge and Aboriginal traditional knowledge should be understood to refer to knowledge acquired and accumulated by a community or an Aboriginal community, through generations of living in close contact with nature.

The proponent shall incorporate into the EIS the community and Aboriginal traditional knowledge to which it has access or that is acquired through Aboriginal engagement activities, in keeping with appropriate ethical standards and without breaking obligations of confidentiality, if any. Agreement should be obtained from Aboriginal groups regarding the use, management and protection of their existing traditional knowledge information during and after the EA.

3.4.3 Existing information

In preparing the EIS, the proponent is encouraged to make use of existing information relevant to the project. However, when relying on existing information to meet requirements of the EIS Guidelines, the proponent must either include the information directly in the EIS or clearly direct the reader to where it may obtain the information (i.e., through cross-referencing). When relying on existing information, the proponent must also comment on how the data have been applied to the project, clearly separate factual lines of evidence from inference, and state any limitations on the inferences or conclusions that can be drawn from the existing information.

3.4.4 Confidential information

In implementing CEAA 2012, the Government of Canada is committed to promoting public participation in the environmental assessment of projects and providing access to the information on which environmental assessments are based. All documents prepared or submitted by the proponent or any other stakeholder in relation to the environmental assessment are included in the Canadian Environmental Assessment Registry (CEAR) and made available to the public on request. For this reason, the EIS should not contain:

- Information that is sensitive or confidential (i.e., financial, commercial, scientific, technical, personal, cultural or other nature), that is treated consistently as confidential, and the person affected has not consented to the disclosure; or,
- Information that is likely to endanger the life, liberty or security of a person through its disclosure.

The proponent must advise the public and Aboriginal communities that all information in the EIS is considered public. The proponent should consult with the Agency regarding whether specific information requested by these guidelines should be treated as confidential.

3.5 Presentation and organization of the EIS

To facilitate the identification of the documents submitted and their placement in the CEAR, the title page of the EIS and its related documents should contain the following information:

- project name and location;
- title of the document, including the term "environmental impact statement";
- subtitle of the document;
- name of the proponent; and
- the date.

The EIS should be written in clear, precise language. A glossary defining technical words, acronyms and abbreviations shall be included. The proponent shall provide charts, diagrams, tables, maps and photographs, where appropriate, to clarify the text. Perspective drawings that clearly convey the various components of the project shall also be provided. Wherever possible, maps shall be presented in common scales and datum to allow for comparison and overlay of mapped features.

For purposes of brevity and to avoid repetition, cross-referencing is preferred. The EIS may make reference to the information that has already been presented in other sections of the document, rather than repeating it. The exception to this preference is the cumulative effects assessment, which should be provided in a stand-alone section as described in section 12.2.1. Detailed studies (including all relevant and supporting data and methodologies) shall be provided in separate appendices and shall be referenced by appendix, section and page in the text of the main document of the EIS. The EIS shall specify the organization of the document. This should include a list of all tables, figures, and photographs referenced in the text of the EIS. A complete list of supporting literature and references should also be provided.

The proponent is encouraged to prepare an EIS that meets the requirements of the provincial and federal processes. If the proponent chooses this option, a Table of Concordance, which cross references the information presented in the EIS with the information requirements identified in the EIS Guidelines, should be provided.

The proponent shall provide 20 copies of the EIS for distribution in English and 20 copies in French, including an electronic version in an unlocked, searchable PDF format. This also applies to the summary that is to be provided as a separate document. It is strongly recommended that the proponent have the summary translated into the appropriate Aboriginal language(s) in order to facilitate consultation activities during the environmental assessment.

A map illustrating the boundaries of the proposed site, including the above-mentioned components, must accompany the text. This map must be in large format, as it could be used during consultations. In addition, site plans/sketches and photographs showing the project location, site features and intended locations of project components should be included.

5.2 Regulatory framework and the role of governments

To understand the context of the EA, this section should identify, for each jurisdiction, the government bodies involved in the EA as well as the EA processes. More specifically identify:

- any federal power duty or function to be exercised that may permit the carrying out (in whole or in part) of the project or associated activities
- the environmental and other specific regulatory approvals and legislation that are applicable to the project at the federal, provincial, regional and municipal levels;
- government policies, resource management, planning or study initiatives pertinent to the project and/or EA and discuss their implications. The proponent must indicate if they intend on submitting a request to Transport Canada's Marine Safety Directorate to implement the TERMPOL Review Process (TRP)[4];
- any treaty or self government agreements with Aboriginal groups that are pertinent to the project and/or EA;
- any relevant Land Use Plans, Land Zoning, or Community Plans;

5.3 Participants in the environmental assessment

Clearly identify the main participants in the EA including jurisdictions other than the federal government, Aboriginal groups, community groups, and environmental organizations.

6 PROJECT DESCRIPTION

6.1 The proponent

The proponent shall:

- provide contact information (e.g. name, address, phone, fax, email)
- identify itself and the name of the legal entity that would develop, manage and operate the project;
- explain corporate and management structures, as well as insurance and liability management related to the project;
- specify the mechanism used to ensure that corporate policies will be implemented and respected for the project;
- identify key personnel, contractors, and/or sub-contractors responsible for preparing the EIS.

[4] TERMPOL Code: Code of Recommended Standards for the Safety and Prevention of Pollution for Marine Transportation Systems and Related Assessment Procedures

Part 2 – Content and Structure of the EIS

4 SUMMARY

The proponent will prepare a summary of the EIS which will include the following:

- A concise description of all key components of the project;
- A summary of the consultation conducted with Aboriginal groups, the public, and government agencies, including a summary of the issues raised and the proponent's responses;
- An overview of the key effects of the project and proposed technically and economically feasible mitigation measures; and
- The proponent's conclusions on the environmental effects of the project and the significance of adverse environmental effects after taking mitigation commitments into account.

The summary is to be provided as a separate document, in French and English. It is to include a summary of the EIS, the proponent's analysis approach, and the activities conducted for data collection and consultations. The summary must have a sufficient level of detail for the reader to learn and understand the entire project, the potential impacts, the measures proposed by the proponent, the residual effects and the conclusions. The proponent is advised to follow the outline provided in Appendix A.

5 INTRODUCTION AND PROJECT OVERVIEW

5.1 Project overview and Geographical setting

The EIS should contain a concise description of the geographical setting in which the project will take place. This description should focus on those aspects of the project and its setting important for understanding the potential environmental effects of the project. In particular:

- the daily ore production capacity, the ore processing location, and the means and location of shipping the ore;
- the expected operating life and the possibility of carrying out other development phases on the mine site and port;
- the project components, as per Section 6.3.1 and their UTM coordinates;
- environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, wetlands, estuaries, and habitats of provincial or federally listed species at risk and other sensitive areas;
- current land use in the area and the relationship of the project facilities and components with any federal lands;
- a description of the local and Aboriginal communities potentially affected by the project;
- traditional Aboriginal territories, treaty lands and claimed lands, Indian reserve lands
- the environmental significance and value of the geographical setting in which the project will take place and the surrounding area.

6.2 Purpose of the project

The proponent shall establish the fundamental rationale for the project, explaining the background, the problems or opportunities that project is intended to satisfy and the stated objectives. The 'purpose of' the project should be established from the perspective of the proponent. If the objectives of the project are related to or contribute to broader private or public sector policies, plans or programs, this information should also be included.

6.3 Scope of Project

The scope of project for the purposes of the EA includes the components, physical activities listed in section 6.3.1 and involve federal decisions listed in section 6.3.2. The proponent will consider all the components, activities and decisions identified in these sections as part of the effects assessment.

6.3.1 Designated project

Based on the information contained in the project description received from the proponent, the Agency defines the scope of the project to be assessed as a minimum all components, infrastructure, ancillary structures and the following physical activities[5]:

- the operation of an open-pit mines;
- storage areas for ore, waste rock and unconsolidated deposits (including organic material);
- tailings sites;
- water-retaining structures, retention basins, dikes;
- ore processing plant that includes crushing, milling, magnetic separation and flotation areas;
- diverting water and draining water bodies;
- capture, management and treatment of run-off, process water, surface water, groundwater and dewatering water;
- the pipeline to transport the concentrate;
- marine terminal, with its wharfs, storage areas, conveyors and water filtration plant;
- marine transportation (ore and supplies);
- dredging areas and ocean sediment disposal sites;
- the shipping channel, marine routes and icebreaking;
- the central electrical panel and associated electrical lines;
- storage of oil and gas (petroleum, liquefied natural gas (LNG), etc.;
- administrative offices and service buildings;
- storage of dangerous goods other than oil and gas;
- explosives manufacturing plan and storage;
- explosives manufacturing and storage;
- access roads;
- the landing strip and air transportation service buildings;
- the workers' camp, the associated services and structures (location of the landfill, wastewater management, etc.); and
- site restoration.

[5] Following the alternative means analysis, the scope of the project could be broadened to include the related projects not described in the project description received from the proponent.

6.3.2 Decisions by federal authorities

Based on the information contained in the project description received from the proponent, the following federal authorities may have to exercise a duty or function to permit the project or the related physical activities to be carried out, in full or in part,

- Fisheries and Oceans Canada pursuant to section 32 and paragraph 35(2)(*b*) of the *Fisheries Act*;
- Natural Resources Canada pursuant to subsection 7(1) of the *Explosives Act*;
- Transports Canada (TC) pursuant to subsection 5(1) of the *Navigable Waters Act*;
- Environment Canada (EC) pursuant to the *Disposal at Sea Regulations* of the *Canadian Environmental Protection Act, 1999*;
- The Governor in Council may have to issue a decision concerning the amendment of the *Metal Mining Effluent Regulations* to authorize the deposit of tailings in a body of water frequented by fish. Such an amendment is required in order to list a body of water as a tailings impoundment area in Schedule 2 of the MMER pursuant to paragraphs 36(5)(*a*) to (*e*) of the *Fisheries Act*; and
- The Governor in Council under section 23 of the *Navigable Waters Protection Act* could exempt the proponent from the prohibition on depositing their tailings in a navigable water body.

The proponent must clearly indicate in its EIS all functions or duties (funding, authorizations, permits, etc.) the federal jurisdictions could have to exercise to carry out the project, in whole or in part.

6.4 Project Description

The EIS shall include expanded descriptions of the construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the proposed project. Although a complete list of project activities is required, the emphasis should be on activities with the greatest potential to have environmental effects. Sufficient information should be included to predict environmental effects and address public and aboriginal concerns. Highlight activities that involve periods of increased environmental disturbance or the release of materials into the environment.

The proponent must provide sufficient detail on the components of the project related to federal decisions listed in section 6.3.2.

The EIS must include, but is not limited to, a description of:

- the activities that will impact the aquatic and riparian environment, including those affecting intermittent streams, flood risk areas and wetlands (peatlands, marshes and swamps) and the marine environment (intertidal et subtidal areas);
- the dikes, specifying their location, size and construction materials used;
- the storage areas for waste rock, ore, overburden and tailings, specifying the locations, deposition and containment methods (including a plan, cross section, elevation, etc.), dimensions and any water bodies affected, if applicable;
- the permanent and temporary access infrastructure, specifying the route for each of the road accesses as well as the location, type of structures used for the crossing (e.g. bridge, culvert) and the characteristics of the physical works at each river or stream crossing. For bridges, the characteristics include in particular the type, the clear span and the number of pillars, while for culverts, the characteristics include the type (arch or closed-bottom), the shape (round, square, arched, etc.), the material (steel, concrete, plastic, etc.), the dimensions (diameter, length, width and height), the slope, and whether or not there are weirs;
- port infrastructures and facilities specifying the type of vessels that will be used, the construction methods for the wharfs (backfilling, sheet piling, pile dredging) as well as the dimensions of the wharfs, berthing areas, anchorage areas at the main terminal and in the navigation channel, and the features and locations of the navigational aids;

- capital and maintenance dredging work specifying the nature and the volume of sediments, dredging methods (type of dredge, duration, frequency, etc.), surface area of the areas to be dredged, sediment management (land and aquatic) specifying the sediment disposal area, if necessary, etc.
- navigation activities (number and frequency of trips) and icebreaking (time of year, frequency, duration, expected start and end dates); and
- the project's surface water and groundwater supply requirements, as well as discharge and intake volumes (including dewatering water). The water discharge and intake infrastructures must be located on a plan or map to scale. The EIS must describe in particular:
    - all the other water intakes, indicating their location, dimensions, depth at which the water will be removed, quantity of monthly and annual removals, dimensions of the structures that will keep the water intakes in place and their area of encroachment below the natural high water mark;
    - the volumes of water required for operations (mining, ore processing, fire control, pipeline, drinking and sanitary water, etc.);
    - wastewater and domestic water treatment ponds and units;
    - the effluent discharge points, alterations to the receiving environment at the effluent discharge point (riprap, diking, etc.) and an estimate of the projected average monthly and annual effluent volumes;
    - the collector and/or diversion ditches and canals;
    - an estimate of the volume of groundwater that will be pumped daily for dewatering of the pit and indicate whether it will be necessary to lower the water table in the vicinity of the pit and, if applicable, describe the methods that will be used to achieve this;
    - seepage from waste rock piles, tailings impoundment area and general mine site;
    - various water balances for the site, including an estimate of anticipated precipitation and details on drainage conditions. The EIS should make it possible to assess the anticipated changes to the hydrological and hydrogeological regime and associated impacts, and to estimate the effluent mixing zone, etc.

The proponent must provide maps drawn to an appropriate scale, showing the topography and all the physical components of the project (pit, overburden, ore and waste rock stockpiling areas, tailings impoundment area, dikes, mine water and treatment ponds, main road, secondary roads, effluent discharge points, water intakes, fuel depot, main buildings, etc.). The map should show the dimensions of the components and distinguish between existing components and proposed components.

The physical works and activities affecting the marine environment must be presented on a nautical chart of the area The proponent should refer to the Canadian Hydrographic Service website at: www.charts.gc.ca/charts-cartes/paper-papier/index-eng.asp?step=1. The proponent must provide a bathymetric survey of the marine terminal area, the navigation channel and the sediment disposal site.

The proponent shall provide the following information concerning explosives manufacturing and storage:

- explosives to be manufactured;
- maximum quantity of explosives at each facility;
- a detailed site plan with distances to vulnerable features such as dwellings, roads, camps, railways, bodies of water, etc. Infrastructures for manufacturing or storing explosives should be identified and include: explosives and detonator magazines, fuel storage, ammonium nitrate storage, maintenance/wash area, process vehicles and their parking area, any offices, warehouses, buildings, etc. The proponent needs to demonstrate that safety distances required by the Explosives Regulatory Division (ERD) of NRCan have been considered and met);
- fuel and ammonium nitrate storage plans; storage of ammonium nitrate is to be in conformance with ERD guidelines ;
- liquid effluent disposal plans;
- evaluation of worst case scenario (i.e. accidental explosion);

- spill contingency plans;
- details on any temporary explosive facilities to be used for starting the project (same as above).

7 SCOPE OF ASSESSMENT

7.1 Factors to be considered

7.1.1 Effects of the project on the environment

The proponent will identify the Environmental Components (ECs) deemed appropriate to ensure the full consideration of the factors listed in subsection 19(1) of CEAA 2012 as well as the 2012 amendment to section 79 of the *Species at Risk Act*. A list of minimum required ECs is provided in section 9.1 of this document. This list must be completed according to the evolution and design of the project and according to the knowledge acquired on the environment and on public and Aboriginal concerns. The proponent will describe how other ECs were selected.

The ECs should be described in sufficient detail to allow the reviewer to understand their importance and assess the potential for environmental effects arising from the project activities. The rationale for selecting these components as ECs and for excluding others should be stated. Challenges may arise regarding particular exclusions, so it is important to document the information and the criteria used to make each determination. Examples of justification include primary data collection, computer modelling, literature references, public consultation, expert input or professional judgement.

7.1.2 Effects of potential accidents or malfunctions

The proponent must identify the probability of potential accidents and malfunctions related to the project, including an explanation of how those events were identified, potential consequences (including the environmental effects), the worst case scenarios and the effects of these scenarios.

The geographical and temporal boundaries for the assessment of malfunctions and accidents may be different than those in the scope of factors for each EC. This must include an identification of the magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events.

The EIS must also describe the safeguards that have been established to protect against such occurrences and the contingency/emergency response procedures in place if accidents and/or malfunctions do occur. Detailed contingency and response plans should be presented.

7.1.3 Effects of the environment on the project

The EIS must take into account how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events (e.g. flooding, ice jams, rock slides, landslides, fire, outflow conditions and seismic events) could adversely affect the project and how this in turn could result in impacts to the environment (e.g., extreme environmental conditions result in malfunctions and accidental events). These events should be considered in different probability patterns (i.e. 5-year flood vs. 100-year flood). Longer-term effects of climate change must also be discussed up to the projected post-closure phase of the project (rise of sea levels, coastal erosion etc.). The impacts related to changes in the permafrost regime related to climate change or enhanced by project activities must be described and analyzed. This discussion should include a description of climate data used.

The EIS must provide details of a number of planning, design and construction strategies intended to minimize the potential environmental effects of the environment on the project.

7.2 Scope of the factors

Scoping establishes the boundaries of the EA and focuses the assessment on relevant issues and concerns. The spatial and temporal boundaries used in the assessment may vary depending on the EC.

7.2.1 Spatial boundaries

The EIS will clearly indicate the spatial boundaries to be used in assessing the potential adverse environmental effects of the proposed project and provide a rationale for each boundary. It is recognized that the spatial boundaries for each EC may not be the same.

Study boundaries must be defined taking into account as applicable the appropriate scale and spatial extent of potential environmental effects, community and Aboriginal traditional knowledge, current land and resource use by Aboriginal groups, ecological, technical and social and cultural considerations. The description of the project setting must be presented in sufficient detail to address the relevant environmental effects of the project. The limits must include all main and related work and the zone of influence of activities inherent to the project.

The proponent is advised to consult with the Agency, federal and provincial government departments and agencies, local government and Aboriginal groups, and take into account public comment when defining the spatial boundaries used in the EIS.

7.2.2 Temporal boundaries

The temporal boundaries of the EA should span all phases of the project: construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of the sites affected by the project. Temporal boundaries shall also consider seasonal and annual variations related to ECs for all phases of the project, where appropriate. Community and Aboriginal traditional knowledge should factor into decisions around appropriate temporal boundaries.

If the temporal boundaries do not span all phases of the project, the EIS must identify the boundaries used and provide a rationale.

8 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

The EIS must identify and consider the effects of alternative means of carrying out the project that are technically and economically feasible. The proponent will complete the following procedural steps for addressing alternative means:

- identify the alternative means to carry out the project.
    - develop criteria to determine the technical and economic feasibility of the alternative means; and,
    - identify those alternative means that are technically and economically feasible, describing each alternative means in sufficient detail.
- identify the effects of each alternative means.

- identify those elements of each alternative means that could produce effects in sufficient detail to allow a comparison with the effects of the project; and
- the effects referred to above include both environmental effects and potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests.

- identify the preferred means.
  - identify the preferred means based on the relative consideration of effects; and of technical and economic feasibility; and
  - determine criteria to examine the effects of each remaining alternative means to identify the preferred means.

In its alternative means analysis, the proponent must address, as a minimum, the following project components: ore processing, mine waste disposal, location and configuration of the marine terminal, dredging, sediment disposal, icebreaking, location of the access roads, location of the pipeline, transportation and accommodation of workers, and power source to operate the mining complex.

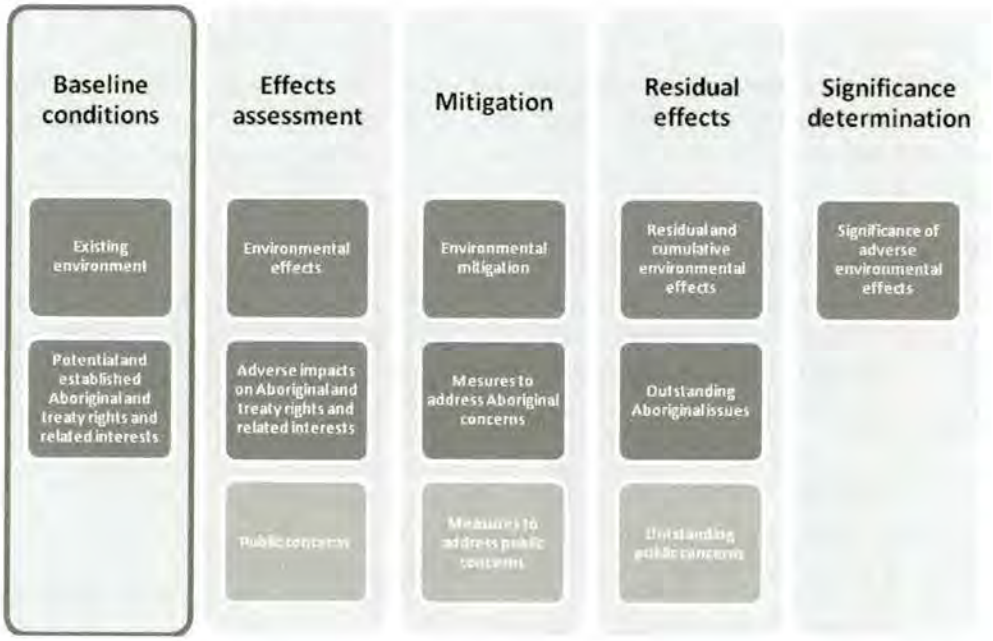
Specific considerations for the mine waste disposal alternative means analysis

The proponent has identified the potential need to use water bodies frequented by fish for the disposal of mine waste, including tailings and waste rock, as well as for the management and treatment of wastewater. Before water bodies frequented by fish can be used for disposal of mine waste, they must be designated as tailings impoundment areas in Schedule 2 of the MMER, which requires a federal legislative action.

The regulatory process provided for by the MMER will be initiated when the proponent has completed a detailed assessment of alternatives for mine waste disposal. The proponent is required to utilize the methodology provided by Environment Canada to conduct a robust and thorough assessment of alternatives for mine waste disposal [6]. To reduce the time required and facilitate a thorough, transparent review of the options, the proponent is encouraged to align the alternatives assessment required in the EIS with that required by the MMER regulatory process.

[6] For more details, the proponent should consult the *Guidelines for the Assessment of Alternatives for Mine Waste Disposal*, available on the Environment Canada website (www.ec.gc.ca/pollution/default.asp?lang=En&n=C6A98427-1)

9 BASELINE CONDITIONS



9.1 Existing environment

9.1.1 Methodology

The EIS must a include a description of the environment, including the components of the existing environment and environmental processes, their interrelations and interactions as well as the variability in these components, processes and interactions over time scales appropriate to the EIS. The description should be sufficiently detailed to characterize the environment before any disturbance to the environment due to the project and to identify, assess and determine the significance of the potential adverse environmental effects of the project

In describing the physical and biological environment, the proponent should take an approach that considers both scientific and traditional knowledge. The proponent must identify and justify the indicators and measures of ecosystem health and integrity used for analysis.

For the biophysical environment, baseline data in the form of inventories alone are not sufficient to assess effects. The proponent shall consider the resilience of relevant species populations, communities and their habitats. The proponent shall summarize all pertinent historical information on the size and geographic extent of relevant animal populations as well as density, based on best available information. Where little or no information is available, specific studies shall be designed to gather further information on species populations and densities.

The habitat at regional and local scales should be defined by type of use frequency and duration (e.g. spawning, breeding, migration, feeding, nursery, rearing, wintering). The assessment must cover all relevant seasonal variations in the use by all ECs as appropriate. Emphasis must be on those species, communities and processes identified as ECs. However, the interrelations of these components and their relation to the entire ecosystem and communities of which they are a part must be indicated. The

proponent must address issues such as habitat, nutrient and chemical cycles, food chains, productivity, to the extent that they are appropriate to understanding the effect of the project on ecosystem health and integrity. Range and probability of natural variation over time must also be considered.

If the baseline data have been extrapolated or otherwise manipulated to depict environmental conditions in the study areas, modelling methods and equations must be described and must include calculations of margins of error and other relevant statistical information, such as confidence intervals and possible sources of error.

9.1.2 Environmental components

The definition of environmental components should be interpreted broadly when evaluating whether the project may result in environmental effects under CEAA 2012. Based on the scope of project described in section 6.3, the following ECs should be identified and described in the relevant sections of the EIS.

Physical environment

The EIS shall describe the following components:

- hydrology, hydrogeology, water quality, including:
  - hydrological interactions between surface water and groundwater;
  - physicochemical quality of groundwater, identification of aquifer formations, their vulnerability and extent, direction of flow;
  - description of groundwater sources used as drinking water in the study area, their current use and potential for future use;
- geology, geomorphology, isostatic rise and geohazards (e.g. seismic activity, landslides);
- permafrost conditions: distribution, thermal conditions, ground ice, thaw sensitivity and active layer thickness;
- ore mineralogy, including sulphide types;
- characteristics of the geochemical behaviour of waste rock, ore, tailings, overburden and potential construction materials, including:
  - potential for acid generation, neutralization and contaminated neutral drainage;
  - assessment of metal leaching properties.
- weather conditions, climate and climate change [7];
- ice regime, including frazil ice, formation of ice cover, freeze-ups and break-ups;
- physicochemical quality of the dredged sediment, its toxicity, if necessary by toxicity testing;
- acoustic environment (including the characterization of baseline noise levels and the identification of sources and types of noise and sensitive receptors); and
- air quality.

[7] The document entitled *Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners* can be consulted on the Agency website (www.ceaa-acee.gc.ca/default.asp?lang=En&n=DACB19EE-1).

Biological environment

Fish and fish habitat[8]

In order to permit analysis of the project's effects pursuant to the *Fisheries Act*, the EIS must document the physical and biological characteristics of the fish habitat likely to be directly or indirectly affected by the project.

Note that certain intermittent streams or wetlands may constitute fish habitat or contribute indirectly to fish habitat. The absence of fish at the time of the survey does not irrefutably indicate an absence of fish habitat.

The EIS must illustrate, on a topographic scale map, the hydrographic network (water bodies and watercourses) including intermittent streams, flood risk areas and wetlands. It must also indicate the boundaries of the watershed and subwatersheds of the study area.

The emphasis must be placed on the watercourses and water bodies likely to be affected by the project, their physical characteristics, physico-chemical quality and hydraulic regime.

Hence, for all the watercourses and water bodies on which effects are anticipated, the EIS must describe the biophysical characteristics, including:

- for each watercourse, indicate the name of the watercourse and provide a description of the habitat by homogeneous section. The parameters which must be determined are length of the section, width of the channel from the high water mark, depth, type of flow facies, type of substrate, aquatic and riparian vegetation. It is recommended that photos be attached to the description;
- for each lake or water body affected, indicate the name of the water body and provide a description. The parameters that must be determined are total area, bathymetry, maximum and mean depths, water level, type of substrate, surface area and location of the submerged and emergent aquatic vegetation, and water quality parameters (e.g. water temperature, turbidity, pH, dissolved oxygen profiles);
- monthly/seasonal/annual volume data and outflow data;
- seasonal flows and annual hydrography (maximum and minimum flows);
- natural obstacles or existing structures that hinder the free passage of fish.

The proponent shall provide at least bathymetric maps of the marine environment that will be affected by the port infrastructures, navigated or anchorage areas and disposal sites, if necessary. The EIS shall identify or describe the following components:

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[8] For more information, the following reference documents can be consulted on the Fisheries and Oceans Canada website: *Proponent's Guide to Information Requirements for Review under the Fish Habitat Protection Provisions of the* Fisheries Act, 2009 (www.dfo-mpo.gc.ca/habitat/role/141/1415/14155/requirements-exigences/index-eng.pdf); *Quebec Operational Statement, Version 1.0, Temporary Stream Crossing*, 2009 (www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/qc/crossings-eng.asp); *Operational Statement, Version 3.0, Ice Bridges and Snow Fills*, 2007 (www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/qc/ice-eng.asp); *Quebec Operational Statement, Version 3.0, Bridge Maintenance*, 2007 (www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/qc/bridge-eng.asp). The document entitled *Guidelines for Planning River Crossings in Quebec, 2012* can be obtained from DFO.

- different tidal levels (higher high water large tide, high water average tide and chart datum), substrates, aquatic vegetation (grass beds and seaweed fields) and water quality parameters (salinity, turbidity, etc.);
- bathymetry measured at the sites of various structures;
- tidal amplitude recorded at the project site;
- surface and bottom currents from the longshore drift, the time of year, and the climatic conditions that modify these characteristics.

For all the fish species present in the study area, the EIS must describe the components of their habitats likely to be affected by implementation of the project. The description of the aquatic environment and fish habitat shall include information on the physico-chemical quality of sediments and on benthic invertebrate communities, including their diversity and abundance.

A fish samplings must be carried out. The survey methods used must be described in order to allow experts DFO to ensure the quality of the information provided. If sectoral studies on fish and fish habitat were carried out previously, they are to be submitted with the EIS.

Hence, for all watercourses or water bodies on which the project is likely to have effects, the EIS must:

- describe the fish species present on the basis of the surveys carried out and the data available (e.g. electric and experimental fishing, government and historical databases, sport fishing data, etc.); identify the sources of the data and provide the information concerning the fishing carried out (e.g. location of the sampling stations, catch methods, date of catches, species);
- specify the location and surface area of the potential or confirmed fish habitats and describe how they are used by fish (spawning, rearing, growth, feeding, migration, overwintering);
- describe the marine environment, the main species and the communities present (grass beds and seaweed fields, benthic communities, fish communities, marine mammals) on the basis of the surveys carried out and the data available (cross cut, videos and/or photos, experimental fishing, government and historical databases, sport fishing data, etc.). Identify the sources of the data and provide the information concerning the fishing carried out (e.g. location of the sampling stations, catch methods, date of catches, species, etc.). It is recommended to include the photos and videos with the description;
- locate and describe the suitable habitats for species at risk on federal and provincial lists found or likely to be found in the study area. For marine mammals, indicate the nature and periods of use of the environment;
- for the site where it is expected to install, construct or modify a watercourse crossing, determine the need to ensure free passage of fish. If the proponent believes that it is not necessary to ensure free passage of fish, it must explain why by demonstrating that there is a natural barrier to free passage of fish at or near the site of the work, or that the habitat upstream of the work is of marginal quantity and quality. The proponent can consider the anticipated state of the watercourse following the mine operations to justify its conclusion.

Migratory birds[9]

- a description of the bird fauna likely to be present in the study area for all four seasons (spring migration, breeding season, fall migration, winter).[10] The description will be based on existing data

[9] Migratory birds as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*

or on recent surveys carried out in the study area according to recognized methods. The description will make it possible to:

- identify all the species likely to be present in the study area, particularly species for which breeding is confirmed in the study area, as well as the species at risk or priority species;
- identify the location and extent of the various types of bird habitat;
- identify areas of concentration of migratory birds, such as breeding areas, colonies, spring and fall migration staging areas, wintering areas, and the breeding and nesting areas of birds of prey;
- assess the abundance, distribution and density for each bird species and by the various types of habitat;
- present the various data sources used and the survey methods used, the raw data as well as the analysis results used to predict the impacts on birds.

It should be noted that many activities carried out during the breeding season may inadvertently cause the destruction of nests and eggs of migratory birds. This "incidental take" of nests and eggs contravenes the *Migratory Birds Regulations*. According to paragraph 6(a) of these Regulations, no person shall disturb, destroy or take a nest or egg of a migratory bird.[11]

Other biological components

Vegetation cover

The EIS shall characterize the baseline vegetative communities within the area potentially affected by the project. In particular, the EIS will include information (distribution, extent and functions) on the following key communities, species groups or ecosystems that have intrinsic ecological or social value:

- forests;
- riparian ecosystems;
- plant species and ecological communities of conservation concern; and
- wetland ecosystems.

If the project involves activities that interfere with the ecological or socio-economic functions of wetlands, the proponent shall:

- describe the wetland or wetlands present in the study area using a recognized methodology that encompasses soil characteristics, hydrology and vegetation;
- determiner the functions (e.g. hydrological, biogeochemical, ecological, socio-economic) of each wetland;
- determine the local, regional or even national importance of each wetland.[12]

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[10] For more information, the following reference documents can be consulted on the Environment Canada Web site (www.ec.gc.ca/publications): *Migratory Birds Environmental Assessment Guideline, Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada, Guide for Impact Assessment on Birds* and *Environmental Assessment Guideline for Forest Habitat of Migratory Birds.*

[11] For more information, see the Environment Canada Web site (www.ec.gc.ca/paom-itmb).

[12] For more information, the following reference documents can be consulted on the Environment Canada Web site (www.ec.gc.ca/publications): *Federal Policy on Wetland Conservation* and *Wetland Ecological Functions Assessment: An Overview of Approaches.*

Wildlife species(other than Fish and Migratory Birds) and their habitats

The EIS must present, without limitation, the following information concerning wildlife species and their habitats:

- A description of the species present (mammals, non migratory birds and amphibians) and the functions of their habitat, based on the surveys carried out and available data, in terms of abundance, distribution and diversity, as well as habitat use, including a detailed description of the methodology (survey description, timing, etc.) for each of these species;
- A description of all protected and conservation areas established by federal, provincial and municipal jurisdictions (e.g. ecological reserves, parks, sites of historical or ecological importance, nature reserves, federal migratory bird sanctuaries and national wildlife areas).

Species at risk

The EIS shall describe and identify any biological species of conservation status and their habitat, i.e. species listed in Schedule 1 of the federal *Species at Risk Act*, species with a status designation proposed by the Committee on the Status of Endangered Wildlife in Canada and species listed in the Quebec *Act respecting threatened or vulnerable species.*

The EIS will summarize the methods and results of wildlife surveys conducted over the course of the seasons and at various times of day which facilitate detection of the target species or species groups. This includes information pertaining to species of conservation concern that may occur at any point throughout the year in the project area, including their conservation status, relative abundance, distribution and habitat use. The website of the Species at Risk Public Registry can be consulted at: www.sararegistry.gc.ca

Human environment

In the study area, the EIS must describe:

- current land use for hunting, recreational fishing, wilderness lodges or cottages as well as any recreational/tourism facilities or infrastructure;
- all harvesting (small fruits, plants, etc.);
- access roads to the area, land and aquatic (snowmobile trails, navigation routes, etc.) and modes of travel (season, types of vessel, etc.);
- land and aquatic areas, sites and infrastructure of historical, archeological, architectural or cultural value. A description of the value of these sites should be provided; and
- places, resources and species that are of social, economic, heritage or cultural value to the Aboriginal communities.

9.2 Potential or established Aboriginal and Treaty rights and Related Interests

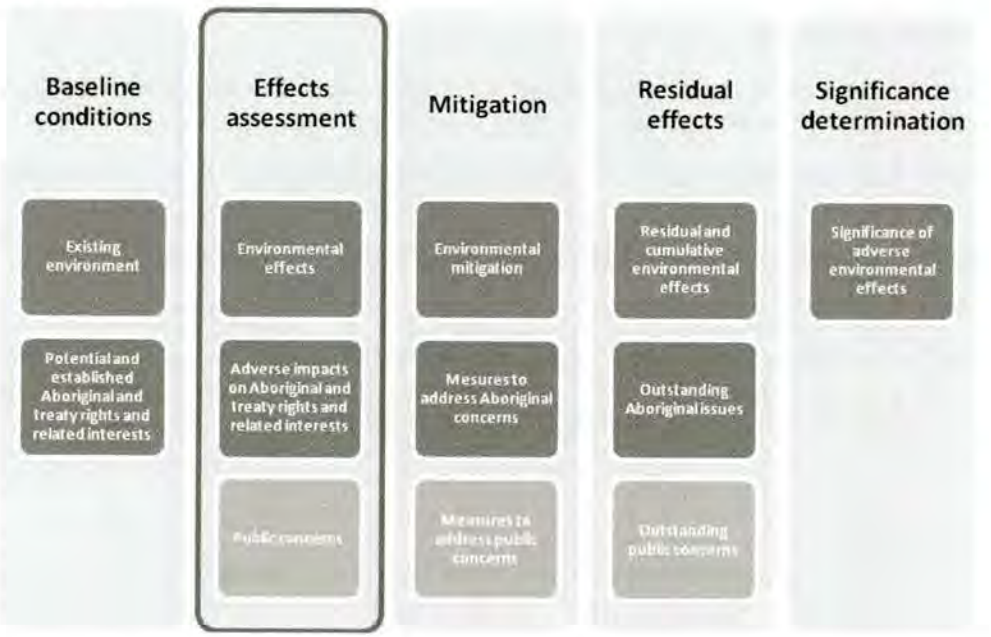
For the purposes of developing the EIS, the proponent shall engage with Aboriginal groups whose potential or established Aboriginal rights and Treaty rights and related interests may be affected by the project.

At a minimum, the EIS will summarize available information on the potential or established Aboriginal and Treaty rights and related interests of the named Aboriginal groups that have the potential to be adversely impacted by the project. As part of this summary, the EIS will include for each Aboriginal group:

- background information and a map of the group's traditional territory;
- a summary engagement activities conducted prior to the submission of the EIS, including the date and means of engagement (e.g., meeting, mail, telephone);
- information on each group's potential or established rights (including geographical extent, nature, frequency, timing), including maps and data sets (e.g. fish catch numbers) when this information is provided by a group to the proponent;
- an overview of key comments and concerns provided by each group to the proponent;
- concerns expressed and the extent to which this information was incorporated in the project design as well as in the EIS, and any resulting changes. This description has to allow to understand the answer of the proponent to each of those concerns; and
- future planned engagement activities.

If the proponent is unable to obtain all the information required to assess the project's impacts on the traditional use of the land by Aboriginals or on Aboriginal rights, the proponent shall describe in the EIS the efforts undertaken to obtain this information. The Agency will provide additional instructions to the proponent in cases where further research and/or consultation effort is required to support Canada's ability to fulfil the duty to consult with one or more Aboriginal groups that may be adversely affected by the project.

10 EFFECTS ASSESSMENT



10.1 Environmental effects

10.1.1 Methodology

The proponent shall indicate the project's effects during construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the project, and describe these effects using appropriate criteria. To the maximum extent possible, this documentation should include, for each potential project-related environmental effect, an indication of the nature of the effect, mechanism, magnitude, direction, duration, frequency and timing, geographic extent, and the degree to which it may be reversible. The proponent shall consider both the direct and indirect, reversible and irreversible, short- and long-term environmental effects of the project. In predicting and assessing the project's effects, the proponent shall indicate important details and clearly state the elements and functions of the environment that may be affected, specifying the location, extent and duration of these effects and their overall impact.

The assessment of the effects of each of the project components and physical activities, in all phases, shall be based on a comparison of the biophysical and human environments between the predicted future conditions with the project and the predicted future conditions without the project. In undertaking the environmental effects assessment, the proponent will use best available information and methods. All conclusions must be substantiated. Predictions shall be based on clearly stated assumptions. The proponent shall describe how it has tested each assumption. With respect to quantitative models and predictions, the proponent shall discuss the assumptions that underlie the model, the quality of the data and the degree of certainty of the predictions obtained.

Risk assessment framework

The proponent is expected to employ standard ecological risk assessment frameworks that categorize the levels of detail and quality of the data required for the assessment. These tiers are as follows:

- Tier 1: Qualitative (expert opinion, including traditional and local knowledge, literature review, and existing site information);
- Tier 2: Semi-quantitative (measured site-specific data and existing site information); and,
- Tier 3: Quantitative (recent field surveys and detailed quantitative methods).

Thus, if the Tier 2 assessment still indicates a potential for effects to ECs, a Tier 3 assessment would need to be conducted to reduce the level of uncertainty. If the risk characterization component is uncertain this may necessitate the probabilistic modelling of the population-level consequences of the proposed project.

Impact matrix

An impact matrix methodology in combination with identification of ECs should be used to evaluate various social and environmental effects of the proposed project, including those related to Aboriginal peoples. The assessment should include the following general steps:

- identification of the activities and components of the project;
- predicting/evaluating the likely effects on identified valued components;

- identification of technically and economically feasible mitigation measures for any significant adverse environmental effects;
- determination of any residual environmental effects;
- ranking of each residual adverse environmental effect based on various criteria; and,
- determination of the potential significance of any residual environmental effect following the implementation of mitigation.

Application of precautionary approach

In documenting the analyses included in the EIS, the proponent shall:

- demonstrate that all aspects of the project have been examined and planned in a careful and precautionary manner in order to ensure that they would not cause serious or irreversible damage to the environment, especially with respect to environmental functions and integrity, system tolerance and resilience, and/or the human health of current or future generations;
- outline and justify the assumptions made about the effects of all aspects of the project and the approaches to minimize these effects;
- ensure that in designing and operating the project, priority has been and would be given to strategies that avoid the creation of adverse effects;
- develop contingency plans that explicitly address accidents and malfunctions; and
- identify any proposed follow-up and monitoring activities, particularly in areas where scientific uncertainty exists in the prediction of effects.

10.1.2 Changes to the environment

Section 5 of CEAA 2012 describes specific categories of direct and indirect environmental effects that must be considered in a federal EA (see figure 2).

Figure 2. "Environmental effects" under *CEAA, 2012*.

Changes to components of the environment within federal jurisdiction 5(1)(a)

The EIS will include a stand-alone section that summarises those changes that may be caused by the project on the components of the environment, namely fish and fish habitat, aquatic species within the meaning of the *Species at Risk Act* and migratory birds.

Changes to the environment that would occur on federal or transboundary lands 5(1)(b)

The EIS will include a stand-alone section that summarises any change the project may cause to the environment that may occur on federal lands or lands outside the province in which the project is to be located. Environment is defined as the components of the Earth, including: land, water and air, including all layers of the atmosphere; all organic and inorganic matter and living organisms; and the interacting natural systems that include the components described in section 9.

Changes to the environment that are directly linked or necessarily incidental to federal decisions 5(2)(a)

In situations where the project requires one or more federal decisions identified in section 6.3.2, the EIS will also include a stand-alone section that describes any change that may be caused by the project on the environment that is directly linked or necessarily incidental to these decisions. These descriptions shall be integrated into the sections on effects assessment of each component identified in section 9.1.

10.1.3 Effects of changes to the environment

Effects of changes to the environment on Aboriginal peoples 5(2)(c)

The EIS will describe the effects of any changes the project may cause to the environment, with respect to Aboriginal peoples, on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Effects of changes to the environment that are directly linked or necessarily incidental to federal decisions 5(2)(b)

In situations where the EIS has identified changes to the environment that are directly linked or necessarily incidental to federal decisions identified in section 6.3.2, the EIS will also include a stand-alone section that describes the effects of these changes on health and socio-economic conditions, physical and cultural heritage, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, other than as they pertain to Aboriginal peoples (who are considered in the previous section).

10.2 Adverse Impacts on Aboriginal and Treaty Rights and Related Interests

The EIS will describe the potential adverse impacts of the project on the ability of Aboriginal peoples to exercise the potential or established Aboriginal and Treaty rights and related interests identified in section 9.2. As part of this description, this section will summarise:

- potential adverse impacts (on potential or established Aboriginal and Treaty rights and related interests) that were identified through the environmental effects described in sections 10.1.2 et 10.1.3;
- specific issues and concerns raised by Aboriginal groups in relation to the potential adverse impacts of the project on potential or established Aboriginal and Treaty rights and related interests;
- where and how Aboriginal traditional knowledge or other Aboriginal views were incorporated into the consideration of environmental effects and potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests; and
- efforts undertaken to engage with Aboriginal groups as part of collecting the information identified above.

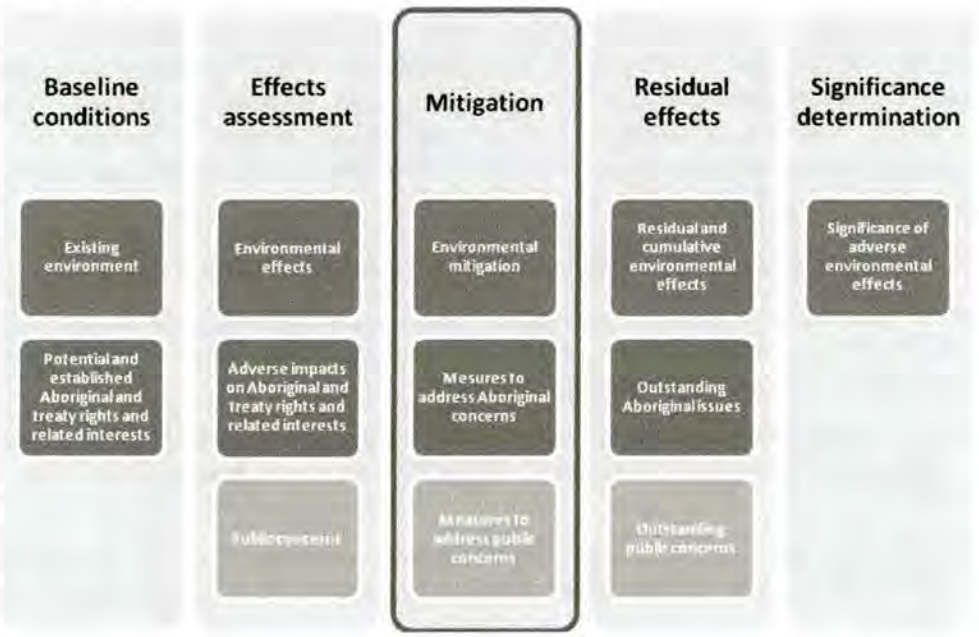
The assessment of the potential adverse impacts of each of the project components and physical activities, in all phases, shall be based on a comparison of the exercise of the identified rights between the predicted future conditions with the project and the predicted future conditions without the project. It is recommended that the impact matrix methodology described in section 10.1.1 be adapted for this purpose.

10.3 Public concerns

This section will provide a summary of public concerns raised in relation to the project, including through public consultation conducted in the preparation of the EIS.

For any consultations undertaken with the general public, the EIS will describe the ongoing and proposed consultations and information sessions with respect to the project at the local, regional and provincial levels, where applicable. The EIS will provide a summary of discussions, indicate the methods used and their relevance, locations, the persons and organizations consulted, the concerns raised, the extent to which this information was incorporated in the design of the project as well as in the EIS, and the resultant changes. The proponent will also provide a description of efforts made to distribute project information and provide a description of information and materials that were distributed during the consultation process

11 MITIGATION



11.1 Environmental mitigation

11.1.1 Methodology

Every EA conducted under CEAA 2012 must consider clear, enforceable measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project. The measures must be drafted as a specific commitment that clearly describes how the proponent intends to implement them.

As a first step, the proponent is encouraged to use an approach based on the avoidance and reduction of the effects at the source. Such an approach may include the modification of the design of the project or relocation of project components. In particular, when it is determined that a work or an activity will have adverse effects on fish habitat, the proponent must, after having considered and documented the possibility of relocating or modifying the project, plan mitigation measures in an effort to reduce the

project's effects on fish habitat[13]. In accordance with the principle of no net loss, set out in DFO's Policy for the Management of Fish Habitat, unavoidable and authorized HADD of fish habitat must be compensated.

The EIS will specify the actions, works, minimal disturbance footprint techniques, best available technology, corrective measures or additions planned during the project's various phases (to eliminate or reduce the significance of adverse effects. The environmental impact statement shall also present an assessment of the effectiveness of the proposed technically and economically feasible mitigation measures. The reasons for determining if the mitigation measure reduces the significance of an adverse effect shall be made explicit.

Where mitigation measures are proposed to be implemented for which there is little experience or for which there is some question as to their effectiveness, the potential risks and effects to the environment should those measures not be effective should be clearly and concisely described. In addition, the EIS will identify the extent to which technology innovations will help mitigate environmental effects. Where possible, it will provide detailed information on the nature of these measures, their implementation, management and the development of the Follow-up Program as described in section11.4.

Adaptive management is not considered a valid mitigation measure, but if the Follow-up Program indicates that corrective action is required, the proposed approach for managing the response could be identified.

11.1.2 Environmental mitigation measures

In addition, the EIS will summarise the mitigation measures, follow-up and related commitments identified to address the categories of environmental effects specified in sections 10.1.2 and 10.1.3:

- Changes to components of the environment within federal jurisdiction;
- Changes to the environment that would occur on federal or transboundary lands;
- Changes to the environment that are directly linked or necessarily incidental to federal decisions;
- Effects of changes to the environment on Aboriginal peoples; and
- Effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.

11.2 Measures to address aboriginal concerns

This section will describe the measures identified to mitigate the potential adverse impacts of the project described in section 10.2 on the potential or established Aboriginal and Treaty rights and related interests identified in section 9.2. These measures should be written as specific commitments that clearly describe how the proponent intends to implement them. This description will include a summary of:

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[13] The proponent can use the pathways of effects (available on the Fisheries and Oceans Canada website at: www.dfo-mpo.gc.ca/habitat/what-quoi/pathways-sequences/index-eng.asp) to identify the potential effects and mitigation measures that will be implementing to reduce or avoid impacts on fish habitat.

- specific suggestions raised by Aboriginal groups for accommodating the potential adverse impacts of the project on potential or established Aboriginal and Treaty rights and related interests in relation to environmental effects specified in sections 10.1.2 and 10.1.3
- environmental mitigation measures identified in section 11.1that also serve to mitigate potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests ;
- any potential cultural, social and/or economic impacts or benefits to Aboriginal groups that may arise as a result of the project;
- where and how Aboriginal traditional knowledge or other Aboriginal views were incorporated into the mitigation of environmental effects of potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests; and
- efforts undertaken to engage with Aboriginal groups as part of developing the information identified above.

In preparing the EIS, the proponent shall ensure that Aboriginal people and groups have access to the information that they require in respect of the Project and of how it may impact them. The proponent will describe all efforts, successful or not, taken to solicit the information required to prepare the EIS.

The proponent will structure its Aboriginal engagement activities to provide adequate time for Aboriginal groups to have reviewed the relevant information in advance and to ensure there are sufficient opportunities for individuals and groups to provide oral input in the language of their choosing. Consultation activities must be appropriate to the groups' needs and should be arranged through discussions with the groups.

11.3 Measures to address public concerns

This section will summarize measures identified for addressing public concerns in relation to the project identified in section 10.3. Measures should be written as specific commitments that clearly describe how the proponent intends to implement them.

11.4 Follow-Up Program

A Follow-up Program is designed to verify the accuracy of the effects assessment and to determine the effectiveness of the measures implemented to mitigate the adverse effects of the project. The EIS should describe the proposed Follow-up Program in sufficient detail to allow independent judgment as to the likelihood that it will deliver the type, quantity and quality of information required to reliably verify predicted effects (or absence of them), and to confirm both the assumptions and the effectiveness of mitigation. The Follow-up Program should include specific commitments that clearly describe how the proponent intends to implement them.

The Follow-up Program must incorporate:

- the objectives of the follow-up and the list of components requiring environmental follow-up;
- a schedule indicating the frequency and duration of the effects monitoring mechanism;
- a description of the proposed follow-up methods and the list of parameters to be measured and the thresholds;
- the planned actions in the event of unanticipated environmental degradation: emergency adaptive, mitigation and compensation measures; and
- the method for informing the population concerned of the follow-up results.

The Follow up Program must also be designed to monitor the implementation of mitigation and accommodation measures resulting from Aboriginal consultation, including:

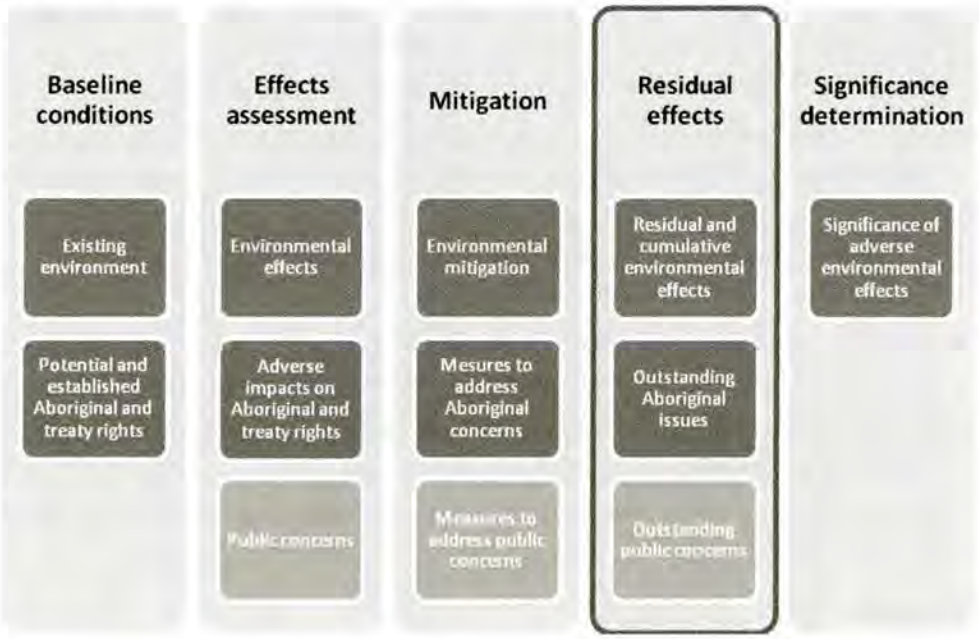
- verifying predictions of environmental effects with respect to Aboriginal peoples;
- determining the effectiveness of mitigation measures as they relate to environmental effects with respect to Aboriginal peoples in order to modify or implement new measures where required;
- supporting the implementation of adaptive management measures to address previously unanticipated adverse environmental effects with respect to Aboriginal peoples or unanticipated adverse impacts to Aboriginal rights;
- verifying measures identified to prevent, mitigate or otherwise accommodate potential adverse effects of the project on potential or established Aboriginal and Treaty rights; and,
- providing information that can be used to improve and/or support future EAs and Aboriginal consultation processes.

Where appropriate, the Follow-up Program can also encompass measures identified to address public concerns identified in section 11.3.

11.5 Proponent commitments

Proponent commitments identified in the EIS, including environmental mitigation, Aboriginal accommodation, measures to address public concern, and Follow-up Program elements, will be considered for inclusion as conditions in the EA decision statement (see Appendix B) and/or as part of other compliance and enforcement mechanisms. Each commitment should be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.

12 RESIDUAL EFFECTS



12.1 Residual and cumulative environmental effects

12.1.1 Residual environmental effects

After having established the technically and economically feasible mitigation measures, the EIS should present any residual environmental effects of the project on the biophysical and human environments after these mitigation measures have been taken into account. The residual effects, even if very small or deemed insignificant should be described.

12.1.2 Cumulative environmental effects

The proponent shall identify and assess the project's cumulative effects using the approach described in the Agency's Operational Policy Statement Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (November 2007).

Cumulative effects are defined as changes to the environment due to the project combined with the existence of other works or other past, present and reasonably foreseeable physical activities. Cumulative effects may result if:

- implementation of the project being studied caused direct residual negative effects on the environmental components, taking into account the application of technically and economically feasible mitigation measures; and/or,
- the same environmental components are affected by other past, present or reasonably foreseeable physical activities.

The EIS must describe the analysis of the total cumulative effect on a VC over the life of the project, including the incremental contribution of all current and proposed physical activities, in addition to that of

the project. The EIS must include different forms of effects (e.g. synergistic, additive, induced, spatial or temporal) and identify impact pathways and trends.

The cumulative effects assessment may consider the results of any relevant study conducted by a committee established under section 73 or 74 of CEAA 2012.

12.1.3 Summary of residual environmental effects

In addition, the EIS will summarise the residual environmental effects (including cumulative environmental effects) identified in relation to the categories of environmental effects specified in sections 10.1.2 and 10.1.3:

- changes to components of the environment within federal jurisdiction;
- changes to the environment that would occur on federal or transboundary lands;
- changes to the environment that are directly linked or necessarily incidental to federal decisions;
- effects of changes to the environment on Aboriginal peoples; and
- effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.

12.2 Outstanding Aboriginal issues

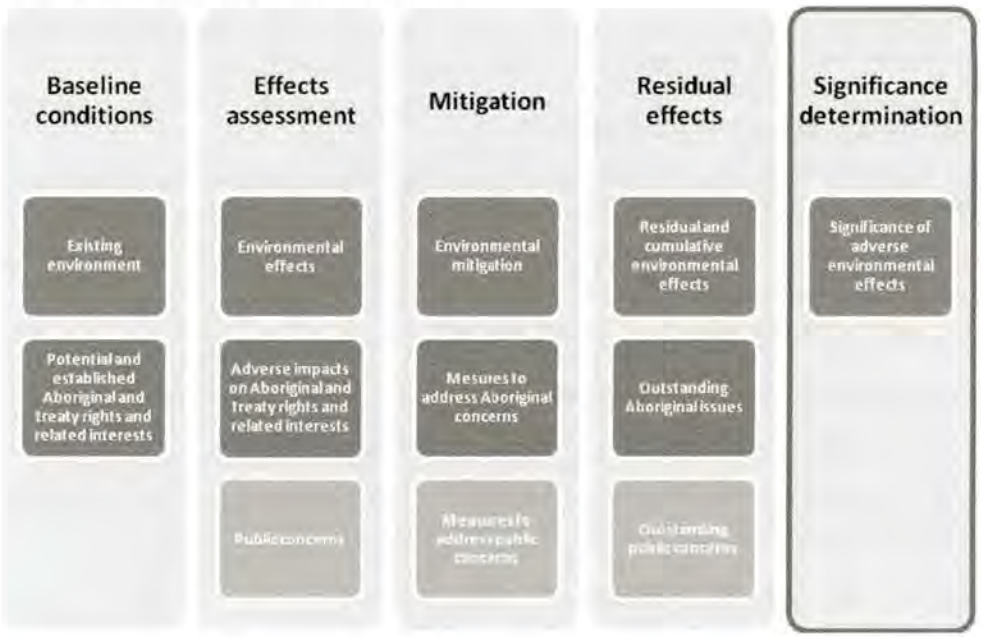
This section will describe the potential adverse impacts on potential or established Aboriginal and Treaty rights and related interests that have not been fully mitigated as part of the environmental assessment and associated consultations with Aboriginal groups. This includes potential adverse impacts (on potential or established Aboriginal and Treaty rights and related interests) that may result from the residual and cumulative environmental effects described in section 12.1.

The information in this section will assist the Crown in assessing the adequacy of consultation and accommodation as set out in the Updated Guidelines for Federal Officials to Fulfill the Duty to Consult (2011).

12.3 Outstanding public concerns

This section will describe the outstanding public concerns in relation to the project that have not been resolved as a result of changes to the project, mitigation measures, or public consultation. The proponent must explain why they are not able to resolve the outstanding public concerns.

13 SIGNIFICANCE DETERMINATION



13.1 Significance of adverse environmental effects

13.1.1 Methodology

This section will provide a detailed analysis of the significance of the residual environmental effects (including cumulative environmental effects) that are considered adverse, using the approach described in the Agency's Reference Guide Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects (November 1994).

The EIS must identify the criteria used to assign significance ratings to any predicted adverse effects. It must contain clear and sufficient information to enable the Agency, technical and regulatory agencies, Aboriginal groups and the public to understand and review the proponent's judgment of the significance of effects. The proponent must define the terms used to describe the level of significance.

The following elements should be used in determining the significance of residual effects:

- magnitude;
- geographic extent;
- timing, duration and frequency;
- reversibility;
- ecological and social context; and
- existence of environmental standards, guidelines or objectives for assessing the impact.

In assessing significance against these criteria the EIS must, where possible, employ relevant existing regulatory documents, environmental standards, guidelines, or objectives such as prescribed maximum

levels of emissions or discharges of specific hazardous agents into the environment. The EIS should contain a section which explains the assumptions, definitions and limits to the criteria mentioned above in order to maintain consistency between the effects on each EC.

Where significant adverse effects are identified, the EIS will set out the probability (likelihood) that they will occur, and describe the degree of scientific uncertainty related to the data and methods used within the framework of its environmental analysis.

13.1.2 Summary of significant adverse environmental effects

In addition, the EIS will summarise the significant adverse environmental effects identified in relation to the categories of environmental effects specified in sections 10.1.2 et 10.1.3 :

- changes to components of the environment within federal jurisdiction;
- changes to the environment that would occur on federal or transboundary lands;
- changes to the environment that are directly linked or necessarily incidental to federal decisions;
- effects of changes to the environment on Aboriginal peoples; and
- effects of changes to the environment that are directly linked or necessarily incidental to federal decisions.

14 SUMMARY TABLES

The EIS should contain a series of tables summarising the following key information:

- potential environmental effects (section10.1), adverse impacts on potential or established Aboriginal and Treaty rights and related interests (section 10.2) and public concerns (section 10.3);
- proponent commitments identified in relation to environmental mitigation (section 11.1), Aboriginal accommodation (section 11.2), measures to address public concerns (section 11.3), and Follow-up Program (section 11.4);
- potential residual and cumulative environmental effects (section 12.1); outstanding Aboriginal issues (section 12.2) and outstanding public concerns (section 12.3);
- comments from the public and responses;
- comments from Aboriginal groups and individuals and responses; and
- relationship of the identified EC to Aboriginal groups' potential or established Aboriginal and Treaty rights and related interests (section 9.2).

The summary tables will be used in the EA Report prepared by the Agency; proponent commitments will be considered for inclusion as conditions in the EA decision statement (see Appendix B) and/or as part of other compliance and enforcement mechanisms.

15 BENEFITS TO CANADIANS

15.1 Changes to the project since initially proposed

The EIS will include a summary of the changes that have been made to the project since originally proposed, including the benefits of these changes to the environment, Aboriginal peoples, and the public.

15.2 Benefits of the project

The EIS will include a section describing the predicted environmental, economic and social benefits of the project. This information will be considered in assessing the justifiability of the significant adverse environmental effects, if necessary.

16 ENVIRONMENTAL MANAGEMENT

16.1 Monitoring implementation of mitigation measures

The goal of a monitoring program is to ensure that proper measures and controls are in place in order to decrease the potential for environmental degradation during all phases of project development, and to provide clearly defined action plans and emergency response procedures to account for human and environmental health and safety. In the EIS, the proponent shall describe the monitoring activities at all stages of the project, the proponent's commitment to implementing these activities and the resources provided for this purpose. The program must describe the contacts, protocols, measured parameters, deadlines, intervention in case of non-compliance of legal requirements, production of monitoring reports, etc.

Simply referring to the company's environmental management plan (EMG) is not sufficient in this section. If the proponent refers to an EMG, the EIS must describe and explain how each project step is sufficiently controlled within the context of the EMG.

The finalization of detailed the monitoring program will occur through consultation with federal and provincial government agencies, Aboriginal groups, the public and other stakeholders. This may occur after the environmental assessment but must be consistent with the information presented in the EIS. Pertinent legislation, regulations, industry standards, documents and legislative guides shall be used in the development of the monitoring program.

16.2 Decommissioning and reclamation plan

The EIS shall provide the preliminary outline of a decommissioning and reclamation plan for any components associated with the project. This shall include ownership, transfer and control of the different project components as well as the responsibility for monitoring and maintaining the integrity of some of the structures. The full preparation and submission of the plan to appropriate authorities will occur prior to the decommissioning of the temporary components of the project. The plan would serve to provide guidance on specific actions and activities to be implemented to decrease the potential for environmental degradation in the long-term during decommissioning and abandonment activities for temporary facilities, and to clearly define the proponent's ongoing environmental commitments. A conceptual discussion on how decommissioning could occur shall be provided for permanent facilities.

Appendix A – Outline of EIS Summary

1. Introduction and environmental assessment context
2. Project overview
3. Scope of project and assessment
4. Alternative means of carrying out the project
5. Advice and consultation activities
6. Summary of environmental effects assessment
7. Proponent commitments
8. Proposed significance determination

Appendix B – EA Decision Statement

Under CEAA 2012 the Minister of the Environment (the Minister) must decide, taking into account the implementation of any mitigation measures, whether the designated project:

- Is likely to cause significant adverse environmental effects on components of the environment within federal legislative jurisdiction (subsection 5(1)); or
- Is likely to cause significant adverse environmental effects linked to or necessarily incidental to a federal decision (subsection 5(2)).

If the Minister decides that the designated project is likely to cause significant environmental effects in either case (subsection 5(1) or 5(2)), then the decision is referred to the Governor in Council to determine if the environmental effects can be justified in the circumstances.

If the Minister decides that the designated project will not result in significant environmental effects, or the Governor in Council decides that environmental effects can be justified, the Minister must establish conditions in relation to the environmental effects with which the proponent must comply. Conditions must be established for both the subsection 5(1) and 5(2) environmental effects.

The EA Decision Statement will inform the proponent of the Ministers' decision and will describe the conditions that the proponent must comply with for the project to proceed. The conditions will consist of the implementation of mitigation measures that were taken into account in the decision making and the implementation of a follow-up program.

Under section 6 of CEAA 2012, the proponent must not proceed with any part of the project that could have an environmental effect referred to in section 5, unless the proponent complies with the conditions included in the EA Decision Statement. Contravention of section 6 is an offence under section 99.

Executive Summary

(English Version)

General Information

Oceanic Iron Ore Corp. intends to develop the Hopes Advance Project, an iron ore mine located in the region of Nunavik in Québec and close to the northern village of Aupaluk.

Proponent Contact Information

Name of the designated Project:	**Hopes Advance Project**
Name of the proponent:	Oceanic Iron Ore Corp.
Address:	1000 Sherbrooke Street West, Suite 700 Montréal QC H3A 3G4
Telephone:	514-289-1186
Fax:	514-289-1188
Principal Contact:	Alan Gorman, Chief Operative Officer agorman@oceanicironore.com 514-289-1186
Secondary Contact:	Eddy Canova, Project Manager ec@oceanicironore.com 514-289-1186

In addition to federal regulatory requirements, the Project is also subject to the Québec provincial environmental and social impact assessment and review procedure as per Chapter 23 of the James Bay and Northern Québec Agreement (JBNQA) and Chapter II of the Québec Environment Quality Act (EQA). A project description (preliminary information) was filed with the provincial Administrator of the JBNQA on January 23, 2012. The Environmental Assessment process under the Nunavik Inuit Land Claims Agreement (NILCA) could also apply to parts of the project that impact the marine region.

Project Information

The provisions in the schedule to the Regulations Designating Physical Activities describing the Project in whole or in part are the following:

- Section 15. The construction, operation, decommissioning and abandonment of:
  - (a) a metal mine, other than a gold mine, with an ore production capacity of 3,000 t/d or more;
  - (b) a metal mill with an ore input capacity of 4,000 t/d or more.
- Section 20(k). The construction, operation, decommissioning and abandonment, or an expansion that would result in an increase in its production capacity of more than 35% of a factory for the manufacture of chemical explosives employing chemical processes.
- Section 27(c). The construction, operation, decommissioning and abandonment of a marine terminal designed to handle vessels larger than 25,000 DWT unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation.

Other provisions that could potentially be applicable are:

- Section 2(a). The construction, operation, decommissioning and abandonment of a fossil fuel-fired electrical generating station with a production capacity of 200 MW or more[1].
- Section 29. The construction, operation, decommissioning and abandonment of:
  - (b) an airport;
  - (c) an all-season runway with a length of 1,500 m or more.

The project description is subject to modifications in light of the results of an ongoing prefeasibility study, which should be completed in September 2012.

The high demand for metals, including iron, on the world market encourages mineral exploration and investment in subsequent developments. Extensive activities have already been completed for the Hopes Advance Project and a global resource of 1.268 billion tonnes of measured and indicated in-pit resource at 32.3% using a 25% cut-off grade has been estimated.

The Hopes Advance Project involves the development of several open pit mines. The mine is expected to generate from 10 to 20 million tonnes per year of iron concentrate product over a planned period of up to 48 years. Open pit mining in the Hopes Advance Area is envisioned as a conventional drill/blast/load/haul mining operation. Mining operations will be carried out on a 24-hour per day and 365-day per year basis. The ore from the mine will be treated at the concentrator to be located near the mine. The concentrate will then be pumped to the port area via a 26 km long concentrate pipeline for shipping.

[1] Note that the anticipated production capacity of the generation station is 190 MW.

The shipment will require new deep water marine facilities consisting of an iron ore wharf and a causeway. The wharf is a caisson gravity base structure. Apart from the preparation for flat base, no dredging is anticipated for the port and the vessel approach channel.

The shipment of iron ore requires navigation through Ungava Bay and the entrance to Hudson Strait and Labrador Sea. Ice class vessels with capacity of 180,000 deadweight tons (DWT) will be used for shipping, while 240,000 DWT vessels may be used during ice-free season. Smaller vessels will be used for other shipping requirements (such as consumables, spare parts, etc.).

During construction and the first years of operation, a self-generated power plant fuelled by petroleum products will be used. The Project would connect to the provincial power grid once Hydro-Québec has advanced its transmission line to Ungava Bay.

Additional infrastructure will be required to support the operation including an upgraded existing airstrip, a 26 km long pipeline, a permanent road, a worker camp, service buildings and storage, management equipment of petroleum products and explosives and mine waste management infrastructures.

The Environmental and Social Impact Assessment (ESIA) completion and the beginning of the construction are anticipated for 2014. Operation would start in 2016.

Project Location

The Project is located in the region of Nunavik in Québec, on the western side of Ungava Bay, and close to the northern village of Aupaluk (figure 1 and appendix A). Besides Aupaluk, the nearby communities are Kangirsuk and Tasiujaq. The centroide of the Project area is approximately 69° 58' 40.265" W / 59° 17' 9.631" N.

The Project falls within Inuit territory governed by the James Bay and Northern Québec Agreement. The planned mining activities are all located on Category III lands.

A few fishing cabins are located near the Project area (figure 1). The most valued areas and natural resources in the Project area are fish and fish habitats within Hopes Advance Bay, the lakes and the rivers (especially Red Dog River, Ford Lake and Saint-Fond River). Areas of caribou, ducks, geese, seals, polar bears and beluga hunting and berries picking are other valued land interests in the Project area. Hopes Advance Bay is also important for seafood collecting such as mussels and clams. It should be noted that a regional environmental study has not been conducted in the Project area.

Federal Involvement

To date, the federal authorities have not proposed financial support for the Project and no federal lands are part of the Project area.

We anticipate that the following federal acts or regulations may apply for the design and operation of the project (non exhaustive list):

- *Migratory Birds Convention Act, 1994;*
- *Fisheries Act;*
- *Navigable Waters Protection Act;*

- *Explosives Act;*
- *Arctic Waters Pollution Prevention Act;*
- *Species at Risk Act;*
- *Canadian Environmental Assessment Act, 2012;*
- *Ammonium Nitrate Storage Facilities Regulations; and*
- *Migratory Birds Regulations*

Environmental Components and Main Constraints to the Project

Physical Environment

Physical components include hydrology and coastal processes; surface water and sediment quality; hydrogeology and groundwater quality; soil and terrain; climate and air quality; and noise and vibrations. The next section describes the components from which relevant data are already available.

Hydrology and Coastal Processes

The watercourses within the Project area belong to the Hudson Bay Seaboard drainage basin, and more specifically, the Leaf River watershed. The main lakes within the region (i.e., Ford, Red Dog, Ippialuup and Ungallijuap Qamaninga lakes) all drain into the Red Dog River, which in turn flows into Hopes Advance Bay, a part of Ungava Bay. From another watershed, the Saint-Fond River also flows into the Ungava Bay north of the Project area.

Apart from the Red Dog River and Saint-Fond River, only small to medium streams are found in the Project area. From preliminary surveys, many rapids, cascades or braided sections with very low depth were observed in these streams. However, some channels of up to 1 metre in depth are present in some sections of these streams.

With a mean tidal range of 8.2 metres, Hopes Advance Bay is amongst the top 30 locations around the world where the largest range of tides has been observed. Normally, Ungava Bay begins to freeze up around mid-November and ice begins to break up around mid-June, creating a seven month ice cover.

Surface Water and Sediment Quality

Water and sediments (substrate of fine particles) were collected in September 2011 in lakes and watercourses of the Project area for analysis.

Water quality analysis showed low nutrient concentrations typical of oligotrophic and uncontaminated lakes. Typically the metal concentrations were below detection limits, and below federal or provincial guidelines.

In general, sediment quality analysis showed low metal concentrations into lake and river sediments.

Soil and Terrain

Surficial deposits within the Project area consist mainly of sediments deposited from melt water and floating ice in marine waters, during deglaciation and subsequent regression that have been classified as lag glaciomarine

deposits. Also found in the Project area are till blanket (thick and continuous) and till veneer (thin and discontinuous, areas of rock outcrop) glacial deposits.

The land within the Project area is inclined towards Ungava Bay, which is surrounded by land that is at sea level. Furthermore, aside from a series of low hills reaching a maximum height of around 110 metres north of Ford Lake, the rest of the Project area is relatively flat (mean elevation of around 40 m), and has been grouped within a slope gradient class of 10-15%.

The Project area is located within the zone of continuous permafrost, within which the layer of permafrost can reach thicknesses of about 25 m.

Biological Environment

Biological components include vegetation and wetlands, mammals, birds, reptiles, amphibians and fish/fish habitat. Particular attention has been paid to protected areas and to species of special concern.

Protected Areas

The closest protected area, located 15 km south of the Project area is called the *Réserve de parc national du Québec de la Baie-aux-Feuilles*. This area is entirely located outside of the Project area.

No Important Bird Area (IBA) has been identified within the Project area.

Vegetation and Wetlands

The Project area is located within the low subarctic, shrub arctic tundra bioclimatic domain. In this domain, willows (*Salix* spp.) and birch (*Betula* spp.) grow alongside herbaceous species (mostly graminoids), mosses and lichens. The vegetation canopy rarely grows beyond two metres.

The Project area is found within the natural province of the Ungava Bay basin (called natural province K), an area of 103,000 km^2 of which 3,136 km^2 consist of wetlands. These wetlands, which are for the most part unclassified, likely include:

- Peatlands, as well as swamps and marshes, bordering lakes and streams;
- Important wetlands in some estuaries and sheltered bays along Ungava Bay; and
- Fens and palsa bogs (influenced by the permafrost) along the Ungava Bay coast.

Mammals and Birds

The following large mammal species are present in the Project area: caribou (*Rangifer tarandus*, Leaf River caribou herd), muskox (*Ovibos moschatus*), red foxes (*Vulpes vulpes*), marten (*Martes americana*), wolves (*Canis lupus*), polar bears (*Ursus maritimus*), Canada lynx (*Lynx canadensis*), and arctic foxes (*Alopex lagopus*). The habitat is suitable for Wolverine (*Gulo gulo*), but no verified reports of this species in Québec exist since 1978.

The following marine mammals (amongst others), based on their general distribution, may frequent Hopes Advance Bay: harbour seal (*Phoca vitulina*), bearded seal (*Erignathus barbatus*), ringed seal (*Pusa hispida*), beluga whale (*Delphinapterus leucas*, Ungava Bay population), Sei whale, (*Balaenptera borealis*), and Blue whale (*Balaenoptera musculus*).

Some 37 bird species were reportedly observed in the Red Dog Lake area. Most of them only migrate through the region, but the peregrine falcon (*Falco peregrines*) uses the area for reproduction and 5 more species may potentially use the area for this same purpose: snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), greater scaup (*Aythya marila*), herring gull (*Larus argentatus*), and king eider (*Somateria spectabilis*). Among the species observed at or near the project area are peregrine falcon, golden eagle (*Aquila chrysaetos*), common eider (*Somateria mollissima*), black guillemot (*Cepphus grylle*), surf scoter (*Melanitta perspicillata*), and several species of seagulls.

Reptiles and Amphibians

No reptile or amphibian species distributions go as far north as the Project area.

Fish and Fish Habitat

The following fish species have been captured during gillnet and electric fishing surveys performed in September 2011:

- Lake trout (*Salvelinus namaycush*)
- Arctic char (*Salvelinus alpinus*)
- Brook trout (*Salvelinus fontinalis*)
- Round whitefish (*Prosopium cylindraceum*)
- Mottled sculpin (*Cottus bairdi*)
- Ninespine stickleback (*Pungitius pungitius*)
- Threespines stickleback (*Gasterosteus aculeatus*)
- Burbot (*Lota lota*)

Although not captured during the September 2011 survey, the following fish species, amongst others, are also likely to frequent the Project surrounding area according to their general distribution: northern pike (*Esox lucius*), suckers (*Catostomus* spp.), lake whitefish (*Coregonus clupeaformis*) and some Cyprinid species. Amongst marine and anadromous species, Greenland halibut (*Reinhardtius hippoglossoides*), Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) inhabit Ungava Bay.

The marine benthic community of the region includes such species as: Iceland scallop (*Chlamys islandica*), blue mussels (*Mytilus edulis*) and clams (*Mya arenaria*) which can be found off the shores of Hopes Advance Bay.

Species of Special Concern

Some species or populations in the Project area are protected at the federal level by the Species at Risk Act (SARA) and/or at the provincial level by the Act respecting threatened or vulnerable species (LEMV). In addition, migratory bird species are protected by the Migratory Birds Convention Act, 1994, administered by the Canadian Wildlife Service of Environment Canada in collaboration with the Canadian provincial and territorial governments.

According to the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ), no floristic species at risk or any important terrestrial habitats have been recorded within the Project area. It should be noted, however, that

the lack of special status species in the Project area may simply be a result of a lack of field investigations in this remote area of Québec.

The following special concern wildlife species are present in the Project area:

- Peregrine falcon *tundrius* (*Falco peregrinus tundrius*): susceptible of being designated threatened or vulnerable according to the LEMV and listed as a special concern species according to the SARA.
- Golden eagle (*Aquila chrysaetos*): listed as vulnerable according to the LEMV and not at risk according to Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Polar bear (*Ursus maritimus*): listed as vulnerable under the LEMV and of special concern by COSEWIC.
- Ungava Bay beluga whale (*Delphinapterus leucas*) population: susceptible of being designated endangered or vulnerable under the LEMV, has been designated endangered by COSEWIC and is under consideration for listing under the SARA.
- Eastern Arctic population of Bowhead whale (*Balaena mysticetus*): listed in Schedule 2 of SARA as endangered.

Based on their general distribution, the following species listed as a special status species might possibly be found in the Project area:

- Wolverine (*Gulo gulo*): designated threatened in Québec according to the LEMV and endangered according to SARA.
- Harlequin duck *(Histrionicus histrionicus*): designated as special concern species by the SARA.
- Red knot *(Calidris canutus)*: susceptible of being designated threatened or vulnerable under the LEMV and endangered by COSEWIC.
- Rusty blackbird (*Euphagus carolinus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Short-eared Owl (*Asio flammeus*): susceptible of being designated threatened or vulnerable under the LEMV.
- Atlantic cod *(Gadus morhua*): designated as special concern species by SARA.
- Fourhorn sculpin (*Triglopsis* (*Myoxocephalus*) *quadricornis*): susceptible of being designated threatened or vulnerable under the LEMV.

It should be noted that although the caribou, muskox, salmonids, Canada goose, snow goose, seals, and ptarmigan (*Lagopus* spp) are not officially listed as a special status species at the provincial or federal levels, they warrant a special mention as they are important to the local Inuit population.

Human Environment

Human components include socio-economic, land and resource use, archaeology, and landscape. The next section describes the components from which relevant data are already available.

Socio-economics

The Inuit community of Aupaluk is one of the fourteen Inuit communities in the Nunavik territory. In 2006, the total population in Aupaluk was 174. The median age within the village of Aupaluk was 19.5 years, which is slightly younger than that of the Inuit population (22 years), and other indigenous groups (25 years), but is more than twice as young compared to the province of Québec (41 years).

Within the village of Aupaluk, 94.1% of the population can express themselves in Inuktitut (i.e., non-official language according to Statistics Canada), 60% of the population can converse in English, while 14.3% of the population can communicate in English and French.

The region is developing slowly and its economic situation is still precarious due to its dependence on government assistance. This limited development is attributed to the climatic constraints, the scattered resources, the distance from major cities, and the lack of a skilled work force.

Land and Resource Use

Inuit subsistence and game harvesting (hunting, fishing and trapping) occurs along the coast as well as inland. The region surrounding Aupaluk is entirely within UGAF 96 (Unité de gestion des animaux à fourrure) and hunting area 23.

Large game hunting starts around mid-November and continues into mid-May. During the summer period, the Inuit spend more time fishing and hunting marine mammals. Of particular interest is that, since 1998, licensed community hunts of the Bowhead whale (*Balaena mysticetus*) were permitted in Nunavik by the Federal Department of Fisheries and Oceans, when it was proven that the Bowhead, once almost at the point of extinction due to the activities of international whalers in the past two centuries, is now rebounding.

During meetings with Inuit representatives, the species of importance to the Inuit of Aupaluk that were mentioned are salmonids (arctic char, brook trout, lake trout), muskox, polar bear, seal, geese, ptarmigan, and caribou.

Makivik is currently performing an extensive study on land and resource use on Nunavik territory; the results will complete Makivik's database and GIS on that subject. Oceanic Iron Ore Corp. plans on acquiring the data from Aupaluk, Kangirsuk and Tasiujaq communities.

Archaeology

According to the ISAQ (*Inventaire des sites archéologiques du Québec*) database, 50 archaeological sites have been discovered near Aupaluk. The vast majority of those sites are located outside of the Project area. Only two archaeological sites are located close to some of the Project activities.

Main Apprehended Impacts

For the construction, operation and decommissioning phases of the Project, the identification of incidences addresses the physical, biological and human environments.

Physical Environment

The main environmental impacts and risks apprehended for the physical environment are:

- potential contamination of soil and water: concerning accidental spillage of petroleum products and other contaminants;

- effects on surface water quality and availability: concerning water runoff modification, higher suspended matter associated with potential subsidence and erosion risks and potential contamination from effluents;
- effects on hydrodynamic conditions in Hopes Advance Bay that could be created by frequent visits of large sea vessels throughout the year;
- effects associated with air quality: concerning dust and contaminants originating from the operations; and
- effects associated with noise and vibrations from the operations.

Biological Environment

The main environmental impacts apprehended for the biological environment are:

- effects on vegetation and wetlands: considering loss and modifications caused by new infrastructures, especially open mine pits, waste dumps and tailings management facilities (TMF sites);
- effects on fish habitat and fish populations: considering loss and modifications to fish habitat by new infrastructures, especially open mine pits, waste dumps and TMF sites, port infrastructure and water crossings; the effluents, and effects associated with drainage and erosion;
- effects on terrestrial and avian fauna (including migratory birds); considering loss and change of habitat created by new infrastructures, especially open mine pits, waste dumps and TMF sites; perturbation caused by the workers' presence as well as noise and vibrations;
- effects on marine mammals: considering the port construction (dredging and potential blasting) and perturbation caused by vessel traffic.

For the biological environment, special attention will be given to species of concern and of interest to the Inuit.

Human Environment

As for the incidences on the social environment, the main impacts and benefits apprehended are the following:

- the current and anticipated future land and resource uses;
- the potential changes in traditional hunting, fishing, trapping, and gathering activities of the Inuit in the area;
- the number of jobs created by the Project in the local and regional native population;
- the introduction of a new economy within the Aupaluk and surrounding communities, which has little work experience with the mining industry, and what it can involve for the community in the short and long term;
- the expected short and long-term socio-economic benefits;
- the historical and archaeological sites;
- the visual integration of the Project in its environment;

- the demographic imbalance due to population influx of non-Inuit in a small Inuit community including possible intercultural and/or linguistic tensions;
- the effects on Inuit social organization and cohesion;
- the effects on community and worker's health and safety;
- the effects on humans associated with air quality;
- effects associated with noise from the mine site and port activities;
- the social acceptability of the Project for Inuit population and other stakeholders, particularly in the context of Plan Nord.

Modalities of Public Consultation with Aboriginal Groups

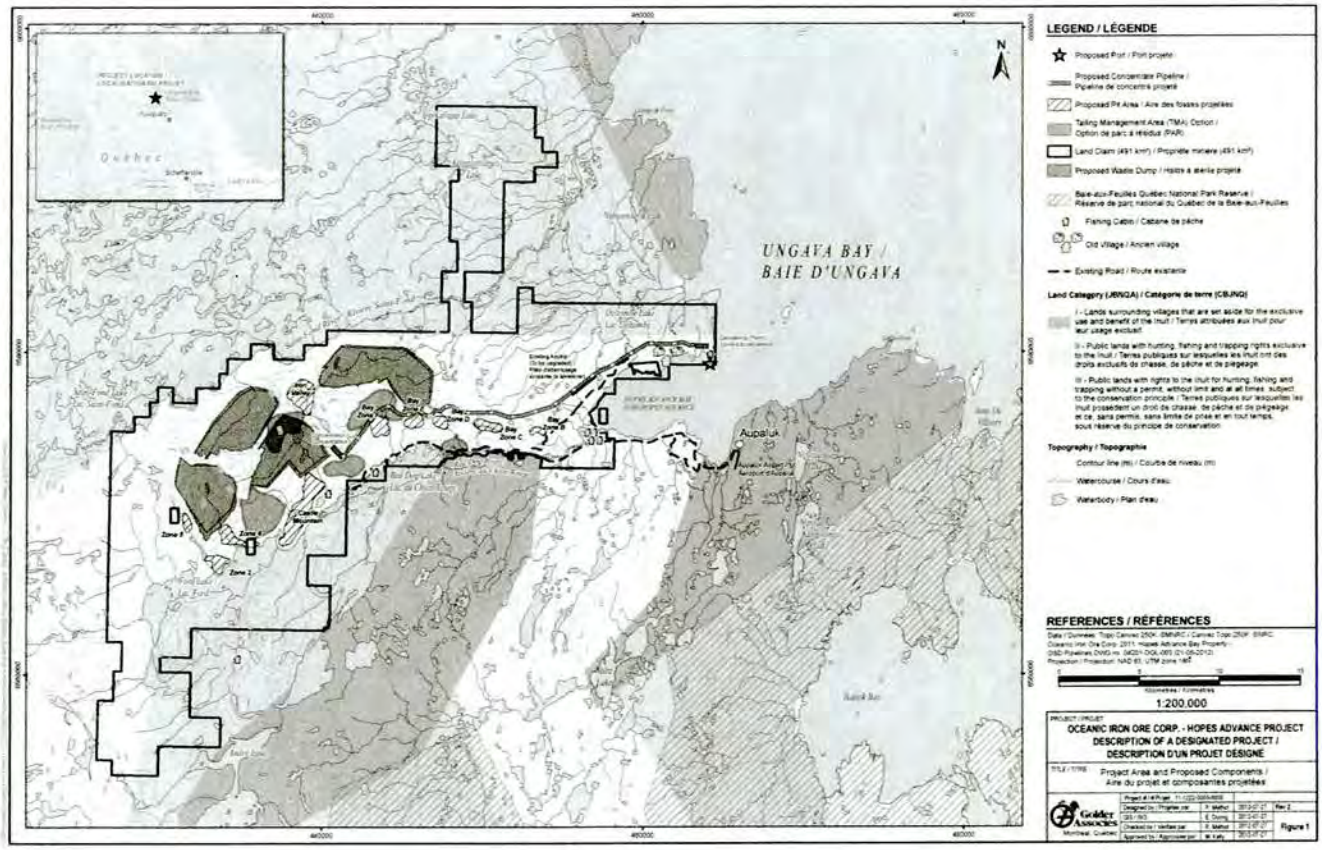
Reports?

Oceanic Iron Ore Corp. initiated consultations before the beginning of the exploration program of the Hopes Advance Project and has prepared a consultation plan for the duration of the Project's Environmental and Social Impact Assessment (ESIA). The objective of this plan is to gain traditional knowledge from the Inuit and to keep the Inuit engaged in dialogue, and involved, to maximize their participation in the Project. The consultations with the stakeholders will ensure that the ESIA report maximizes the measures required for the social acceptability of the Project.

At this stage, the jurisdictions and parties consulted include mostly Inuit organizations such as the Northern Village of Aupaluk, Kativik Regional Government, Kativik Municipal Housing Bureau or Nunavik Mineral Exploration Fund and Makivik Corporation. Additional stakeholders will be consulted within the coming months.

The consultation program includes three key activities: 1) Consultation on the current and anticipated land and resource uses; 2) Identification of stakeholders' issues and concerns on potential impacts and benefits of the Project and identification of the appropriate mitigation measures; 3) Disclosure of the draft ESIA through public consultation sessions.

Main concerns expressed during the first consultation activities with the Inuit are related to the employment situation, the potential social iniquity in the community and the possible rise of drug and alcohol consumption. Concern has also been raised about loss and deterioration of wildlife habitat caused by the Project.


UNGAVA BAY /
BAIE D'UNGAVA
Aupaluk
Quebec
Schefferville
N
LEGEND / LÉGENDE
Proposed Port / Port projeté
Proposed Concentrate Pipeline / Pipeline de concentré projeté
Proposed Pit Area / Aire des fosses projetées
Tailing Management Area (TMA) Option / Option de parc à résidus (PAR)
Land Claim (491 km²) / Propriété minière (491 km²)
Proposed Waste Dump / Haldes à stériles projeté
Baie-aux-Feuilles Quebec National Park Reserve / Réserve de parc national du Québec de la Baie-aux-Feuilles
Fishing Cabin / Cabane de pêche
Old Village / Ancien village
Existing Road / Route existante
Land Category (JBNQA) / Catégorie de terre (CBJNQ)
I - Lands surrounding villages that are set aside for the exclusive use and benefit of the Inuit / Terres attribuées aux Inuit pour leur usage exclusif
II - Public lands with hunting, fishing and trapping rights exclusive to the Inuit / Terres publiques sur lesquelles les Inuit ont des droits exclusifs de chasse, de pêche et de piégeage
III - Public lands with rights to the Inuit for hunting, fishing and trapping without a permit, without limit and at all times, subject to the conservation principle / Terres publiques sur lesquelles les Inuit possèdent un droit de chasse, de pêche et de piégeage et ce, sans permis, sans limite de prise et en tout temps, sous réserve du principe de conservation
Topography / Topographie
Contour line (m) / Courbe de niveau (m)
Watercourse / Cours d'eau
Waterbody / Plan d'eau
REFERENCES / RÉFÉRENCES
1:200,000
PROJECT / PROJET
OCEANIC IRON ORE CORP. - HOPES ADVANCE PROJECT
DESCRIPTION OF A DESIGNATED PROJECT /
DESCRIPTION D'UN PROJET DÉSIGNÉ
TITLE / TITRE
Project Area and Proposed Components /
Aire du projet et composantes projetées
Golder Associates
Montreal, Quebec
Figure 1

APPENDIX A

Photographs

APPENDIX A
Photos of Project Area / Photographies de la zone du projet

Photo 1. Fishing cabins at Red Dog River / Cabanes de pêche à la rivière au Chien Rouge

Photo 2. Red Dog Lake / Lac au Chien Rouge

Photo 3. Red Dog River / Rivière au Chien Rouge

Photo 4. Waterfall on the Red Dog River / Chute sur la rivière au Chien Rouge

Photo 5. Stream in the project area / Ruisseau dans la zone du projet

Photo 6. Vegetation of the project area / Végétation dans la zone du projet