Operation of the Tailings Storage Facility

Application for amendment of the Global CA

Goldcorp Canada Ltd – Éléonore Mine

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1.1 Applicant

The applicant's contact information is indicated in Table 1.

Table 1 Applicant's Contact Information

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Since January 1, 2020, the name of the company is Goldcorp Canada Ltd. - Éléonore Mine (NEQ 1175143545), following the merger of Les Mines Opinaca Ltée (NEQ 1146066668) and Goldcorp Canada Ltd. Goldcorp Canada Ltd (hereinafter GCL Éléonore) is a subsidiary of Newmont.

2 Background

2.1 Authorizations

Further to the environmental and social impact assessment and review process by the Review Committee (COMEX), the Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC) authorized the project on November 10, 2011 by a global certificate of approval (Global CA), pursuant to section 164 of the *Environment Quality Act* (EQA).

The Global CA was amended on January 15, 2015 following the filing of the final development concept of the tailings storage facility (TSF), in accordance with condition 2.9 of the Global CA (see details in Table 5 below). Concerning the other conditions set out in the Global CA, the TSF is currently developed on Site C presented in the environmental and social impact study (ESIS) in accordance with condition 2.1 of the Global CA. Moreover, the agreement with Hydro-Québec authorizing the development of part of the TSF under the 220.0 m protection rating of the reservoir (condition 2.3 of the Global CA) was signed on December 21, 2012 and transmitted to the MELCC in the context of the application for a certificate of approval for construction of the wastewater collection system of the tailings storage facility (Your Ref.: 7610-10-01 -70 084-78) under section 22 of the EQA.

For your information, the construction and operation of the TSF and its temporary waste rock storage pile were authorized under section 22 of the EQA by the MELCC up to Phase 3A, according to the stages presented in Table 2.

Table 2 Authorizations Issued under Section 22 of the EQA for Construction and Operation of the TSF Infrastructures (Phases 1 to 3A)

Title of Approval	Your Ref. :	Date issued
Preparatory work on the tailings storage facility	7610-10-01-70084-47	May 24, 2012
Sealing of the bed of the tailings storage facility	7610-10-01-70084-64	June 18, 2012
Construction of the wastewater collection system of the tailings storage facility	7610-10-01-70084-78	February 21, 2013
Operation of temporary waste rock storage pile in the tailings storage facility	7610-10-01-70084-85	October 29, 2013
Operation of the tailings storage facility (Phase 1)	7610-10-01-70084-94	August 26, 2014
Construction and operation of the tailings storage facility (Phase 2)	7610-10-01-70084-51	February 9, 2017
Construction and operation of the tailings storage facility (Phase 3A)	7610-10-01-70084-52	February 6, 2020

A location map of the TSF on the Éléonore mine site is presented in Appendix A.

3 Description of the Proposed Amendments

During the last year of operation of the Éléonore Mine, the waste rock and tailings balance changed considerably due to the changes made to the mining plan and method and the reduction of the tailings volume returned underground via paste fill due to the increase in rock fill. This had the consequence of increasing the tailings and waste rock volumes to be stored on the surface in the TSF and the waste rock pile. In addition, an upgrade of the water management works is also necessary to be able to manage all the runoff water from Phases 1 to 4 of development of the TSF in accordance with the requirements of the *Mining Act*.

The following subsections present the proposed changes to the Global CA in detail.

3.1 Co-disposal of tailings

3.1.1 Justification

In 2018, the geological model was revised completely with the new information available thanks to underground fill-in drilling. After these major changes to the geological model, changing the mining method was also required. It is no longer possible to mine by means of “long hole” stopes that require little development in the waste rock. From now on, the deposit must be mined in small stopes, which generates a greater quantity of waste rock than was planned at the start of the project. In the ESIS, it was initially estimated that about 8.8 million tonnes of waste rock would be produced during operation of the mine. It is currently estimated that this tonnage will be approximately 10.6 million tonnes by 2025 according to the current mining plan.

3.1.2 Components currently authorized

According to the current Global CA, three modes of disposal are currently possible for the waste rock produced by the mining activities: disposal in the mine as rock fill,[1] disposal in the mine with paste fill,[2] and reuse on the surface in the tailings storage facility (TSF), mainly for road construction in the TSF.

Approximately 25% to 30% of the total tonnage of waste rock produced annually is reused as rock fill. Another portion of the waste rock, a minimum of 50,000 m^3, is used in the tailings storage facility for development of machinery traffic roads. For the past several years, a large share of the waste rock (a minimum of 150,000 m^3/year out of a total of more than 200,000 m^3/year) is used as filter drains within the TSF, which limits the formation of groundwater in the tailings. It should be noted that, for technical reasons, it has not been possible to integrate waste rock into the paste fill. GCL-Éléonore continues to look for solutions to this problem, but it is not currently possible to determine if waste rock can be integrated into the paste fill by the end of the life of mine (LOM).

The remaining waste rock is stored in the two surface waste rock piles, i.e. the industrial area waste rock pile and the TSF waste rock pile. In the initial Global CA and in all its subsequent amendments, it was planned to reuse all the waste rock in the form of paste fill or rock fill, after storing the waste rock temporarily in the TSF pile and the industrial area pile. Due to the modification of the mining methods, GCL-Éléonore foresees that the space available in the underground stopes will not be sufficient at the end of the LOM to dispose of all the waste rock as initially anticipated.

3.1.3 Proposed modification

Consequently, GCL-Éléonore proposes to give permanent status to the TSF waste rock pile located in Cell #3. This pile, which has a maximum storage capacity of 2.3 million tonnes (± 1,200,000 m^3), is close to its maximum capacity. This pile will remain in place and the rest of the area of Cell #3 (approximately 7 ha) will be used for disposal of the desulphurized tailings, as planned. The tailings management mode in the TSF will become a co-disposal mode for the desulphurized tailings and waste rock. Figure 1 (see section 3.2) presents the configuration of the TSF in Phase 4 with the waste rock file retained permanently. Expansion of the collection pond (see section 3.2) will be necessary, which will reduce the desulphurized tailings storage capacity in the TSF. However, as presented in Table 3 below, this capacity is sufficient for operation up to 2026, which corresponds approximately to the current ore reserves.

[1] Rock fill management consists of filling the underground stopes that are no longer operated with waste rock. In this management mode, the waste rock extracted is disposed of directly in the underground stops, which limits handling of these tailings and surface storage needs.

[2] The paste fill normally is composed of the desulphurized tailings, sulphurized tailings, crushed waste rock, cement, slag and process water. The paste fill is disposed of in the underground stopes. Up to now, for technical reasons, it has not been possible to integrate waste rock into the paste fill.

Concerning the waste rock pile east of the industrial area, which has a storage capacity of 2.68 million tonnes (± 1,450,000 m^3), it will remain a temporary storage pile. However, it will not be possible to reuse all the waste rock underground by the end of the LOM. In this case, the residual quantity of waste rock that would be found there will be transferred to the TSF so that the sector containing the waste rock pile east of the industrial real will be reclaimed completely, as currently provided in the Global CA. The transfer of waste rock from the industrial area pile to the TSF will begin at the end of 2020.

Table 3 Tailings and Waste Rock Balance Up to 2026

Material balance (2021BP LOM Plan)																	Addition/removal of waste rock in industrial area pile		Industrial area pile inventory		TSF pile inventory	
	Processed ore		Paste fill tailings		Tailings in the TSF		Waste rock produced		Waste rock in rock fill		Waste rock to the surface		Waste rock in the TSF		Tailings + Waste rock in the TSF							
	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3	mt	m3
2011	0	0	0	0	0	0	249 297	134 755	0	0	249 297	134 755	0	0	0	0	249 297	134 755	249 297	134 755	0	0
2012	0	0	0	0	0	0	324 260	175 276	0	0	324 260	175 276	0	0	0	0	324 260	175 276	573 557	310 031	0	0
2013	0	0	0	0	0	0	837 654	452 786	0	0	837 654	452 786	0	0	0	0	837 654	452 786	1 411 211	762 817	0	0
2014	169 796	91 782	29 949	19 447	139 847	90 810	1 194 912	645 898	0	0	1 194 912	645 898	0	0	139 847	90 810	1 194 912	645 898	1 889 176	1 021 176	716 947	387 539
2015	1 708 628	923 583	407 497	264 608	1 301 131	844 890	1 030 206	556 868	223 149	120 621	807 057	436 247	160 380	86 692	1 461 511	931 582	646 677	349 555	1 889 176	1 021 176	1 363 624	737 094
2016	1 691 826	914 501	519 907	337 602	1 171 919	760 986	916 779	495 556	399 245	215 808	517 534	279 748	178 429	96 448	1 350 348	857 434	339 105	183 300	1 889 176	1 021 176	1 702 729	920 394
2017	1 809 937	978 344	582 243	378 080	1 227 694	797 204	968 413	523 466	326 085	176 262	642 328	347 204	272 048	147 053	1 499 742	944 257	370 280	200 151	1 889 176	1 021 176	2 073 009	1 120 546
2018	1 873 198	1 012 539	622 434	404 178	1 250 764	812 184	810 727	438 231	271 427	146 717	539 300	291 514	225 336	121 803	1 476 100	933 987	313 964	169 710	2 203 140	1 190 886	2 073 009	1 120 546
2019	2 101 920	1 136 173	650 520	422 416	1 451 400	942 468	790 404	427 245	409 096	221 133	381 308	206 112	449 933	243 207	1 901 333	1 185 675	-68 625	-37 095	2 159 968	1 167 550	1 990 600	1 076 000
2020	1 238 341	669 374	747 733	485 541	490 608	318 577	548 116	296 279	292 230	157 962	255 886	138 317	370 000	200 000	860 608	518 577	-114 114	-61 683	2 045 853	1 105 867	1 990 600	1 076 000
2021	1 752 607	947 355	660 285	428 756	1 092 322	709 300	987 986	534 047	339 842	183 698	648 144	350 348	648 144	350 348	1 740 466	1 059 648	0	0	2 045 853	1 105 867	1 990 600	1 076 000
2022	1 699 810	918 816	558 814	362 866	1 140 997	740 907	852 120	460 605	325 669	176 037	526 451	284 568	526 451	284 568	1 667 447	1 025 475	0	0	2 045 853	1 105 867	1 990 600	1 076 000
2023	1 811 006	978 922	610 490	396 422	1 200 517	779 556	867 506	468 922	325 669	176 037	541 837	292 885	541 837	292 885	1 742 354	1 072 441	0	0	2 045 853	1 105 867	1 990 600	1 076 000
2024	1 459 973	789 175	571 893	371 359	888 081	576 676	239 797	129 620	332 260	179 600	-92 464	-49 980	370 000	200 000	1 258 081	776 676	-462 464	-249 980	1 583 390	855 886	1 990 600	1 076 000
2025	968 549	523 540	445 792	289 475	522 757	339 453	36 267	19 604	394 079	213 016	-357 812	-193 412	370 000	200 000	892 757	539 453	-727 812	-393 412	855 578	462 475	1 990 600	1 076 000
2026														462 475		462 475			**Remaining volume transported and**		**Pile integrated into the TSF**	
LOM	**18 285 592**	**9 884 104**	**6 407 555**	**4 160 750**	**11 878 036**	**7 713 011**	**10 654 444**	**5 759 159**	**3 638 752**	**1 966 893**	**7 015 692**	**3 792 266**	**4 112 558**	**2 685 479**	**15 990 594**	**10 398 490**						
															Final volume in the TSF							

Note:
The total tailings storage capacity in the TSF, including expansion of the collection pond in Phase 4, is 12,230,000 $m^{3.}$

3.2 Expansion of the collection pond

The tailings storage facility was initially designed to allow its gradual reclamation and limit the active area draining to the collection pond to a maximum of 57 ha (reached during Phase 2).

However, according to the requirements of the *Mining Act*, the runoff water from the reclaimed areas of the TSF must continue to be managed as contact water for several years before it can be discharged into the environment.

Due to the rhythm of operation of the TSF, Phases 3 and 4 will be in operation before the multi-year deadline is reached so that the runoff water from reclaimed Cells #1 and #2 can be discharged into the environment. Consequently, the active area of the TSF could be equivalent to the total area of the TSF, i.e. a greater area than the maximum of 57 ha initially provided. This increase in the active areas involves upgrading the TSF runoff water collection system to be able to manage the totality of the volumes of TSF runoff water based on the design flood defined by the *Directive 019 for the mining industry*.

3.2.1 Option chosen

Several options were considered by GCL-Éléonore to deal with the increase in runoff water volume to be collected in the TSF up to the end of Phase 4:

1) increasing the capacity of the TSF pumping station without modifying the collection pond;
2) doubling the pumping capacity in the TSF (640 m^3/h) and increasing the useful volume of the TSF collection pond by approximately 33,000 m^3;
3) increasing the useful volume of the TSF collection pond by approximately 100,000 m^3 by modifying the pumping station to allow winter pumping and increasing its maximum flow to 380 m^3/h.

One of the operational constraints considered when choosing the options was the IWTP's treatment capacity and the discharge capacity of the final outfall pipe into the Opinaca Reservoir, both of which are currently limited to 26,000 m^3/d.

Option 1 would involve increasing the pumping capacity in the TSF approximately 10 times, which is not realistic and compatible with the treatment currently in place at the IWTP downstream.

Option 2 is technically possible but would increase the water flows transferred to the IWTP during a design flood, which would involve having to increase the IWTP's treatment capacity to be able to treat a greater minewater flow during Phases 3 and 4.

Option 3 is the one chosen by GCL-Éléonore, because it makes it possible to keep the TSF pumping station and the IWTP unchanged. Only the expansion of the TSF collection pond and the development of a winter pumping system are required.

3.2.2 Location of the new collection pond

The new collection pond (identified as Collection Pond #2B) will be located in a part of the sector dedicated to Phase 4 of the TSF. This location allows retention of the same geographic limits and the same encroachment area as those currently approved by condition 2.1 of the Global CA.

Figure 1 presents the projected location of Collection Pond #2. Please note that this drawing is a preliminary design that allows presentation of the location and approximate size of the pond. The phasing indicated in the drawing (Ponds #2A and 2B) is under evaluation and does not necessarily represent the phasing that will be chosen for the final development of the pond.

3.2.3 Design of the collection pond

Directive 019 for the mining industry requires, for water impoundments with tailings, such as the TSF collection ponds of the Éléonore Mine, that the volume generated by a flood composed of snowmelt with a 100-year recurrence and 24 hours of rain with a 1,000-year recurrence can be stored completely or treated before it can be discharged into the environment.

The following table presents an update of the active areas for each of the TSF's 4 operating phases.

Table 4 Development and Operation of the TSF – Modifications Proposed in Phases 3 and 4

Phases	Components	Active area	Timeline	
			Construction	Operations
1	Cell #1 (26 ha) + Waste rock pile (11 ha) + collection pond (3 ha)	40 ha	2012-2013	2014-2018
2	Addition of: Cell #2 (20 ha)	60 ha	2017-2018	2018-2021
3	Addition of: Cell #3 (7 ha) + Pond #2A (south) (4.4 ha)	71.4 ha	2021 (3A) - 2023 (3B and pond)	2021-2022 (3A) 2023-2025 (3B and pond)
4	Addition of: Cell #4 (8.6 ha) + Pond #2B (north) (4.2 ha)	84.2 ha	2025 (if required)	2025 and after (if required)

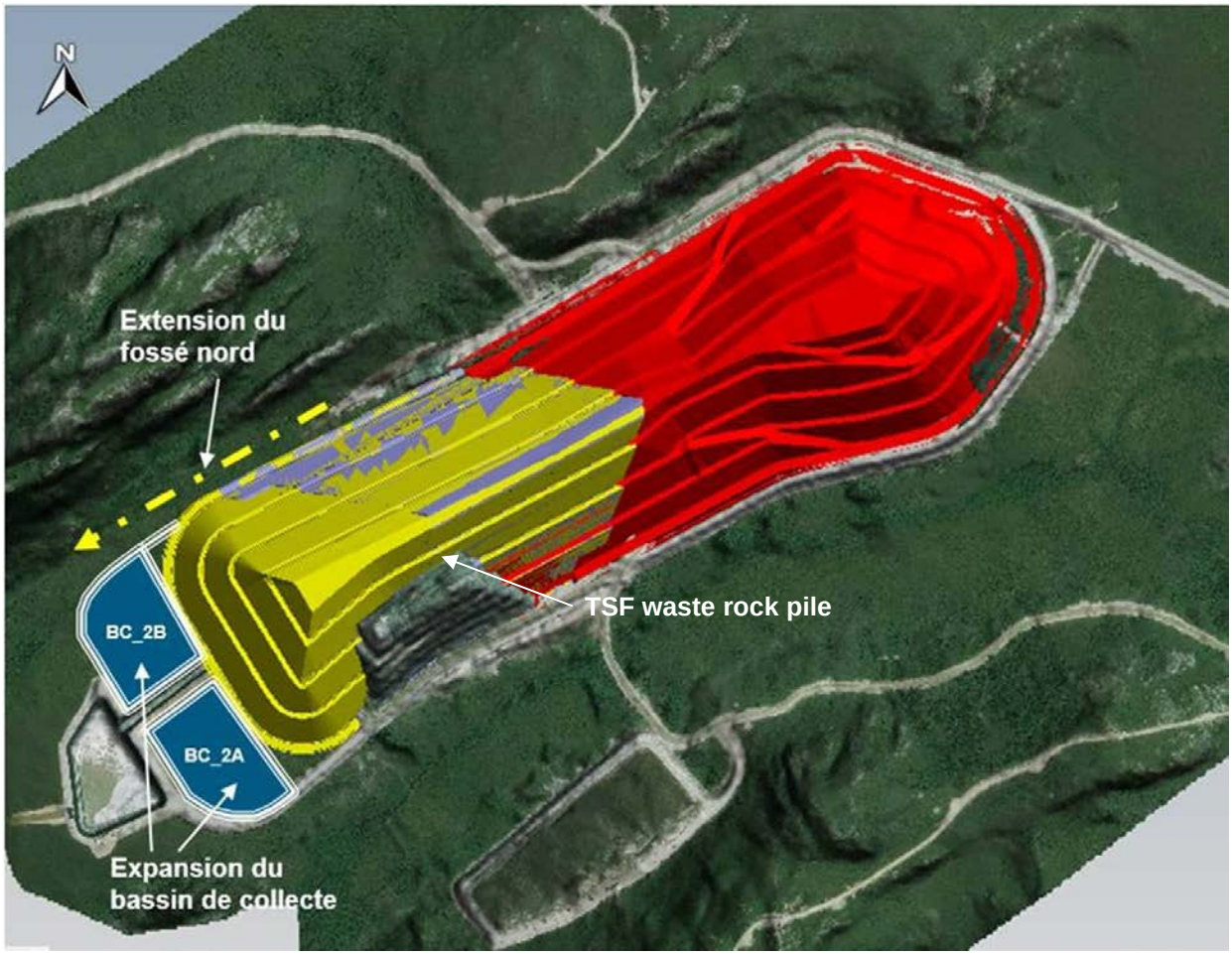
The flood control calculations of the *Directive 019 for the mining industry* allow estimating of the impoundment volume required in the collection ponds, in order to impound and treat the runoff water volume generated by this flood, while maintaining a minimum clearance of 1 m in the collection ponds (between the maximum water level and the crest of the dike).

According to the preliminary design currently available, the useful volume of Pond #2 will be approximately 100,000 m^3.

As mentioned previously, this modification reduces the desulphurized tailings storage capacity in the TSF. However, this reduced capacity remains sufficient for operation up to 2026, which corresponds approximately to the current ore reserves.

Table 5 below presents the synthesis of the modifications requested for operation of the tailings storage facility.

Figure 1 Proposed Configuration of the TSF during Phase 4 (Preliminary Concept)[3]



[3] In red: tailings in Cells 1 and 2; in yellow: tailings in Cells 3 and 4

Table 5 Synthesis of Modifications Requested for Operation of the Tailings Storage Facility

Components	Current approvals	Modifications requested
Dimension and location	Site: Site C; Area: 80 ha Maximum height 45 m [A]	Give permanent status to the TSF waste rock pile located in Cell #3. Modifications to the active areas during development and operation of the TSF (see Table 4).
Total quantity of tailings produced at the mill for the LOM	27.8 million tonnes [A]	No change requested but the estimated quantities will be less, as indicated in Table 3.
Total quantity of waste rock produced for the LOM	Approximately 11.3 million tonnes [A]	No change requested but the estimated quantities will be less, as indicated in Table 3.
Tailings storage (flotation tailings and concentrate tailings)	Separated (sulphurized tailings completely used in underground paste fill)	No change.
Tailings management mode	A portion of the tailings and waste rock is used for paste fill.	The tailings management mode in the TSF will become a co-disposal mode for the desulphurized tailings and waste rock. Increase in the waste rock volumes to be stored on the surface in the TSF. Transfer to the TSF of the residual waste rock from the temporary waste rock pile of the industrial area.
	Filtration of tailings and disposal in the TSF.	
Waste rock management mode	Waste rock used for development of roads in the TSF, disposed of in the mine as rock fill and paste fill. The rest of the waste rock is stored on the temporary piles (industrial area pile and TSF pile) while waiting to be returned underground.	
TSF runoff water management mode	Runoff water from the disposal cells collected by gravity to the transfer ditch. Collection pond: capacity of 42,600 m^3 (below the 215 m level); designed to control a flood flow for the 4 operating phases. Pumping station: 2 transfer pumps to the IWTP; 1 drain pump allowing the water table to be lowered below the collection pond and the transfer ditch. [A]	Addition of a new collection pond (Pond 2B (4.2 ha)) in a part of the sector dedicated to Phase 4 of the TSF. The total useful volume of Pond #2 will be approximately 100,000 m^3. Development of a winter drainage system.

The information on the current approvals presented in this table is taken from the documents supporting the Éléonore project impact study and is part of the initial Global CA (November 19, 2011), except for the information with the annotation identified as “A” (Global CA amended on January 15, 2015) - Submission of the final development concept of the TSF).

4 Description of the environment

Please note that the proposed modifications to management of tailings and runoff water remain within the geographic limits of the TSF as currently approved. Thus, except where mentioned to the contrary, the information presented in this section primarily comes from the impact study of the Éléonore project (Golder, 2010) and is summarized briefly.

4.1 Biophysical environment

4.1.1 Hydrology

The Éléonore Mine is located near the Opinaca Reservoir. This reservoir, which is operated by Hydro-Québec, varies by 4 metres annually, between the elevations of 211.8 and 215.8 metres, the latter being the maximum rating. The critical rating is set at an elevation of 216.7 metres. All the work included in this application is located above the maximum operating rating of the Opinaca Reservoir.

Stream No. 5, which flows to the Opinaca Reservoir, is located in the southern portion of the valley occupied by the TSF. The distance between this stream and the southern limit of the TSF is approximately 300 m.

4.1.2 Vegetation and wetlands

The Éléonore Mine is located in the boreal taiga, more specifically in the spruce-lichen forest domain. This domain is characterized by low-density forest cover, where black spruce punctuate the mat of lichen. Here, balsam fir and jack pine reach the northern limit of their range here. Deciduous trees, i.e. white birch and trembling aspen, are not widespread in the sector and generally cover small areas.

The shrub layer primarily includes ericaceae, such as bog Labrador tea, sheep laurel and lingonberry, while the herbaceous layer, when present, consists of cloudberry, creeping dogwood, blue-bead lily and lingonberry. Sphagnum and other mosses colonize the majority of the sites where the shrub layer is absent.

Wetlands are abundant in the sector and are mainly composed of ombotrophic bogs. The valley where the TSF is located is an ombotrophic bog over 75% of its area. The rest of the valley consists of a sparse forest, consisting primarily of black spruce and jack pine, which was partially burned in forest fires dating from the 1990s and the early 2000s.

4.1.3 Fauna

Among the mammals, moose, caribou (barren-ground and woodland), wolf, black bear and certain mustelids are present in the Éléonore Mine sector and could be found in the TSF sector. In addition, several micromammals belonging to the field mouse, shrew, vole and lemming genera could be present.

Among the amphibians and reptiles present in the mine sector, the spring peeper, the American toad and the wood frog are associated with the region's wetlands (Roche, 2007c) and could be present in the TSF. The common garter snake is probably the only reptile present in the mine sector.

Many bird species have been identified at the Éléonore project site, belonging to different groups of waterfowl, shorebirds, forest birds or birds of prey. Forest birds are the most likely to use the residual habitats present in the TSF.

4.1.4 Special status species

4.1.4.1 Special status plant species

The studies conducted in the context of the mine impact study revealed that four special status plant species are found in the Éléonore Mine sector, i.e. sparrow's egg lady's slipper (*Cypripedium passerinum*), Macoun's fringed gentian (*Gentianopsis procera ssp.macounii var. macounii*), Robinson's hawkweed (*Hieracium robinsonii*) and woolly beachheather (*Hudsonia tomentosa*). Among these species, we should mention that woolly beachheather currently no longer appears on the Québec list of special status species.

Macoun's fringed gentian is associated with freshwater estuaries and thus is not likely to be found on the mine site. It is identified as a special status species only in MRC de Bonaventure, so that it has no special status on the mine site. Moreover, the mine site does not offer a favourable environment for the other two species: sparrow's egg lady's slipper (*Cypripedium passerinum*) grows in open environments, consisting of low shrubs and interspersed with rocky limestone soil, while Robinson's hawkweed (*Hieracium robinsonii*) grows on the rocky or pebbly shores of watercourses.

The plant inventories conducted in 2002, 2006, 2008, 2012 and 2015 in the area of the Éléonore Mine site (Golder, 2010, Arseneault and Fenton, 2012 and Englobe, 2015) did not discover the presence of any special status vascular or nonvascular plant species. Moreover, no mention is special status plant species is listed in the data provided by the Centre de données sur le patrimoine naturel du Québec in January 2020.[4]

No plant habitat designated under the *Regulation respecting threatened or vulnerable plant species and their habitats* (c. E-12,01, r. 3), is inventoried near the TSF.

4.1.4.2 Special status wildlife species

Three special status mammal species are present or potentially present in the Éléonore Mine sector according to the information available (Roche, 2007; Golder, 2010). The woodland caribou, forest ecotype is a species designated as vulnerable according to the *Act respecting threatened or vulnerable species* (ATVS) and threatened according to the *Species at Risk Act* (SARA). According to the impact study data, it is presumed that the vast majority of the caribou observed in the sector are barren-ground caribou (Golder, 2010). The least weasel and the southern bog lemming are species likely to be designated as threatened or vulnerable according the ATVS, which could be present in the sector. The southern bog lemming frequents wetlands[5] and thus could be present in the TSF. The least weasel accommodates to a wide variety of habitats[6] and thus could be present in the TSF. However, it must be noted that no mention of these species is

[4] Centre de données sur le patrimoine naturel du Québec. January 2020. Demande relative aux espèces rares ou menacées – Secteur Mine Éléonore. (Request regarding rare or threatened species - Éléonore Mine sector) Ministère de l'Environnement et de la lutte contre les changements climatiques (MELCC), Québec.

[5] MFFP, Campagnol-lemming de Cooper – Fiche descriptive (Liste des espèces fauniques menacées ou vulnérables au Québec), https://www3.mffp.gouv.qc.ca/faune/especes/menacees/fiche.asp?noEsp=51, page consulted on June 10, 2020.

[6] MFFP, Belette pygmée – Fiche descriptive (Liste des espèces fauniques menacées ou vulnérables au Québec), https://www3.mffp.gouv.qc.ca/faune/especes/menacees/fiche.asp?noEsp=47, page consulted on June 10, 2020.

listed in the data provided by the Centre de données sur le patrimoine naturel du Québec in January 2020[7].

Among the birds, according to the data available in the mine impact study and based on the information transmitted by the Centre de données sur le patrimoine naturel du Québec in January 2020,[6] seven special status species are likely to frequent the region: Peregrine falcon (*Falco peregrinus anatum*), designated as vulnerable according to the ATVS and as a special concern species according to the SARA, bald eagle (*Haliaeetus leucocephalus*), designated as vulnerable according to the ATVS; olive-sided flycatcher (*Contopus cooperi*), designated as threatened according to the SARA nd likely to be designated as threatened or vulnerable according to the ATVS, rusty blackbird (*Euphagus carolinus*), designated as a special concern species according to the SARA and likely to be designated as threatened or vulnerable according to the ATVS; Nelson's sharp-tailed sparrow (*Ammospiza nelsoni*), also likely to be designated as threatened or vulnerable according to the ATVS; common nighthawk (*Chordeiles minor*), a threatened species according to the SARA and likely to be designated as threatened or vulnerable according to the ATVS, and finally, the bank swallow (*Riparia riparia*), a threatened species according to the SARA. The residual habitat present in the TSF (bog) may be conducive to nesting by the olive-sided flycatcher and the rusty blackbird. Of these two species, the olive-sided flycatcher was observed on the mine site during the avian fauna inventory conducted in June 2009 by Golder Associés Ltée (Golder, 2010).

No wildlife refuge is located in the immediate vicinity of the TSF.

4.2 Land use

The TSF site is located in Cree hunting territory VC 29, a territory under the responsibility of tallyman Angus Mayappo.

The presence of workers, vehicular traffic and noise due to the ground preparation activities could disturb the local wildlife and therefore hunting activities. The tallyman's permanent camp is located over 10 km from the TSF along the site access road, and no hunting fishing or trapping activity is performed in the TSF sector.

No burial site, no permanent camp, and no archaeological site or area with archaeological potential are inventoried in the TSF according to the data available in the impact study.

Moreover, the Éléonore Mine workers' camp is located about 4 km from the TSF and the closest drinking water well, which is used to supply the Éléonore Mine, is located about 2.5 km east of the TSF.

The project for modification of operation of the proposed tailings storage facility was presented to the Cree Nation's representatives during consultations held in August 19th and 20th 2019. The meeting counted with the assistance of:

- Johnny Mark, Cree Nation Government of Wemidji
- Lucas Del Vecchio, Cree Nation Government of Wemidji

[7] Centre de données sur le patrimoine naturel du Québec. January 2020. Extractions from the data system for the Éléonore Mine territory. Ministère des Forêts, de la Faune et des Parcs (MFFP), Québec.

- Ernest Tomatuk, Counselor Cree Nation Government of Wemidji
- Angus Mayappo, Tallyman of VC29
- Stéphanie Georgekish, land user of VC29
- France Trépanier, Envrionment Coordinator, Newmont Éléonore
- Suzanne Larouche, HSE Director, Newmont Éléonore
- Jacynthe Lafond, Coordinator of external relations, Newmont Éléonore

The report of this meeting and the presentation given on that occasion will be presented on demand because those are confidential documents.

5 Impacts on the environment and mitigation measures

This section presents the apprehended impacts and the proposed mitigation measures for the two modifications included in this application.

5.1 Co-disposal of tailings

5.1.1 Impacts in the construction phase

This modification does not necessitate any new construction activity. The location and the construction methods of Cells #3 and #4 remain unchanged.

The impact assessment and the mitigation measures provided for are therefore the same as those currently approved by the Global CA.

5.1.2 Impacts in the operations phase

The maintenance of the waste rock pile in the TSF does not change the operating method of Cells #3 and #4. The nature of the tailings stored and the TSF runoff water quality also remain unchanged.

Consequently, the impact assessment and the mitigation measures provided for are the same as those currently approved by the Global CA.

5.2 Addition of Pond #2

5.2.1 Impacts in the construction phase

This new pond is located within the approved limits of the TSF (Site C). The construction methods will be similar to those described in the impact study for construction of the existing TSF infrastructures.

Consequently, the impact assessment and the mitigation measures provided for are the same as those currently approved by the Global CA.

5.2.2 Impacts in the operations phase

The operation of this new pond will follow the same principles as those currently in place for the collection, containment and transfer of runoff water from the TSF to the IWTP, in compliance with the requirements of *Directive 019 for the mining industry*.

Thus, the impact assessment and the mitigation measures provided for are the same as those currently approved by the Global CA.

6 Administrative aspects

6.1 Administrative documents

Appendix B presents the certified copy of the Board of Directors resolution authorizing Geneviève Pepin to submit an application for approval and a copy of the applicant's declaration, under section 115.8 of the EQA.

6.2 Pricing

A cheque in the amount of $10,113, payable to the Québec Minister of Finance, is attached to this application, pursuant to section 13.1 of the Ministerial Order concerning the fees payable under the Environment Quality Act.

According to this Ministerial Order, this application for an amendment to the Overall CA is type 3 (Rates for any other amendment) and class 4 (Any mining project, including expansion, transformation or modification of and existing mining operation: transformation).

7 References

ENGLOBE, 2015. Mine Éléonore. Inventaires biophysiques. Rapport d'étude. Ref. Number. : 046-2344-1-EN-R-0002-0B.doc. Préliminaire. August 2015.

GOLDER, 2010. Projet Éléonore: Développement et exploitation d'un gisement aurifère - Étude d'impact environnementale et sociale. December 2010. 07-1222-3010

GOLDER, 2011a. Projet Éléonore: Réévaluation des impacts environnementaux et sociaux à la suite de la mise à jour de la conception du projet. March 2011. 07-1222-3011

GOLDER, 2011b. Projet Éléonore: Réévaluation des impacts environnementaux et sociaux sur la qualité de l'air à la suite de la mise à jour de la conception du projet. May 2011. 07-1222-3011

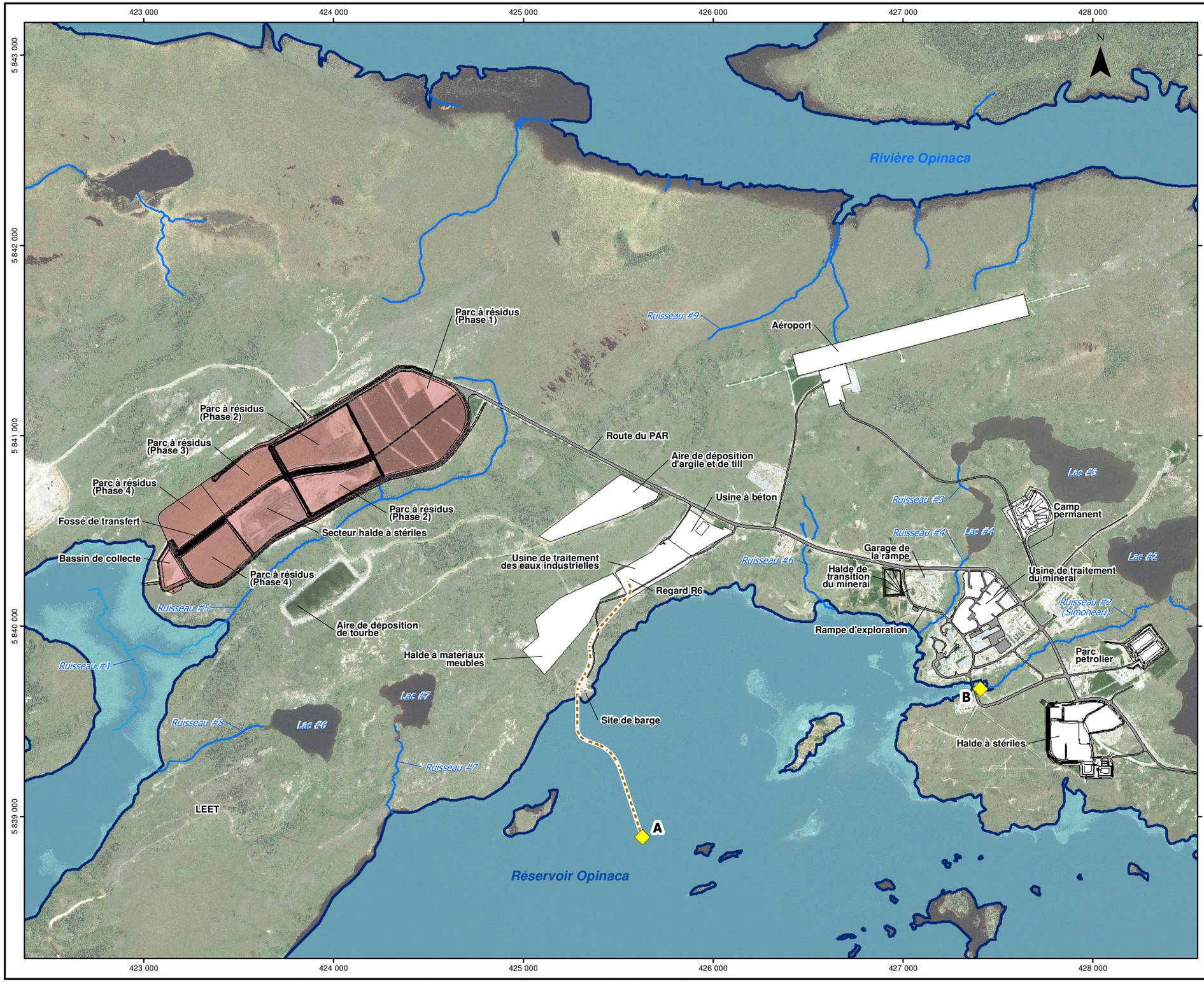
MINISTÈRE DES FORÊTS, DE LA FAUNE ET DES PARCS. Carte des écosystèmes forestiers exceptionnels du Québec en 2017

ROCHE, 2007. 2006 Environmental Baseline Study. Éléonore Property. Report presented by Roche Ltée Groupe Conseil for Opinaca Mines. Project no. 32692-000. Québec. April 2007. 152 p.

Appendix A

TSF Location Map

Carte 1



Parc à résidus miniers

Conduite d'émissaire minier

Effluent
A- Effluent minier principal
B- Effluent sanitaire

Milieu environnant

Cours d'eau

Cote maximale du réservoir Opinaca (215,8 m)

Projection cartographique: UTM Nad83, Zone 18

Titre

Localisation du parc à résidus miniers

Projet

MINE ÉLÉONORE
Demande de modification du CA Global : exploitation du parc à résidus miniers

Directeur de projet (client)	Directeur de projet (consultant)
Geneviève Pépin	Christian Laliberté
Client	**Consultant**
Goldcorp Canada Ldt.	SNC·LAVALIN

Échelle	No. projet	Fichier
0 150 300 450 m 1:20 000	609918	snc609918_EG_L01_C01_PAR3 Localisation_200701.mxd

0	2020/07/02	Préliminaire	C. LaRoche	C. Delcourt
N.	aaaa/mm/jj	Description	Dessiné	Vérifié

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Appendix B

Administrative Documents

The registrar removed these informations under articles 53 and 54 of the Act respecting Access to documents held by public bodies and the Protection of personal information (chapter A-2.1).