



# Environmental Appeal Board

**Citation:** *T̓ìl̓h̓q̓ot̓'ìn National Government v. Director, Environmental Management Act*, 2023 BCEAB 37

**Decision No.:** 2019-EMA-006(a)

**Decision Date:** 2023-12-12

**Method of Hearing:** Conducted by way of an oral hearing and written submissions concluding on March 4, 2022

**Decision Type:** Final Decision

**Panel:** Robert Wickett, K.C., Panel Chair  
David Bird, Panel Member  
James Mattison, Panel Member

**Appealed Under:** *Environmental Management Act*, SBC 2003, c. 53

**Between:**

T̓ìl̓h̓q̓ot̓'ìn National Government

**Appellant**

**And:**

Director, *Environmental Management Act*

**Respondent**

**And:**

Gibraltar Mines Ltd.

**Third Party**

**Appearing on Behalf of the Parties:**

For the Appellant: Maya Stano, Counsel  
Josh Jantzi, Counsel  
Mark Youden, Counsel

For the Respondent: Angela Westmacott, K.C., Counsel  
Alandra Harlingten, Counsel  
Kaitlyn Chewka, Counsel

For the Third Party:

Robin Junger, Counsel  
Jamieson Virgin, Counsel  
Komal Jatoi, Counsel

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## INTRODUCTION

[1] This appeal involves discharge of effluent, a water-based byproduct from a mining process which may contain chemicals of potential concern (COPCs), from a copper and molybdenum mine (the “Mine”) into the environment.

[2] This Mine is located near Marguerite, British Columbia, approximately 65 kilometers north of Williams Lake, British Columbia. The Mine has been in operation since 1972 and has, throughout the course of its operation, been required to comply with the relevant laws and restrictions placed on it. As the Mine’s operations result in contaminants being introduced into the environment, one of the relevant laws that the Mine must comply with is the *Environmental Management Act*, S.B.C. 2003, c. 53 (the “Act”). The Mine is also regulated under the *Metal and Diamond Mine Effluent Regulations* (the “MDMER”) under the *Fisheries Act*, R.S.C., 1985, c. F-14.

[3] One of the ways that the *Act* allows this introduction of COPCs into the environment is through a permit, which has associated terms and conditions. The Mine has operated under a permit for many years. The Mine’s permit, as is the case with many permits, has been changed over time, and for many reasons. A permit can be changed because the activity of the Mine is changing, and so the permit needs to be updated to reflect this change and to ensure that the change does not contradict the *Act*. Permits can be changed for other reasons as well, such as if new information about the environment or the material that is to be introduced into the environment is discovered, or if there is a need to gather more information.

[4] The Mine was purchased by its current operator, Gibraltar Mines Ltd. (“Gibraltar”)<sup>1</sup>, in 1999. Over the many years of its operations, the Mine’s permit has changed in order to allow the Mine to operate in a way that complies with the *Act*. Starting in 2009, the Mine’s permits allowed it to discharge material into the Fraser River, also known as ?Elhdaqox.<sup>2</sup> The Mine’s permit was updated in 2015 and again in 2019, allowing a 50% increase in the allowed volume of discharged effluent for a period of three years.

[5] Not everyone agreed that the change to the permit was the best way forward for the Mine and for the environment. As a result, an appeal was filed with the Environmental Appeal Board (the “Board”), which has the jurisdiction under the *Act* to review decisions such as this one. When deciding this appeal, the Board has the authority to confirm, reverse, or vary the changes to the permit, to send the matter back to the person who first

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<sup>1</sup> Gibraltar is a subsidiary of Taseko Mines Limited (“Taseko”).

<sup>2</sup> In this decision the Panel will refer to the Fraser River using its common name, except where ?Elhdaqox is used in witness testimony.

made the decision to change the permit, or to make any decision that that person could have made and that the Board considers to be appropriate.

## BACKGROUND

### The Mine

[6] The Mine site covers an area of approximately 190 square kilometres and includes three active open pit mines, a decommissioned open pit mine (the “Gibraltar East Pit”), a mill that removes copper and molybdenum from mined ore, and a tailings storage facility (the “TSF”). The TSF was constructed in a natural basin, and it includes a dam built from native material and dry tailings, which resemble coarse sand. Tailings, a low-value by-product of the mining process, are composed of finely ground rocks and water and, in the case of the Mine, may contain reagents or chemicals which were used in the removal of the copper and molybdenum from the ore that has been mined.

[7] Tailings are carried, in suspension, to the TSF by process water. Within the TSF, the tailings settle out of the water and are deposited on the bed of the TSF, leaving the supernatant, or effluent (the liquid left over after the solid tailings have settled out), above. Rainbow trout are stocked within the TSF and monitored for both acute and chronic toxicity.

[8] As there are contaminants present in the rock which is exposed during the mining process and which is introduced to water through this process, water runoff from the Mine must be captured and treated before it can be discharged into the environment. This is to prevent, to the extent possible, these contaminants from being discharged into the environment in an uncontrolled manner.

[9] The Mine effluent is permitted to be discharged, and therefore diluted, into the Fraser River near Marguerite, BC. Since the Mine began operating in the 1970s, it has not been the subject of a formal environmental assessment. In 1980, several existing mine permits for the Mine were amalgamated into Permit PE-00416 (the “Permit”), now held by Gibraltar. A drainage collection system was incorporated into the Permit in 1989, and no water discharge was allowed from the mine site as of that time. At that time, all excess water at the Mine site, including water run-off from snow melt and rain, was stored in the TSF.

[10] In years leading up to 2005, water levels within the TSF increased. In response, Gibraltar increased the size of the dam to ensure that contaminated water held within the TSF was contained and did not discharge into the Fraser River. However, as Gibraltar increased the size of the dam to retain the excess water, this elevated the risk of a dam failure due to the larger volumes of water retained within the TSF. Any failure of the dam would result in an uncontrolled discharge of TSF effluent into the Fraser River, to potentially catastrophic effect.

[11] In August 2005, Gibraltar applied to amend the Permit to authorize a discharge of effluent into the Fraser River “to combat an accumulation of excess water from the mine site.” As the Mine no longer had capacity to store excess water in the TSF, Gibraltar proposed that the effluent be directed from the TSF through an existing pipeline to a discharge point within the Fraser River. In support of its application, Gibraltar commissioned several reports which responded to comments on the proposal made by various government agencies, the Ministry of Environment and Climate Change Strategy (the “Ministry”), public stakeholders, and local First Nation communities.

[12] In April 2006, the Permit was amended. This amendment was appealed to the Board and was, for the reasons found within *Xats’ull First Nation v. Director, Environmental Management Act*, 2008 BCEAB 8 (CanLII), remitted back to the original decision maker with certain directions. Following this, the Permit was amended on June 12, 2009, authorizing Gibraltar to discharge effluent into the Fraser River at a maximum rate of 190 liters per second (“L/s”) between April 10 and November 10 of each year.

[13] The Permit was amended again in October 2015, following an application by Gibraltar. This amendment temporarily increased in the volume of effluent allowed to be discharged during the months of April through November to 285 L/s each year for 2015 and 2016 (the “2015 Permit”).

[14] On March 18, 2019, the Permit was amended again, this time by Douglas J. Hill (the “Director”), who worked for the Ministry and was a director appointed under the *Act*. This amendment (the “2019 Amendment”) authorized an increase in the permitted discharge of effluent into the Fraser River from 190L/s to 285L/s for a period of 3 years ending on November 10, 2021.

[15] The T̓silhqot̓in National Government (“TNG”) appealed the 2019 Amendment to the Board.

[16] TNG submits that the 2019 Amendment fails to adequately protect human health and the environment, particularly white sturgeon. They submit that the Director failed to consider or give sufficient weight to relevant information and failed to adequately consult with TNG before issuing the 2019 Amendment. TNG asks the Board to reverse the 2019 Amendment and remit it back to the Director for a redetermination following adequate consultation and accommodation of TNG and in accordance with the Board’s reasons.

### **The T̓silhqot̓in National Government**

[17] The T̓silhqot̓in Nation consists of six communities sharing a common culture and history. Each of the six communities is a “band”, as defined in the *Indian Act*, R.S.C. 1985, c. I-5. One of those communities is the ̓Esdilagh First Nation (the “EFN”), also known as the Alexandria Band. The T̓silhqot̓in Nation is governed by TNG.

[18] The T̓silhqot̓'in people have traditionally inhabited the mountainous regions on both sides of the Fraser River. Translated into English, the word "T̓silhqot̓'in" means "the people of the river". In this appeal, there is no dispute that the Fraser River is of great importance to the T̓silhqot̓'in People. Nits'il?in (Chief) and Elder Victor Roy Stump states:

Our Nation's relationships to our Territory make us who we are: The River People (i.e., the English translation of our Nation's name, T̓silhqot̓'in). As my Elders have explained to me, we, the T̓silhqot̓'in, or the River People, are the voice for the fish in the river.

The health of *?Elhdaqox* and the life it sustains are of fundamental importance to our continued preservation of our T̓silhqot̓'in way of life. We have always relied on *?Elhdaqox* to drink, fish, swim, carry out our sacred ceremonies, travel, and generally exercise our T̓silhqot̓'in Rights.<sup>3</sup>

[19] According to TNG, T̓silhqot̓'in People have a unique relationship with "Tu" (which means "water" in English), which is a sacred gift and provides important resources including salmon and white sturgeon. Tu is central to T̓silhqot̓'in Peoples' identity and is considered sentient with human qualities. *?Esdilagh* Nits'il?in Yaz Howard Johnny says:

Tu (water) has always been of critical importance to our Nation, and we consider it to be one of our most valued and sacred gifts that we have a responsibility under our laws and customs to protect and care for.<sup>4</sup>

[20] TNG submits that the T̓silhqot̓'in people are concerned about the impact of the effluent discharge from the Mine into the Fraser River, and the cumulative effect of this discharge when combined with other impacts from industry upstream. They believe the "presence of foreign substances in water within T̓silhqot̓'in Territory is a threat to T̓silhqot̓'in Aboriginal Rights."<sup>5</sup> Nits'il?in Francis Laceese, chief of the Toosey Indian Band, one of the six communities that comprise the T̓silhqot̓'in Nation, says:

We have traditional fishing sites along *?Elhdaqox*, both upstream and downstream of the Gibraltar Mine effluent discharge location. Salmon is of critical importance to our Nation, and has played a central role in our culture and to our T̓silhqot̓'in Rights since the beginning of time...

However, impacts to *?Elhdaqox* have led to many of our citizens not being able to fish salmon in the same ways as our ancestors did both due to concerns about the health of fish populations and concerns regarding the health of Tu in *?Elhdaqox*.<sup>6</sup>

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<sup>3</sup> Witness statement of Victor Roy Stump, paras. 6 – 7.

<sup>4</sup> Witness statement of Howard Johnny, para. 7.

<sup>5</sup> Witness statement of Francis Laceese, para. 10.

<sup>6</sup> Witness statement of Francis Laceese, para. 12.



[21] EFN holds reserve lands on both sides of the Fraser River. One of their reserves is located four kilometers upstream from the effluent discharge location, another is located downstream of the Mine tailings dam, and a third is located adjacent to the Mine. TNG submits:

Since pre-contact times, EFN have retained a strong geographical sense of place and relationship to their lands and resources on both sides of ʔElhdaqox. Their use and occupancy of their lands, including the lands around Gibraltar Mine and ʔElhdaqox adjacent to their homes and the mine, has continued throughout the historic period to modern day. [ʔEsdilagh First Nation] has continuously asserted and enforced Tʔilhqotʔin Rights in its caretaker area, which includes the areas surrounding EFN communities and ʔElhdaqox, including the Gibraltar Mine site.<sup>7</sup>

[22] In 2014, the Supreme Court of Canada declared that the Tʔilhqotʔin People hold Aboriginal title over portions of the area over which they asserted title. These title lands do not include the area in which effluent is discharged under the 2019 Amendment.<sup>8</sup>

[23] After the 2014 decision, the governments of British Columbia and TNG entered into several agreements for shared decision-making around land and resource management in areas where TNG continues to assert Aboriginal title. One of those agreements is the Tʔilhqotʔin Stewardship Agreement signed in June 2014 and amended in March 2017 (the “Stewardship Agreement”). The Stewardship Agreement establishes a staged engagement protocol to be followed where there are proposed uses of land and resources within asserted TNG territory. The level of engagement depends on several factors, including the potential impacts of a prospective use of the land which may affect land and resources within asserted TNG territory, as well as the potential impact on TNG’s asserted Aboriginal rights. The highest level of engagement occurs where “there may be significant impacts to fish, wildlife, water, land or Aboriginal rights”.<sup>9</sup> The Stewardship Agreement provides for Government-to-Government (“G2G”) discussions to explore:

...the linkage between the environment and Aboriginal Rights related to land and resource. The intention within this Agreement is to develop a good understanding of the linkage between potential impacts to Aboriginal Rights and the ecological services that they depend on...<sup>10</sup>

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<sup>7</sup> Appellant’s Statement of Points, para. 27.

<sup>8</sup> *Tsilhqotʔin Nation v. British Columbia*, 2014 SCC 44.

<sup>9</sup> Appellant’s Statement of Points, para. 47.

<sup>10</sup> Section 2.1 of Appendix A - Engagement Process of the Tʔilhqotʔin Stewardship Agreement, page 24.

## The Approval Process and Previous Decisions

[24] As a result of disagreements over the appropriate level of consultation during the issuance of the 2015 Permit, TNG reached an agreement with the Province that future applications to amend the Permit would comply with the requirements of a Level 4 Engagement, with modifications to account for the Permit assessment process. A Modified Level 4 Engagement is described under Appendix A, section 6.12 of the Stewardship Agreement, which states:

... some Level 4 Engagement Requests because of their complexity, geographic scope, volume of information, number of decisions, or other factors may require a modified engagement process.<sup>11</sup>

[25] Under the Modified level 4 Engagement Terms of Reference (the “TOR”) the Province and TNG developed a table to document and track information to be submitted for permanent amendment applications. The table was intended to allow TNG and the Province to address fundamental issues and expectations related to management of the Gibraltar mine.

[26] Under the TOR, the parties agreed to the following guiding principles (among others):

- to make best efforts to reach consensus on which technical discussions to prioritize and when to engage of specific topics;
- to share comments, recommendations, and information with the Gibraltar Mine Technical Advisory Committee (the “TAC”), the Government-to-Government Committee (the “G2G Committee”) and Gibraltar as appropriate;
- to make best efforts to reach consensus on issues, options or recommendations brought forward as part of this process;
- to engage in good faith discussion, identify points of common agreement, identify matters upon which the Parties cannot agree and report deliberations and recommendations to decision makers; and
- to ensure that decision makers are informed of the specific points where Parties’ recommendations depart from consensus when the final decision is submitted.

[27] Although Gibraltar was discharging effluent from the Mine at the increased rate of 285 L/s for portions of 2015 and 2016 under the 2015 version of the Permit, Gibraltar was still required to raise the East Saddle Dam, a component of the TSF, by three feet in order

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<sup>11</sup> Section 6.12 of Appendix A – Engagement Process of the T̓ìl̓h̓qot̓in Stewardship Agreement.

to “maintain dam freeboard requirements as a result of water collected and stored in the tailings storage facility...”.<sup>12</sup>

[28] In September of 2017, Gibraltar applied to amend the 2015 Permit to permanently increase the rate of effluent discharge into the Fraser River to 285 L/s, from April 10 to November 10, annually.

[29] In a December 1, 2017 letter, Carol Danyluk, Section Head, Mining Operations Ministry of Environment, stated that Gibraltar’s application was in a screening phase and was being reviewed by the Ministry as well as by TNG. Ms. Danyluk identified deficiencies in Gibraltar’s application:

... related directly or indirectly to the need for updated, comprehensive mine chemistry, water balance and water quality models, and long-term water quality predictions. In addition, the initial information provided on potential alternatives to discharge is of great interest; First Nations and the Provincial Government look forward to further assessment and development of the potential alternatives to support a long-term water management plan.

[30] The Ministry further identified that the Permit application lacked a long-term water quality model, a long-term site-wide water balance management plan, information assessing alternative discharge and water treatment options, and a cumulative effects assessment study. The missing elements were required by the Ministry in its assessment of the Permit amendment application.

[31] In December 2017, Gibraltar was also asked by the TAC to consider two further recommendations. Those TAC recommendations were that:

- Gibraltar expedite an alternatives assessment process to examine options for removing water from the mine site that did not depend on sending tailings supernatant directly to the Fraser River; and
- Gibraltar amend its current permanent discharge increase application to reflect alternative options for removing water from the mine site that did not rely on sending tailings supernatant directly to the Fraser River that have been identified as feasible, and that are supported by the Ministry and First Nations.<sup>13</sup>

[32] Provincial officials met with Gibraltar on December 20, 2017, and discussed the possibility of a short-term authorization under the *Act*, subject to Gibraltar providing timelines for remedying the information deficits in the Permit application. Gibraltar then

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<sup>12</sup> See Gibraltar’s February 14, 2018 letter to Carol Danyluk, Section head, Mining Operations, Ministry of Environment.

<sup>13</sup> Respondent’s Statement of Points, para. 18.

abandoned its application for a permanent amendment, for a 2017 temporary Permit amendment application.

[33] In February 2018, Gibraltar applied to amend the 2015 version of the Permit to allow an increased rate of discharge into the Fraser River for a three-year term to run concurrent with an existing environmental effects monitoring (“EEM Studies”) studies required under the MDMER.

[34] EEM studies under the MDMER are required where a mine discharges more than 50 cubic meters of effluent a day:

EEM studies are conducted by industries to identify potential effects caused by effluents on fish, fish habitat, and use by humans of fish (Government of Canada 2021b). EEM is a science-based performance measurement tool use to evaluate the adequacy of effluent regulations in protecting fish, fish habitats, and the usability of fisheries resources (Government of Canada 2021b)<sup>14</sup>

[35] EEM studies, which include characterization of effluent, sublethal toxicity testing, and water quality monitoring, are used to evaluate effluent and water quality. EEM studies may also involve biological monitoring in the aquatic environment where effluent is discharged to determine whether mine effluent is having an effect on fish, fish habitat or the use of fisheries resources. EEM studies can be conducted both in areas which have been, or are proposed to be, exposed to effluent and in areas which have not and are not exposed to effluent. The study of these latter areas can serve as a reference point to provide useful comparative data for evaluative purposes and future study.

[36] The MDMER defines effects as:

... An “effect” on the fish population or benthic invertebrate community is defined as a statistical difference between data collected in an exposure area and in a reference area or sampling areas within an exposure area where there are gradually decreasing effluent concentrations at increasing distances from the effluent discharge.

[37] EEM studies and their significance to evaluating the effluent and potential affects to the environment, compared to upstream references, will be explained in more detail later in this decision.

[38] In its April 23, 2018, letter to the Ministry, TNG opposed Gibraltar’s application for an interim permit amendment to increase the discharge of Mine effluent. TNG argued that the approach to discharge increased volume of effluent into the river was “misguided and fails to address a number of concerns and expectations.”<sup>15</sup> One of several concerns TNG

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<sup>14</sup> Statement of Expert Evidence of Mr. Stecko, para. 9.

<sup>15</sup> April 23, 2018 letter re: Gibraltar Mines Ltd. Amended EMA Permit Application from TNG to Carol Danyluk, Section Head, Mining Operations, Environmental Protect Division, page 1, para. 3.

raised related to the lack of critical information, which was jointly and previously identified by the TAC, to assess the risk to the environment and human health.

[39] TNG noted that “many of the deficiencies relate to the inability to conduct an environmental effects assessment, because source terms and water quality predictions for the mine are outdated.”<sup>16</sup> TNG wrote that these concerns are compounded due to historic deterioration of Mine water quality in the TSF due to the presence of sulphate, nitrite, and nitrate within the effluent. TNG strongly disagreed with Gibraltar’s application to increase effluent discharge while long term water management and water quality modeling was being conducted.

[40] Ms. Danyluk asked Gibraltar to provide responses to TNG and TAC comments. In February 2018, Gibraltar identified that a short-term permit amendment would:

... allow Gibraltar to complete the longer term deliverables outlined in the screening comments, review results with [the Ministry], First Nations, and the TAC while mitigating the accumulation and storage of excess water and will reduce or defer TSF dam raises.<sup>17</sup>

[41] On May 1, 2018, the Ministry of Energy, Mines and Petroleum Resources (“EMPR”) wrote to Gibraltar regarding its TSF pond management and dam safety plans. The letter sought to address the “increased general risk at the Gibraltar tailings storage facility due to current pond volume and associated high snowpack...”. In its May 7, 2018, reply letter, Gibraltar stated that its TSF “has the capacity to absorb and store the entire 2018 freshet event without adverse consequences...[but] will need to restore the flood storage capacity, so that as per design the TSF is able to absorb and store a 30-day probable maximum flood event should one occur.”<sup>18</sup>

[42] In its February 14, 2018 letter to the Ministry, Gibraltar identified that:

in 2017 it had been required to raise the East Saddle Dam by three feet...to maintain dam freeboard requirements as a result of water collected and stored in the Tailings Storage Facility (“TSF”) despite the currently approved discharge volume. [Gibraltar] advised that increasing the discharge rate would mitigate future dam raises and reduce risk associated with the TSF.<sup>19</sup>

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<sup>16</sup> April 23, 2018 letter re: Gibraltar Mines Ltd. Amended EMA Permit Application from TNG to Carol Danyluk, Section Head, Mining Operations, Environmental Protect Division, page 3, para. 12.

<sup>17</sup> February 14, 2018 Letter from Taseko/Gibraltar to Carol Danyluk, Section Head, Mining Operations, Environmental Protect Division, page 1.

<sup>18</sup> May 7, 2018 Letter from Taseko/Gibraltar to Lowell Constable, Manager, Geotechnical Engineering, Ministry of Energy Mines and Petroleum Resources.

<sup>19</sup> February 14, 2018 Letter from Taseko/Gibraltar to Carol Danyluk, Section Head, Mining Operations, Environmental Protect Division, page 1.

[43] The Director sought more information on EMPR's expectations regarding TSF water management and management of long-term TSF pond water quality. In EMPR's July 31, 2018 letter to the Director, following review of Gibraltar's permit amendment application, it stated:

It is EMPR's advice, should [the Director] authorize the increased discharge to the Fraser River, that a robust trigger response plan be incorporated into [the Amended Permit] to effectively address concerns with TSF pond water quality and potential future exceedances of maximum levels in TSF pond water.<sup>20</sup>

[44] EMPR expressed concern about the management of tailings storage ponds further to the "Report on Mount Polley Tailings Storage Facility Breach"<sup>21</sup>, which provided recommendations following the breach of a storage facility dam and a consequent spill of tailings supernatant and rainwater into a creek at the Mount Polley Mine, near Likely, British Columbia. EMPR identified that the ongoing storage of supernatant at the Mine was a risk, and that the volume of water stored behind tailings dams should be minimized where this does not compromise effective dam tailings management. Additionally, EMPR identified that supernatant should be discharged offsite under a permit when possible.

[45] EMPR's July 31, 2018 letter further noted that the TSF water at the Mine had, since 2014, an upward trend in sulphate concentrations, and that it could reasonably conclude sulphate concentrations would continue to increase and exceed the concentrations at which the Mine is able to discharge water into the Fraser River, under the Permit.

[46] EMPR advised the Ministry and Gibraltar that the ongoing accrual of water in the TSF created a risk of water overtopping the TSF dams, constituting a failure of the TSF.

### **EEM Interpretive Reports and Other Reports**

[47] In addition to the various permits issued by the Director, Gibraltar's mine effluent discharge is also regulated by the MDMER under the *Fisheries Act*. Many of the reports resulting from these EEM studies were before this Panel on appeal and are briefly summarized here.

[48] Phase 1 EEM studies were carried out in 2011, Phase 2 EEM studies were carried out in 2014, Phase 3 EEM studies were carried out in 2017. After the 2019 Amendment was issued, the Phase 4 EEM Interpretive Report was issued.

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<sup>20</sup> Ministry of Energy, Mines and Petroleum Resources July 31, 2018 Memorandum to Carol Danyluk, Section Head, Mining Operations, Environmental Protection Division, page 3.

<sup>21</sup> Dated January 30, 2015.

### The 2017 Minnow Report

[49] Minnow Environmental Inc. (“Minnow”) was hired by Gibraltar to carry out EEM studies required under the MDMER. The Gibraltar Mine Discharge Water Quality Effects Assessment, 2017 (the “2017 Minnow Report”) identified COPCs in the Mine effluent where environmental monitoring analyses revealed the presence of contaminants at concentrations above those described in the BC Water Quality Guidelines (the “BCWQG”) for the protection of aquatic life or had the potential to increase in concentration downstream in the Fraser River, beyond the initial dilution zone (IDZ). Water sampling in the IDZ occurs 100 meters downstream of the effluent discharge point.

[50] The 2017 Minnow Report predicted that an increase in the rate of Mine effluent discharge to 285 L/s would have limited impacts on the water quality of the Fraser River, relative to upstream of the IDZ. This conclusion was supported by:

... the results of effluent toxicity testing (2009 to present), water quality monitoring undertaken in 2016, and [EEM] undertaken in 2010, 2013, and 2016 (the latter during discharge at a rate of 0.285 m<sup>3</sup>/s).

[51] The 2017 Minnow Report classified COPCs into three tiers of concern. To do so, the authors reference Permit concentrations for various contaminants, background concentrations upstream of the IDZ, and the BCWQG. The guidelines are used for a variety of water stewardship, water quality assessment, and water quality management objectives in the province. There are different guidelines based on different uses to which water will be put. One such use is for water bearing aquatic life. The guidelines for aquatic life have two listed concentrations for various contaminants, one to avoid acute toxicity to aquatic life (the “Acute Concentration”), and one to avoid chronic toxicity to aquatic life (the “Chronic Concentration”).

[52] The 2017 Minnow Report classified the COPCs in this case into three tiers, based on the following criteria:

- Tier 1 COPCs are those with median and/or maximum monthly means greater than the applicable Chronic Concentration or that reached or exceeded the 95<sup>th</sup> percentile for the applicable Acute Concentration, or those had maximum concentrations within 20% of Permit limits.
- Tier 2 COPCs include substances with maximum measured effluent concentrations within 20 percent of the applicable Acute Concentration.
- Tier 3 COPCs are substances whose measured mean and/or median concentration in effluent is more than 20 percent higher than 95<sup>th</sup> percentile of the measured concentrations upstream of the IDZ.

### The 2017 Minnow Addendum Report

[53] Minnow completed a further report, the 2017 Addendum Water Quality Effects Assessment, 2018 (the “2017 Minnow Addendum Report”), which responded to issues and concerns raised by the TAC after reviewing the 2017 Minnow Report.

[54] The TAC requested clarification on three points:

- why there appeared to be substantial decrease in nitrite concentrations reported in the Fraser River from the monitoring station at Marguerite;
- explanation about the identification of COPCs based on the BCWQG ; and
- an examination of the COPCs in the effluent to assess whether concentrations were still trending upward.

[55] In response to the concerns about the substantial decrease in nitrite concentrations, the authors discuss issues with laboratory testing at Federal monitoring sites. The authors concluded at the time that “[o]utcomes from the investigations should indicate whether historical (pre-2015) nitrite data from Marguerite has been overestimated, or if more current (post-2015) Marguerite and Gibraltar Mine routine monitoring data have been underestimating nitrite concentrations.” The report concludes that assessment of nitrite in relation to the BCWQG will need to be re-visited.

[56] The 2017 Minnow Addendum Report found under the more conservative hardness-based approach in the BCWQGs, total copper was the only “additional analyte identified as a COPC (Tier II).

[57] However, Minnow stated:

...the maximum applicable mean and maximum effluent total copper concentrations were actually lower than their respective values in the Fraser River.<sup>22</sup>

[58] Minnow noted that evaluating discharge of total copper from the Mine into the Fraser River was complicated because concentrations of total copper in the river upstream “often exceed guidelines.”<sup>23</sup> The 2017 Minnow Addendum Report concluded that “...it is not expected that total copper concentrations in effluent will result in any additional influence on aquatic organisms (at the higher discharge rate) relative to the total copper concentrations current present within the river, which are already above guidelines protective of aquatic life.”<sup>24</sup>

[59] Lastly, the 2017 Minnow Addendum Report assessed concentrations of nitrate, nitrite, and sulphate in the Fraser River, which had increased over the five-year period of

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<sup>22</sup> 2017 Minnow Addendum Report, page 4.

<sup>23</sup> 2017 Minnow Addendum Report, page 4.

<sup>24</sup> 2017 Minnow Addendum Report, page 6.



the studies which were carried out for the 2017 Minnow Report. Effluent quality data collected in 2017 was included in the assessment presented in the 2017 Minnow Addendum Report.

[60] The 2017 Minnow Addendum Report noted that nitrate and nitrite concentrations continued to trend upwards in 2017, similar as between 2014 through 2016, but significantly less than the increases observed through 2014 and 2016. Minnow stated this may be a result of the implementation of an explosives and nitrate management plan implemented at the Mine.

[61] Sulphate was the other COPC which the 2017 data set indicated increased in concentration in the Fraser River. The 2017 Minnow Addendum report recommended that monitoring of sulphate in the TSF should continue, but the analysis of the data in the 2017 Minnow Addendum report projected that "...concentrations [of sulphate] at the edge of the IDZ are still 10-fold lower than applicable water quality guidelines...".<sup>25</sup>

#### The Phase 4 EEM Interpretive Report

[62] In December 2020, Minnow released the Phase 4 EEM Program Interpretive Report (the "Phase 4 EEM Report") based on studies undertaken in August and October 2019. These studies involved integrated assessment of results from sublethal toxicity testing of effluent from the Mine, effluent mixing, water quality, sediment quality, benthic invertebrate community condition, benthic invertebrate tissue quality, fish community health, sentinel fish populations, and sentinel fish tissue quality of the effluent-exposed area of the Fraser River relative to upstream.

[63] The Phase 4 EEM Report indicates that the Mine effluent mixes quickly in the Fraser River and the influence of the effluent discharge on the water quality of the river is minor. The Phase 4 EEM Report noted:

Overall, the influence of the Gibraltar Mine discharge on the Fraser River appears to be minor. A small but detectable influence on water quality was evident in slightly higher conductivity, nitrate, nitrite, sulphate, and molybdenum concentrations downstream of the discharge relative to upstream, but concentrations of these analytes were well below [the] BCWQG. However, multiple lines of evidence, including sediment quality, benthic invertebrate community, fish health, and benthic and fish tissue chemistry, continue to indicate no consistent evidence of an effect resulting from Gibraltar Mine effluent within the Fraser River.<sup>26</sup>

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<sup>25</sup> 2017 Minnow Addendum Report, page 7.

<sup>26</sup> Phase 4 EEM Report, page iii, December 2020.

## The Decision: The 2019 Amendment

[64] On March 18, 2019, the Director issued the 2019 Amendment. The 2019 Amendment authorized, in part, effluent discharge at a maximum rate of 285 L/s from April 10 through November 10 of each year from 2019 through 2021, but required that Gibraltar:

- i) suspend the increased rate of effluent discharge when the Fraser River's mean daily temperature at Marguerite exceeds 19 degrees Celsius and the tailings pond supernatant's mean daily temperature exceeds the Fraser River's temperature at Marguerite;
- ii) reduce the rate of effluent discharge to 190 L/s on any day when the Fraser River's flow is less than 800 m<sup>3</sup> per second; and,
- iii) reduce the rate of effluent discharge to 190 L/s during November 11 to April 9.

[65] The 2019 Amendment also outlined specific characteristics and concentrations of compounds and metals that are permitted to be present in the supernatant effluent, including, among others, total values for copper, cadmium, nitrite, and nitrogen.

[66] The 2019 Amendment included a requirement for a trigger response plan for the Fraser River. This is a plan which requires corrective action if concentrations of contaminants of concern reach certain specified levels. The trigger response plan was designed to address any water quality issues in the receiving environment. The 2019 Amendment required the development of a site-wide water management plan addressing the feasibility of diverting water around the mine area and managing risks associated with the storage of water at the Mine site.

## Appeal of the 2019 Amendment

[67] TNG appeals the 2019 Amendment on two main grounds. First, TNG asserts that the 2019 Amendment does not adequately protect the environment as required by section 16 (1) of the *Act*, which states that a director may amend a permit "for the protection of the environment". TNG asserts that the Director failed to adequately consider the impact of the increased rate of discharge of TSF effluent on white sturgeon, an endangered and culturally important fish species.

[68] Second, TNG asserts that the Crown, as represented by the Director, did not adequately consult with them and accommodate their asserted claims for Aboriginal rights and title. Specifically, TNG asserts that the Crown failed to consult TNG about, and failed to accommodate, the principle of non-degradation expressed in Tšilhqot'in law known as ʔElhdaqox Dechen Ts'edilhtan. As is more fully explained later in this decision, TNG say their law of non-degradation requires any effluent discharged into the Fraser

River to be of equivalent or better water quality than the water in the Fraser River upstream of the point of effluent discharge. TNG asserts an inherent right to govern over its territory in accordance with its traditional laws, including the non-degradation principle expressed in ?Elhdaqox Dechen Ts'edilhtan.

[69] TNG submits that the 2019 Amendment should be set aside. Alternatively, Gibraltar's application should be sent back to the Director for redetermination in accordance with the Board's reasons. However, the Panel notes that the latter remedy is no longer practical because the 2019 Amendment expired on November 11, 2021.

[70] The Director asserts that he adequately protected the environment by imposing various conditions in the 2019 Amendment. The Director asserts that TNG was adequately consulted and accommodated on their asserted Aboriginal rights and title. The Director says he was not made aware of TNG's asserted law of non-degradation until after TNG filed the appeal. Therefore, the Director could not have consulted with TNG about the asserted law and any impact of the 2019 Amendment on TNG's asserted right to self-govern as it relates to the non-degradation principle.

[71] Gibraltar supports the Director's position and raises a further issue about the fairness of the appeal process. Gibraltar asserts that it was not made aware of the nature of TNG's claims in respect of the principle of non-degradation as an Aboriginal right to self-govern until the appeal was underway. Gibraltar asserts that this raises an issue about the fairness of the appeal hearing, and the Board should decline to consider the asserted non-degradation law.

[72] The Director and Gibraltar each submit that the appeal should be dismissed.

## ISSUES

[73] There are two broad categories of appeal which have been raised against the 2019 Amendment, with several particulars under each:

1. Are the T̂silhqot'in Nation's Aboriginal title, rights, and interests adversely affected by the Amended Permit, and, if so, did the Crown breach its constitutional duty to adequately consult and reasonably accommodate the T̂silhqot'in Nation before issuing the Amended Permit?
2. Is the Amended Permit adequately protective of human health and the environment, as required by section 16(1) of the *Act*?

[74] Three interlocutory applications were advanced during the appeal hearing. These applications were resolved during the course of the hearing, with reasons to accompany this final determination of the appeal. These applications will be discussed before the two broad issues relevant to this appeal, listed above, are addressed.

[75] In the first interlocutory application, Gibraltar and the Director objected to the admissibility of an expert report by Dr. Deidre Cullon, tendered by TNG. In the second

application, Gibraltar sought an order that TNG be prohibited from submitting that the principle of non-degradation is a stand-alone Aboriginal right, based on grounds of procedural fairness.

[76] The third application arose following the conclusion of the hearing. Gibraltar applied to re-open the hearing, as it wished to submit new evidence.

## **INTERLOCUTORY ISSUES**

### **Interlocutory Issue One: The Admissibility of Dr. Cullon's Expert Report**

[77] Before the appeal hearing began, the Director objected to the admissibility of Dr. Cullon's January 25, 2021 Report titled "ʔEsdilagh First Nation History and Use of the Gibraltar Mine Region" (the "Cullon Report"). Dr. Cullon is an anthropologist and ethnohistorian with 25 years of experience in researching First Nations' history in British Columbia.

[78] The Cullon Report contains opinion evidence on the ethnohistory of the EFN in the area of the Gibraltar mine, including the historic use and cultural significance of the Fraser River to the ʔEsdilagh people. The Cullon Report concludes with a section dealing with the ʔEsdilagh stewardship laws.

[79] After receiving and considering submissions from the parties regarding the admissibility of the Cullon Report, the Panel communicated to the parties, on April 14, 2021, that the Cullon Report would be received into evidence and that the reasons for that decision would be detailed in this decision.

[80] As set out more fully in the analysis of the next interlocutory issue, the Panel has found that the principle of non-degradation is foundational to TNG's position in this appeal, as well as in the permitting process which led to the 2019 Amendment. TNG submits that it is not framing its appeal as a claim for Aboriginal title. Rather, its appeal concerns a claim that the Crown, as represented by the Director, did not consult and accommodate TNG in respect of its asserted claim to Aboriginal title. TNG has consistently argued that the Crown's duty to consult and accommodate on the principle of non-degradation is squarely in issue in this appeal.

[81] It follows, then, that information pertaining to the principle of non-degradation is similarly squarely before the Panel in this appeal. Information pertaining to the historic use, and cultural significance of, the Fraser River to the ʔEsdilagh people and how this has led to and informed the ʔEsdilagh stewardship laws is both relevant and necessary to situate the principle of non-degradation within the context of the application for the 2019 Amendment.

[82] As with all experts before the Board, Dr. Cullon has provided information that can assist the Panel in making an informed decision on the issues under appeal. For this

reason alone, her expert report is to be admitted, with the Panel benefitting from a deeper understanding of the cultural use of the lands on which the Mine is situated and of the importance of the Fraser River to the ʔEsdilagh people. As with all evidence submitted in an appeal, the Panel will determine the appropriate weight to ascribe to the Cullon Report.

[83] TNG has clearly articulated that a ground of its appeal is based on the failure of the Crown, as represented in this case by the Director, to consult and accommodate on the asserted Aboriginal right of self-determination as expressed by the principle of non-degradation. Absent the Cullon Report, the Panel would have significantly less evidence before it to situate, contextualize, and understand the importance of the principle of non-degradation that forms an essential part of TNG's challenge to the 2019 Amendment. While it may be argued that this information need not be before the Panel as, in the present case, the Director failed to engage with TNG on consultation and accommodation of the principle of non-degradation, the Panel is not persuaded by this line of reasoning.

[84] The Panel must determine if the principle of non-degradation as a stand-alone Aboriginal right was before the Director prior to issuing the 2019 Amendment and if he was required to consult and accommodate TNG in that decision. The Cullon Report is of assistance to the Panel in understanding the background, history, and significance of the asserted principle of non-degradation and the report was therefore admitted.

**Interlocutory Issue Two: Is TNG prohibited, as a matter of procedural fairness, from submitting that the principle of non-degradation is a stand-alone Aboriginal right?**

[85] Gibraltar asserts that the Panel ought not to consider TNG's submission that the principle of non-degradation is rooted in a claim of Aboriginal title because it would result in an unfair hearing.

[86] Prior to the hearing of this appeal, TNG sought to amend its notice of appeal. The amendments to the notice of appeal, which were eventually consented to by all parties, include paragraphs 15(b)(i) and (f)(i), which read as follows:

15. The Amendments raise significant concerns for the Tsilhqot'in Nation and its members, including ʔEsdilagh members. The Appellant raises the following grounds of appeal against the Amendments:

...

b. The Director erred in failing to consider or give sufficient weight to relevant information, particulars of which are as follows:

i. Information provided by the Appellant regarding the Tsilhqot'in Indigenous principle of non-degradation that the Appellant explained during the consultation on the application for the Amendments is rooted in Tsilhqot'in Aboriginal law, which information provided the

Director with the requisite real or constructive knowledge on the potential existence of the Aboriginal right and/or interest that might be adversely affected by the Amendments and thereby triggered a duty to consult and reasonably accommodate the Appellant thereon which duty the Director did not discharge.

...

f. The Director erred in failing to ensure that Tsilhqot'in Nation, and its members, were adequately consulted by the Crown in respect of the Amendments, in particular failing to:

i. inquire into the scope and content of the principle of non-degradation under Tsilhqot'in Indigenous law;

...

[87] These paragraphs formed part of the amended notice of appeal, by consent, following lengthy discussions between the parties with respect to their wording.

[88] Gibraltar argues that to allow TNG to submit, in closing arguments, that the principle of non-degradation is an asserted stand-alone Aboriginal right would amount to sanctioning "hearing by ambush" on an issue that Gibraltar has had no notice of and had no opportunity to adequately respond to.

[89] The substance of Gibraltar's objection to the then-proposed amendments to the notice of appeal was that they purported to transform the appeal into a case about an asserted Aboriginal right to self-government (the principle of non-degradation) and whether Tsilhqot'in law applied to the Director as a matter of constitutional law.

[90] Given the amendments to the notice of appeal that the parties ultimately agreed on, Gibraltar objects to TNG's closing argument in respect of the consultation and accommodation component of this appeal.

[91] Gibraltar submits that TNG is now advancing issues in its closing argument that were removed from TNG's proposed amended notice of appeal prior to the parties consenting to the amendments. Gibraltar submits that TNG's closing submission expands the scope of the appeal beyond the issues framed in the amended notice of appeal.

[92] Paragraph 20 of TNG's closing submission reads as follows:

As described in detail below, the Director incorrectly framed the Tsilhqot'in Nation's asserted right as a right to use and enjoy ʔElhdaqox. This incorrect conception of the asserted Tsilhqot'in right stems from a failure to engage in meaningful consultation with the Appellant regarding the Amended Permit and its potential effects on the Tsilhqot'in's non-degradation principle that is rooted in Tsilhqot'in law. In so doing, the Director ignored or failed to give sufficient regard to the content of the non-degradation principle. The Director further ignored or failed to

adequately consider the T̄silhqot'in Nation's asserted legal sources of the non-degradation principle, namely: (1) as a law presumed to survive the assertion of sovereignty and thus received into Canadian common law; (2) as a right pursuant to the T̄silhqot'in's claimed Aboriginal title; and (3) as a right pursuant to the T̄silhqot'in's claimed self-governance.

[93] Gibraltar submits that the Panel should disregard the submission quoted above because it expands the appeal beyond the issues framed in the amended notice of appeal. If the Panel received and adjudicated this submission, Gibraltar argues, the hearing would be rendered unfair because Gibraltar had no opportunity to consider, to lead evidence, and to make submissions on the substance of the claimed "stand-alone" Aboriginal right to enforce its stewardship law: the principle of non-degradation.

[94] TNG responds that its submissions, including paragraph 20 of its closing submission, remain entirely within the 'four corners' of the amended notice of appeal. Specifically, TNG submits that it is not framing its appeal as a claim for Aboriginal title. Rather, its appeal concerns a claim that the Crown, as represented by the Director, did not consult and accommodate TNG in respect of its asserted claim to Aboriginal title.

[95] TNG submits that paragraph 15 of the amended notice of appeal puts the Crown's duty to consult and accommodate the principle of non-degradation squarely in issue in this appeal. It submits that, to the extent that assertions of Aboriginal title are raised in this appeal, they are raised to demonstrate that the Crown's actual and constructive knowledge of TNG's asserted self-governance rights have been raised and asserted throughout the Permit amendment application process, and that, consequently, the Crown had the duty to consult and accommodate those asserted rights.

[96] After reviewing paragraph 15 of the amended notice of appeal and paragraph 20 of the Appellant's closing submissions, and after considering the submissions of the parties, the Panel finds that there is no procedural unfairness that arises from TNG's closing submissions. When TNG's closing submissions are placed within the context of the amended notice of appeal and the proceedings of the hearing before us, we find that the notice of appeal, as amended, places the Crown's duty to consult and accommodate in respect of the asserted principle of non-degradation squarely in issue in this appeal. We find that TNG is not seeking to prove an Aboriginal right. Rather, TNG is seeking only to prove that the Crown had actual or constructive knowledge of the claimed right to enforce its principle of non-degradation and, further, that the Crown failed in its duty to consult on and accommodate that claimed right. To the extent that TNG makes submissions about the nature, history, and strength of the claimed right to enforce the principle of non-degradation, those submissions go only to frame the content and structure of the asserted right.

[97] Gibraltar's application for the Panel to disregard portions of TNG's closing submissions on the grounds of procedural fairness is dismissed. The Panel will consider and adjudicate all grounds of appeal as framed in the amended notice of appeal.

## Interlocutory Issue Three: Application to Re-open the Hearing

[98] In light of the Panel's conclusion pertaining to the duty of the Crown to consult and accommodate TNG's asserted right of non-degradation, as set out later in this decision, we do not consider it necessary to address this third application. However, this will be discussed during the determination of the first substantive ground of appeal.

## DISCUSSION AND ANALYSIS

### Aboriginal Title, Rights, and Interests Grounds of Appeal

[99] The first of the broader grounds of appeal that have been raised against the 2019 Amendment pertain to TNG's asserted Aboriginal title, rights, and interests. TNG outlines this ground of appeal as follows:

Are the T̓silhqot'in Nation's Aboriginal title, rights, and interests adversely affected by the Amended Permit, and, if so, did the Crown breach its constitutional duty to adequately consult and reasonably accommodate the T̓silhqot'in Nation before issuing the Amended Permit?

[100] TNG partitioned this ground of appeal into discrete questions in order to assist the Panel in assessing its submissions. These discrete questions include, but were not limited to:

- a. Did the Crown incorrectly frame the asserted T̓silhqot'in Aboriginal right?
- b. Did the Crown fail to engage meaningfully in consultation with TNG?
- c. Did the Crown fail to consider appropriate accommodation measures?

[101] While these questions are legally distinct, the facts that inform them overlap and interrelate. As such, the Panel will proceed to analyse the evidence related to these three sub-questions together.

[102] TNG asserts the Director did not adequately consult with or accommodate TNG with respect to the principle of non-degradation, which TNG says is a central component of ʔElhdaqox Dechen Ts'edilhtan, a T̓silhqot'in traditional stewardship law. TNG submits that the principle of non-degradation requires that any water discharged by Gibraltar into the Fraser River must be of an equivalent or better quality as compared to the water upstream of the discharge point. TNG says it has a right to self-government in accordance with its traditional laws, including the non-degradation principle as expressed in ʔElhdaqox Dechen Ts'edilhtan.

[103] The principle of non-degradation as asserted by TNG is similar to TNG's stated concerns about the impact that water discharged from the Mine will have upon the aquatic life and habitat of the Fraser River. However, TNG asserts that the principle of non-



degradation, in and of itself, requires Crown consultation on and accommodation of their asserted right to self-govern. It is this issue that engages the Panel in this appeal.

[104] The Director submits that the Crown has fulfilled its constitutional duty to consult with and accommodate TNG with respect to all of its asserted claims of rights and title. This submission was supported by Gibraltar.

[105] At the outset of the permit application process, the Director conceded that a deep consultation and accommodation process with TNG was required in relation to the 2019 Amendment application. This is because the 2019 Amendment, if then granted, would result in the additional discharge of effluent from the TSF into the Fraser River - a core interest of the T̓silhqot̓in people.

[106] It is not in dispute that the Director engaged in deep consultation and accommodation with TNG pertaining to the 2019 Amendment application. What the parties do dispute is the adequacy of the consultation and accommodation pertaining to the principle of non-degradation.

[107] The parties and the Panel agree that the analysis of this ground of appeal is guided by well-established Canadian case law, rooted in *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73 (CanLII) ("*Haida*"). The Crown's duty to consult and reasonably accommodate asserted Aboriginal rights and title prior to making a decision that might impact those asserted rights or title is well established.

[108] In *Haida*, the Supreme Court of Canada stated as follows:

The historical roots of the principle of the honour of the Crown suggest that it must be understood generously in order to reflect the underlying realities from which it stems. In all its dealings with Aboriginal peoples, from the assertion of sovereignty to the resolution of claims and the implementation of treaties, the Crown must act honorably.

Nothing less is required if we are to achieve "the reconciliation of the pre-existence of aboriginal societies with the sovereignty of the Crown": Delgamuukw, supra, at para. 186, quoting Van der Peet, supra, at para. 31.<sup>27</sup>

[109] The duty to consult Aboriginal Peoples falls on a spectrum which ranges from limited to deep consultation, depending on the strength of the Aboriginal claim and the seriousness of the potential impact on the right. In *Clyde River (Hamlet) v. Petroleum Geoservices Inc.*, 2017 SCC 40 (CanLII) ("*Clyde River (Hamlet)*"), the Supreme Court of Canada stated as follows:

The content of the duty, once triggered, falls along a spectrum ranging from limited to deep consultation, depending upon the strength of the

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<sup>27</sup> *Haida*, paras. 16-17

Aboriginal claim, and the seriousness of the potential impact on the right. Each case must be considered individually. Flexibility is required, as the depth of consultation required may change as the process advances and new information comes to light (*Haida*, at paras. 39 and 43-45).

...

Above all, and irrespective of the process by which consultation is undertaken, any decision affecting Aboriginal or treaty rights made on the basis of inadequate consultation will not be in compliance with the duty to consult, which is a constitutional imperative. Where challenged, it should be quashed on judicial review. That said, judicial review is no substitute for adequate consultation. True reconciliation is rarely, if ever, achieved in courtrooms. Judicial remedies may seek to undo past infringements of Aboriginal and treaty rights, but adequate Crown consultation before project approval is always preferable to after the fact judicial remonstrance following an adversarial process. ...<sup>28</sup>

[110] Having set out the appropriate context for this issue, we turn now to the submissions of the parties.

### The Appellant's Position

#### *?Elhdaqox*

[111] TNG tendered several witnesses who provided information and evidence about ?Elhdaqox, and who testified about the history and substance of TNG's stewardship law in relation to ?Elhdaqox. This evidence was not challenged through cross-examination in this appeal.

Chief Troy Baptiste

[112] Mr. Baptiste is the elected chief of the ?Esdilagh First Nation.

[113] Mr. Baptiste testified that the T?ilhqot'in people have maintained their own customs and laws from long before European contact, and one aspect of these customs and laws is that each T?ilhqot'in community maintains special rights and responsibilities within its caretaker area. The ?Esdilagh First Nation is the caretaker community whose responsibility includes the land on which the Mine is situated.

[114] Mr. Baptiste testified that the ?Elhdaqox Dechen Ts'edilhtan stewardship law, also known as the "Sturgeon River Law", plays an important role in his work to, amongst other things, protect T?ilhqot'in rights and the land and water within ?Esdilagh territory. The principle of non-degradation is a component of the ?Elhdaqox Dechen Ts'edilhtan.

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<sup>28</sup> *Clyde River (Hamlet)*, paras. 20 and 24.

[115] Mr. Baptiste further testified that, as a leader, he intends to continue to require third parties, such as Gibraltar, to comply with traditional laws, including the non-degradation principle.

Chief Francil Laceese

[116] Mr. Laceese is the elected chief of the Toosey Indian Band, one of the six communities that comprise the T̓silhqot̓in Nation.

[117] Mr. Laceese testified about the critical importance of water, in particular the Fraser River's water, to the exercise of T̓silhqot̓in rights. He stated that the T̓silhqot̓in people participate in many ceremonies tied directly to the water of the Fraser River and that these ceremonies speak to the importance of keeping water clean and pure. He further stated that various waterbodies within the T̓silhqot̓in territory (including the Fraser River) have profound cultural and spiritual importance to the T̓silhqot̓in Nation.

[118] With respect to the principle of non-degradation, Mr. Laceese testified that one of the traditional laws of the T̓silhqot̓in people, which have applied since the beginning of time, prohibits the deposit of any foreign substance into the watercourses within T̓silhqot̓in territory. He further testified that:

As part of our Nation's continued efforts to ensure those that carry out activities within our Territory understand and comply with our traditional laws, our Nation has been working to record in writing our traditional laws. These traditional laws have applied to our Territory since the beginning of time, and apply to all those that rely on our Territory, including both our own citizens and non-citizens [including industry]. These laws prohibit the discharge of foreign substances in the rivers and waterbodies in our Territory. Accordingly, the effluent discharge from the Gibraltar Mine into ʔElhdaqox is a direct breach of our traditional laws. The continued discharge of this effluent, which is of lesser quality than *tu* [water] in the river, is an affront to our Nation, and a threat to our people.<sup>29</sup>

Howard Johnny

[119] Mr. Johnny was elected as a counselor of the EFN in 2003 and remained in that position at the time this appeal was heard.

[120] Mr. Johnny testified that water has always been of critical importance to his Nation, that it is one of their most valued and sacred gifts, and that the T̓silhqot̓in people have a responsibility under their laws and customs to protect and care for the water.

[121] Mr. Johnny notes that his Elders have taught that he should share with those that show proper respect to water. However, if people fail to show the necessary respect for

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<sup>29</sup> Witness statement of Francis Laceese, para. 20.

water, such as by harming the water or breaching the T̓ìlhqot̓in stewardship laws, then the Elders teach that ancestors have confronted and banned such people from their territory. This, Mr. Johnny testified, is evidenced by TNG's longstanding and consistent opposition to discharging effluent from the Gibraltar mine into the Fraser River. He states that for Gibraltar to comply with the T̓ìlhqot̓in stewardship laws, the effluent must first be treated to a water quality standard that is equal to, or better than, that of the water in the Fraser River upstream of the discharge point.

[122] Mr. Johnny stated that this principle has been reflected in the consistent messaging provided by TNG to the Director and Gibraltar since Gibraltar first proposed discharging effluent into the Fraser River.

*The Asserted Aboriginal Governance Right: The Principle of Non-Degradation*

[123] TNG submits that the principle of non-degradation of the Fraser River is rooted in its stewardship law. Although the principle has not been proven as an Aboriginal right, it is nonetheless a component of TNG's asserted Aboriginal right to self-govern. TNG submits the Director had knowledge of this asserted right and had a duty to consult with TNG specifically on this right and to provide reasonable accommodation before issuing the 2019 Amendment.

[124] TNG acknowledges that the Director engaged in consultation in respect of its asserted rights and title but argues that the Director misunderstood and incorrectly framed TNG's claims as a right to use and enjoy the Fraser River. TNG submitted that the Director failed to consider the source of the non-degradation principle as a law comprising one aspect of the Aboriginal rights and title of the T̓ìlhqot̓in people. These laws are presumed to survive the assertion of sovereignty of the Crown and are therefore received into Canadian law.

[125] As a consequence, TNG asserts that its non-degradation law is a right pursuant to its claims of Aboriginal title and self-governance. TNG acknowledges that it has not sought to prove any Aboriginal rights before the Director or before the Board. TNG is not seeking a declaration that the ʔElhdaqox Dechen Ts'edilhtan itself is an Aboriginal right of the T̓ìlhqot̓in Nation.

[126] TNG submits that the Director mistakenly framed its assertion of the non-degradation principle as a component of its water quality or environmental protection goals, which were also being advanced in the consultation process. This error, TNG submits, led the Director to err in the consultation process, thereby rendering the 2019 Amendment unconstitutional.

[127] TNG submits that the Director's failure to consult and accommodate on the non-degradation principle is not the result of any failure on TNG's part to make the Director aware of the principle and its relationship to self governance. In this regard, TNG directed the Panel to a variety of submissions it made during the consultation process including, most importantly, a letter dated January 23, 2019, from J.P. Laplante, an Oil and Gas

Manager with TNG, to the Director's representative, Ms. Danyluk, wherein the non-degradation principle was explicitly asserted as follows:

... if a mine wishes to discharge into the Fraser River, then the water leaving the mine site... should be at least as clean as the Fraser River, and the river should not be used to dilute the discharge. This principle of non-degradation is rooted in T̓silhqot̓in law.<sup>30</sup>

[128] TNG submits that even in the face of this explicit notification of the existence of the principle of non-degradation, the Director's team that was responsible for leading the consultation process never understood that TNG was asserting Aboriginal rights and title in relation to the lands constituting the area of the Mine. TNG submits that the Director's team similarly did not understand that the claim in respect of the non-degradation principle was one aspect of TNG's claim to Aboriginal title. TNG submits that its asserted principle of non-degradation is separate and distinct both from TNG's claims to the use of the Fraser River's water and habitat and from the alleged harm to juvenile sturgeon resulting from the increased discharge of effluent allowed by the 2019 Amendment.

[129] TNG submits that upon receipt of the January 23, 2019, letter from Mr. Laplante, which gave explicit notice of TNG's assertion of the principle of non-degradation as a claimed Aboriginal right, the Director should have modified its existing consultation plan. Specifically, TNG asserts that it should have been consulted about the source and content of the right, the potential for adverse impacts on the right, and the scope of accommodation that would address impacts on the right. TNG submits that the Director should have made this distinct inquiry separately from the alleged environmental impacts of the 2019 Amendment.

[130] TNG submits that rather than responding to the assertion of rights contained in the January 23, 2019 letter, the Director's staff responded in the following manner:

- i) in an email from Mr. Yamelst on February 22, 2019, attaching the final table of recommendations to be submitted to the Director, which contains no mention of TNG's assertion of rights in respect of the principle of non-degradation; and,
- ii) in a letter dated March 5, 2019, from Ms. Danyluk wherein she acknowledges TNG's position that the principle of non-degradation should apply to the effluent discharge, but she does not acknowledge the claim of Aboriginal rights and interests flowing from the principle of non-degradation.

[131] The March 5, 2019 letter states, in part:

... I can confirm that the record is clear that TNG is opposed to granting a temporary increase to the discharge. ?Esdilagh First Nation (?Esdilagh)

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<sup>30</sup> January 23, 2019, letter from TNG to Ms. Danyluk, Section Head, Mining Operations, Ministry of Environment.

has communicated that the ʔElhdaqox (Fraser River) should not be used to dilute the proposed discharge, and the mine effluent discharge should be at least as clean as the Fraser River...

[132] TNG asserts the Director then terminated the consultation process and issued the 2019 Amendment on March 18, 2019, rather than complying with the constitutionally imposed duty to deeply consult on, and accommodate, the claims asserted by TNG in respect of the non-degradation principle.

[133] TNG submits that the Crown cannot prematurely terminate the consultation process because of time pressures if outstanding issues remain and there would be value in having further discussions. TNG argues that the Director did not engage in meaningful consultation with respect to the principle of non-degradation, and that he made no effort to consider appropriate accommodation measures to protect the claimed right prior to issuing the 2019 Amendment.

[134] TNG further states that the Director's termination of the consultation process and subsequent issuance of the 2019 Amendment constituted a breach of the Aboriginal rights of the T̓silhqot'in people and that the 2019 Amendment must be set aside.

#### *Consultation on the 2019 Amendment*

[135] In addition to the evidence and testimony presented pertaining to Fraser River and to the principle of non-degradation, TNG introduced evidence regarding the consultation which occurred on the 2019 Amendment over both the environmental and the Aboriginal rights issues raised by TNG.

[136] J.P. Laplante, who was primarily responsible for engaging the Director in consultations on behalf of TNG, testified in chief by way of affidavit evidence. He was not cross-examined by either the Director or Gibraltar.

[137] J.P. Laplante is the senior advisor to TNG for water, lands and resources, and has held this role since 2011. He was the primary TNG representative in the consultation process before the 2019 Amendment was issued and had represented TNG in prior consultations in respect of Gibraltar's earlier applications for permit amendments that led, ultimately, to the application for the 2019 Amendment.

[138] J.P. Laplante provided the Panel with detailed evidence about the consultation process in respect of the various discharge applications made by Gibraltar, including the 2017 application for a permanent amendment to the Permit and the change in 2018 to an application for a three-year temporary amendment, which resulted in the 2019 Amendment that is the subject of this appeal.

[139] J.P. Laplante detailed for the Panel the lengthy process undertaken to negotiate and finalize the terms of the TOR that was, by agreement of the parties, utilized during the 2017 Permit amendment application process which evolved into the 2019 Amendment application process.

[140] J.P. Laplante stated that the 2017 Permit amendment application was defective because it did not include any evaluation of water management alternatives, including effluent treatment options. This evaluation was required by the terms of the 2015 Permit, which authorized the discharge of effluent into the Fraser River at a rate of 190 L/s. He also noted that in a November 2017 TAC meeting, Gibraltar presented an update on its investigation of options for the discharge of effluent, including active effluent treatment options. On behalf of TNG, J.P. Laplante prepared a TAC recommendation that Gibraltar amend its 2017 Permit amendment application to reflect the alternate discharge and treatment options that were considered feasible and that were supported by the affected First Nations.

[141] Gibraltar then assessed the feasibility of various discharge options and ultimately abandoned the application to permanently increase the rate of effluent discharge. Gibraltar instead decided to apply for a three-year temporary amendment to the Permit.

[142] J.P. Laplante described the process undertaken in respect of the application for the 2019 Amendment, including the continued opposition of TNG to any increase in the rate of discharge. He noted that in April 2018, the EFN council sent a letter to the Minister of Environment and Climate Change Strategy stating:

As made clear all along, we cannot support discharge that is dirtier than the Fraser River and uses the river as a means to dilute its contaminants.<sup>31</sup>

[143] J.P. Laplante stated that TNG expected Gibraltar to address 92 of the 96 screening comments made by TNG with respect to the 2017 Permit amendment application as TNG considered those 92 screening comments to be relevant to the application for the 2019 Amendment. Despite the presence of these screening comments, J.P. Laplante noted that consultation on the application for the 2019 Amendment continued, and TNG expected this consultation would proceed in accordance with the provisions of the TOR which required, among other things, that the Director to consider accommodation measures with respect to potential impacts on T̓silhqot̓in Aboriginal rights.

[144] The consultation process continued through December 2018. A meeting was scheduled for December 19 to, by J.P. Laplante's understanding, discuss the various consensus and non-consensus recommendations and the feedback that had been exchanged by the parties in accordance with the Modified TOR. He was surprised when he received a draft amended Permit from the Director on December 18, 2018. Rather than discussing the consensus and non-consensus recommendations, the discussion was entirely about the proposed draft amendment.

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<sup>31</sup> Email to the Honourable Minister George Heyman from Crystal Verhaeghe dated April 20, 2018, delivering correspondence from the ?Esdilagh First Nation dated April 3, 2018.

[145] Following the December 19, 2018 meeting, J.P. Laplante wrote a letter dated January 23, 2019, to Ms. Danyluk to express TNG's opposition to the issuance of the 2019 Amendment. In his affidavit, J.P. Laplante summarized the contents of his letter as follows:

On January 23, 2019, I wrote to Carol Danyluk on behalf of TNG to provide comments on the draft Permit amendment and to provide in writing my concern over the breach in the agreed upon consensus-seeking process. In my letter I explained that TNG opposed the temporary three-year increase to the discharge authorized under the amended Permit for a number of reasons:

- (a) EFN had made it clear that if a mine wishes to discharge into ʔElhdaqox, then the water leaving the mine site should be at least as clean as the river, and the river should not be used to dilute the discharge. This principle of non-degradation is rooted in T̄silhqot̄'in law;
- (b) TNG had repeatedly emphasized the impacts of the Gibraltar Mine on T̄silhqot̄'in Rights, including the fact that the mine area has been alienated from EFN's use and occupation for over 40 years;
- (c) TNG believed that the Permit amendment application was absent fundamental information for assessing potential effects of an increase to the authorized discharge; and,
- (d) TNG was concerned about [the Ministry of Environment and Climate Change's] abandonment of the spirit of consensus agreed-to in the [TOR].

[146] On March 5, 2019, J.P. Laplante received a reply from Ms. Danyluk noting that TNG's position had been relayed to the Director and that he was obligated to consider those recommendations before reaching a decision and to provide a rationale for the decision. J.P. Laplante testified that despite the provisions of the Modified TOR and Ms. Danyluk's commitment, TNG never received any reasons from the Director for his decision to issue the 2019 Amendment.

### The Respondent's Position

#### *Consultation on the 2019 Amendment*

[147] A number of witnesses testified about the process of consultation and accommodation conducted by the Director before he issued the 2019 Amendment. The Director gave evidence as to his participation in the consultation and accommodation process, as did Mr. Yamelst and Ms. Danyluk. Those latter witnesses were primarily responsible for guiding the 2019 Amendment decision-making process, including the consultations with TNG. These witnesses appeared before the Panel and were cross-examined on the affidavits containing their evidence in chief.



Brian Yamelst

[148] Mr. Yamelst is a Senior Environmental Protection Officer within the mining operations division of the Ministry. He is responsible for conducting environmental protection assessments with respect to waste discharge applications under the Act. Mr. Yamelst's specific role in the assessment process is to ensure that each stage of the Ministry's application process is followed and that the TAC and G2G discussions occur as required.

[149] In circumstances where an application for a permit (or as in this case, permit amendment) passes the initial screening process, Mr. Yamelst testified that he assists in drafting the permit (or amendments), including recommendations received during the consultation process. The decision to issue a permit or an amendment to a permit remains the responsibility of the statutory decision-maker, in this case the Director.

[150] Mr. Yamelst explained the history of the application for the 2019 Amendment. He noted that in September 2017, Gibraltar submitted an application to permanently amend the Permit to allow an increase in discharge of effluent into the Fraser River from 190 L/s to 285 L/s.

[151] Following the initial screening process for that application, the Director determined that the application was deficient because further information was required. This screening process included the involvement of interested and potentially affected parties, including TNG. Following this determination, Mr. Yamelst and others in the Ministry advised Gibraltar that the Ministry might consider an application for a short-term amendment to the Permit.

[152] On February 14, 2018, Gibraltar submitted the application for the 2019 Amendment to the Ministry. Mr. Yamelst then sent the application to the G2G participants in accordance with the process previously established and mandated by the 2015 Permit and the Modified TOR.

[153] In the following months, commencing in April 2018, Mr. Yamelst participated in the regular TAC and G2G meetings as mandated in the Modified TOR governing the consultation process. This process resulted in the creation of a table of stakeholder comments that eventually evolved into a table of recommendations to be provided to the Director. All of the comments and recommendations set out in the table of recommendations were shared with all participants, including TNG, throughout the consultation process.

[154] Mr. Yamelst testified that, commencing in November 2018, he began the process of preparing a draft of the 2019 Amendment utilizing the information from the table of recommendations. The draft 2019 Amendment contained both consensus and non-consensus recommendations. This draft 2019 Amendment was provided to all members of the G2G committee on December 18, 2018.

Carol Danyluk

[155] Ms. Danyluk is the Section Head for Authorizations in the Regional Operations Branch of the Ministry.

[156] Ms. Danyluk became involved with the process of considering Gibraltar's applications for amendments to the Permit in the spring of 2017 when she was Section Head for Central Interior Authorizations within the Mining Authorizations Group of the Ministry.

[157] Ms. Danyluk and Mr. Yamelst were responsible for the Ministry's consultation and application review process relating to Gibraltar's application for the 2019 Amendment.

[158] Ms. Danyluk testified that consultation with TNG regarding the application for the 2019 Amendment was undertaken by the G2G group established between TNG and the province. That group was to discuss and negotiate TNG rights and title issues and the terms of reference to govern the TAC. The Modified TOR, agreed to by TNG (and other First Nations), Gibraltar, and the Director, governed the consultation process.

[159] Ms. Danyluk explained that the G2G group was established to implement a specific workplan for carrying out the engagement process under the Modified TOR.

[160] Ms. Danyluk also explained that the TAC was established as a forum to share technical information and traditional knowledge related to managing the discharge from the Mine. Ms. Danyluk noted that Gibraltar is a member of the TAC but is not a member of the G2G group. The G2G group is the formal mechanism by which the constitutionally mandated consultation with TNG was carried out.

[161] Ms. Danyluk testified that the Ministry created and maintained a formal First Nations consultation report with respect to Gibraltar's applications for a permanent increase in the rate of discharge (the Permit amendment application filed in 2017) and for a temporary increase in the rate of discharge (the application for the 2019 Amendment). The formal consultation report was prepared and maintained by Emily Watson, the employee mandated by the Director to create, edit, and maintain the record of consultation.

[162] With respect to Gibraltar's February 2018 application for the 2019 Amendment, Ms. Danyluk understood Gibraltar's position to be that it had to raise the dam impounding process water at the TSF by three feet in 2017, to maintain the dam freeboard requirements despite the existing permitted discharge from the TSF of 190 L/s. Ms. Danyluk understood that, according to Gibraltar, increasing the discharge rate from 190 L/s to 285 L/s would mitigate future dam raises and thereby reduce the risk of dam failure associated with the TSF.

[163] Ms. Danyluk testified that the consultation with TNG with respect to the 2019 Amendment proceeded from April 2018 through December 2018 in accordance with the Modified TOR. She further testified that she and Mr. Yamelst attempted to share all the information passing between Gibraltar, the Director, and TNG in a manner that ensured

each party had sufficient time for review and comment. As the consultation progressed, the G2G group prepared a consensus recommendations table that was regularly updated and amended.

[164] Ms. Danyluk noted that the process of creating and amending the table of consensus recommendations required multiple meetings and consultations between all of the parties so that agreement could be reached on the wording of each consensus recommendation. There was no shortage of opportunity for each party in these discussions to consider and express their positions with respect to the proposed 2019 Amendment.

[165] Ms. Danyluk also testified about the Ministry's concerns about water accumulation in the TSF. These concerns had been triggered by the failure of the Mount Polley Mine tailings storage facility in 2014 that resulted in a catastrophic release of fluid (tailings, supernatant, and contaminated water) into the environment. She noted that an independent panel convened to review the Mount Polley dam failure had recommended that the mining sector take steps to curtail the volume of water retained within tailings storage facilities to reduce the risk of another catastrophic failure.

[166] Ms. Danyluk testified that she received a memorandum from the Deputy Chief Inspector of Mines dated July 31, 2018, in which it was stated that, in a May 7, 2018, letter to EMPR, Gibraltar had stated that there was no current risk of dam failure.

[167] She noted, however, that Gibraltar advised EMPR that in the event of a 30-day probable maximum flood, the freeboard remaining on the TSF dams would be reduced to two feet at the East Saddle Dam and eight feet at the Step Back Embankment. The East Saddle Dam and the Step Bank Embankment are local names for the two areas of the TSF at which the freeboard is measured.

[168] Ms. Danyluk also noted that in the same Memorandum of May 7, 2018, the Deputy Chief Inspector of Mines stated that EMPR's position on the management of water in the Gibraltar TSF (and for all tailings storage facilities in British Columbia) is as follows:

- i) free pond water volumes behind tailings dams should be minimized, provided it does not compromise effective ML/ARD (Metal Leaching/Acid Rock Drainage) management, and,
- ii) when possible, water should be moved offsite, provided the discharge is authorized under an [Act] permit.

[169] Ms. Danyluk attended the meeting on December 19, 2018, where she and Mr. Yamelst met with TNG and Gibraltar to discuss the draft 2019 Amendment that Mr. Yamelst had circulated on December 18, 2018. At that meeting, Mr. Yamelst asked both Gibraltar and TNG to provide their comments about the conditions in the draft 2019 Amendment by January 18, 2019.

[170] In a letter dated January 23, 2019, which was attached to an email sent to Ms. Danyluk, Mr. Laplante provided TNG's response to the conditions in the draft 2019

Amendment. Comments from TNG's technical reviewers were also attached to that email. In this letter, Mr. Laplante made explicit reference to the principle of non-degradation as rooted in T̓silhqot̓in law.

[171] Ms. Danyluk testified that she responded to the January 23, 2019, letter on March 5, 2019. Ms. Danyluk's response notes TNG's opposition to the 2019 Amendment and, in particular, states that she is aware that TNG's position is that any effluent discharge from the Gibraltar mine site should be at least as clean as the water in the Fraser River upstream of the Mine.

[172] In her letter of March 5, 2019, Ms. Danyluk made no reference to Mr. Laplante's assertion in his January 23, 2019, letter that the 2019 Amendment should be refused because it conflicts with the principle of non-degradation, rooted in T̓silhqot̓in law.

[173] In cross-examination, Ms. Danyluk testified that she did not follow up with TNG about the asserted principle of non-degradation. She understood the assertion of the non-degradation principle to be rooted in TNG's concerns about water quality in the Fraser River. She did not understand it to be a separate assertion of Aboriginal rights grounded in TNG's claims to self-governance.

[174] Ms. Danyluk further testified that she understood TNG's position to be that it wanted to achieve an outcome whereby any effluent discharged from the TSF would be cleaner than the water upstream of the mine and that this water quality objective should be achieved by implementing effective effluent treatment. She testified that the effluent treatment alternative had been extensively evaluated throughout the consultation process, but that it was not a major objective for the 2019 Amendment because it was only a three-year temporary amendment.

Douglas Hill

[175] Douglas Hill, the Director, testified that he had an extensive history of working on regulatory matters associated with the Gibraltar mine, reaching as far back as 2001 when he was employed as an Environmental Protection Officer with the Ministry.

[176] The Director testified about his reasons for issuing the 2019 Amendment, as detailed in his written decision dated March 18, 2019. He testified that he placed significant weight on the fact that the then-current Phase 3 EEM Study had not detected significant impacts caused by the discharge of effluent from the TSF. He noted that the Phase 3 EEM Study included extensive monitoring of river sediments, benthic invertebrates, and sturgeon, and that it required toxicity testing on fish, invertebrates, plants, and algae.

[177] The Director also noted that the effluent outfall is located in the fastest and deepest part of the Fraser River, where there is little aquatic productivity. He ultimately concluded that the proposed discharge had minimal potential to change the downstream concentration of heavy metals and that the increase in discharge volume authorized by the 2019 Amendment would not adversely affect the water quality of the Fraser River.

[178] On the issue of consultation with TNG about its asserted Aboriginal rights, the Director's affidavit states that, based on his review of the consultation record and the concerns addressed directly to him by TNG, he understood that:

TNG identified their key Aboriginal interest as the need to protect fish and wildlife dependent on the Fraser River with non-degradation as an environmental principle and it was addressed in their table of recommendations. In the written material submitted during the consultation period, TNG did not raise the principle of non-degradation as being rooted in T̓silhqot'in law until Mr. Laplante wrote to Ms. Danyluk on January 23, 2019. However, at that time, I understood that the principle of non-degradation was still being asserted as an environmental principle in relation to water quality objectives, particularly in view of the additional information from Mr. Sinclair and Rina Freed which was attached to his letter. The letter from Mr. Sinclair and Ms. Freed specifically stated that "Water quality objectives for the Fraser River need to be based on non-degradation goals" and that "discharge to the Fraser River should not be allowed if dilution is required, and this supports non-degradation as the water quality goal".

[179] The Director expanded upon this evidence during his cross-examination. He testified that there was, to his knowledge, no consultation with TNG about the rights and title of the T̓silhqot'in people at the point of the discharge of the effluent. He testified that he understood from Mr. Laplante's letter of January 23, 2019, that TNG was asserting the non-degradation principle in opposition to issuing the 2019 Amendment. However, he understood that the non-degradation principle was asserted as a stewardship interest and a water quality interest. He reiterated that he never understood the assertion of the non-degradation principle as being part of an asserted Aboriginal right to self-governance requiring consultation and accommodation.

[180] The Director reiterated his understanding that TNG's asserted rights and title in relation to the 2019 Amendment related to the full use and enjoyment of the Fraser River including the right to hunt, fish, drink the water, and access plants and other life within the ecosystem of the river.

[181] Finally, the Director also noted that there was no way to accommodate the non-degradation principle in his assessment of the 2019 Amendment other than to refuse the permit amendment application. This is because the effluent contains concentrations of molybdenum, sulphate, and nitrate that are higher than the water upstream of the point of discharge. He testified that to effectively limit or remove these substances from the effluent would require the construction of a water treatment facility at a cost of over 100 million dollars and years of construction. He testified that this was simply not a relevant consideration in the context of a three-year temporary amendment to the Permit.

*The Asserted Aboriginal Governance Right: The Principle of Non-Degradation*

[182] The Director submits he fulfilled the Crown's duty to consult with, and accommodate, TNG regarding all of the asserted rights and title of the T̓silhqot̓in people. The Director submits that his team entered into deep consultation with TNG in good faith in respect of their asserted Aboriginal rights.

[183] The Director takes no issue with the principles governing consultation and accommodation as set out in *Haida* and other judicial decisions, as brought forward by TNG. However, he submits that the Panel should take note of other principles derived from the large body of judicial decisions discussing consultation and accommodation. In particular, the Director submits that judicial decisions have established that:

- i) Consultation is a two-way street requiring TNG to define the elements of its claim with clarity and must not take steps to frustrate the Crown's good faith effort to consult or take unreasonable positions designed to prevent the Crown from making decisions where, despite meaningful consultation,<sup>32</sup> agreement is not reached;
- ii) TNG must show a causal relationship between the issuance of the 2019 Amendment and the potential for an adverse impact on TNG's asserted claim, in this case the principle of non-degradation;<sup>33</sup> and,
- iii) TNG does not have a veto in respect of the 2019 Amendment pending proof of its claims for rights and title.<sup>34</sup>

[184] The Director submits that, in accordance with these principles governing the process of consultation and accommodation, the Ministry and TNG agreed to a deep level of consultation as reflected in the Modified TOR pursuant to the Stewardship Agreement.

[185] The Director notes that section 3.3 of the Stewardship Agreement states:

The parties acknowledge that engagements and consultation by the Provincial Agencies with the TNG on behalf of the T̓silhqot̓in Nation in accordance with the Engagement Process will constitute the means by which Provincial Agencies will fulfill legal consultation obligations in relation to TNG and the T̓silhqot̓in Nation with respect to the Agreement Area and will provide the means by which potential accommodation options related to Aboriginal Rights may be identified by Provincial Agencies to assist them in fulfilling, where necessary, their legal accommodation obligations in relation to the T̓silhqot̓in Nation.

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<sup>32</sup> *Haida*, paras. 36 and 42.

<sup>33</sup> *Rio Tinto Alcan Inc. v. Carrier Sekani Tribal Council*, 2010 SCC 43 (CanLII), para. 45.

<sup>34</sup> *Haida*, para. 48; and, *Ktunaxa Nation v. British Columbia (Forests, Lands and Natural Resource Operations)*, 2017 SCC 54 (CanLII) ("*Ktunaxa Nation*"), paras. 80 and 83.

[186] As a result, the parties agreed on the TOR, and that this process constituted the means by which the Crown would meet its constitutional duty to consult with and accommodate the claims of the T̓silhqot̓in people.

[187] The Director submits that section 9 of the Stewardship Agreement provides an alternate dispute resolution process for when the parties are unable to resolve a dispute regarding interpretation or implementation of the Stewardship Agreement. TNG did not invoke that process during the consultation process in relation to the 2019 Amendment.

[188] In response to TNG's submission that the Director misunderstood the principle of non-degradation being asserted as a stand-alone right, the Director's team understood this principle as being an environmental and Aboriginal stewardship principle, not a stand-alone asserted Aboriginal right of self governance. The Director submits that, despite extensive consultation, Mr. Yamelst and Ms. Danyluk were not expressly told that the principle of non-degradation was being asserted as stemming from an Aboriginal right of self-governance.

[189] The Director submits that the extensive consultation record supports his submission that TNG never raised the principle of non-degradation as an Aboriginal right of self governance. The Director argues that a detailed review of the consultation record indicates that the concerns raised by TNG were focused on the impact of the increased effluent discharge on water quality and on environmental concerns. For example, the Director directed the Panel to a letter dated April 23, 2018, from Mr. Laplante, wherein he provided a lengthy submission summarizing TNG's objections to the proposed amendment of the Permit. The portion of this letter dealing with the assertion of Aboriginal rights states:

As a result of the close connection to the Fraser River, ʔEsdilagh First Nation's food, social and ceremonial rights are deeply connected to and dependent on a clean river and good water quality. However, these rights are being infringed because the Fraser River already faces significant cumulative effects with a number of water quality guidelines not being met. Concerns for water quality and the health of aquatic resources have real world negative consequences on the practice of ʔEsdilagh's Aboriginal Rights...

[190] The Director notes that there is no reference in this letter to the assertion of the principle of non-degradation as an asserted stand-alone Aboriginal right of self governance.

[191] The Director submits that, despite a lengthy and carefully documented consultation record, the first and only reference to a non-degradation principle being "rooted in T̓silhqot̓in law" was contained in Mr. Laplante's January 23, 2019, letter in which he asserted:

First and foremost, the community of ʔEsdilagh First Nation (“ʔEsdilagh”) has made it clear that the Fraser River (“ʔElhdaqox” in Tʔilhqot’in) should not be used as a sewer. In other words, if a mine wishes to discharge to the Fraser River, then the water leaving the mine site (in this case, the discharge pipe) should be at least as clean as the Fraser River, and the river should not be used to dilute the discharge. This principle of non-degradation is rooted in Tʔilhqot’in law, and it is in conflict with [the Ministry of Environment and Climate Change’s] policy around the use of dilution zones and what is contemplated in this application and the draft 2019 Permit.

TNG has repeatedly emphasized the impacts of the mine on ʔEsdilagh’s rights and title. This is an area that has been alienated from ʔEsdilagh’s use and occupation for over 40 years, and the “expansion” of the mine’s area of influence to include the Fraser River has only extended the impacts to what is a central cultural lifeline for ʔEsdilagh – their river.

[192] The Director argues that, despite the reference to the principle of non-degradation being rooted in Tʔilhqot’in law, the technical comments attached to Mr. Laplante’s letter supported the Ministry’s understanding that non-degradation was being raised as a water quality issue. The technical comments attached to Mr. Laplante’s letter were in the form of a letter from Mr. Sinclair and Ms. Freed, also dated January 23, 2019. Mr. Sinclair and Ms. Freed are, respectively, a biologist and environmental engineer that were retained by TNG as experts during the consultation phase leading up to the 2019 Amendment. Mr. Sinclair was later tendered as an expert witness in this appeal by TNG. These technical comments attached to Mr. Laplante’s January 23, 2019, letter say, in part:

ʔEsdilagh and TNG have indicated that Water Quality Objectives for the Fraser River need to be based on non-degradation goals. BC Water Quality Guidelines (for protection of aquatic life and other uses) are not considered the appropriate protection goals for the Fraser River initial dilution zone. **ʔEsdilagh has indicated that discharge to the Fraser River should not be allowed if dilution is required, and this supports non-degradation as the water quality goal.** This is a common goal for culturally and ecologically sensitive water bodies such as the Fraser River.<sup>35</sup>

[Emphasis added]

[193] The Director submits that he understood that the principle of non-degradation was an asserted environmental stewardship principle as a result of it being presented as such during the consultation processes, and not as an asserted stand-alone component of

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<sup>35</sup> Submissions of the Director, paras. 81 and 82; and, Director’s Record, doc. 49.



TNG's Aboriginal right to self-governance. Mr. Yamelst and Ms. Danyluk testified that they had the same understanding as the Director.

[194] With respect to the statement in Mr. Laplante's letter of January 23, 2019, that non-degradation is rooted in T̄silhqot'in law, the Director states that a plain reading of the letter led him to understand that non-degradation was an asserted stewardship principle, not an asserted Aboriginal right to self-governance.

[195] The Director submits that the Board should reject TNG's assertion that the non-degradation principle, rooted in T̄silhqot'in law, was presented to the Director as a stand-alone Aboriginal right of self-governance. Further, the Board should reject TNG's assertion that the Director ought to have embarked on fresh or additional consultation and accommodation upon receipt of the January 23, 2019, letter.

[196] Firstly, the Director submits that TNG was required to put forward its assertion of non-degradation as a claimed Aboriginal right, with its supporting evidence, as early as possible in the consultation process. TNG's failure to do so is fatal to its submission that the Crown did not fulfill its duty to consult and accommodate.

[197] The Director submits that it was not incumbent on him to embark on a new train of inquiry, and that he cannot be faulted for failing to consider information not provided by TNG during the consultation process. The Director cites several judicial decisions as authority for this proposition: *Haida* at para. 36; *Ktunaxa Nation* at para. 79; *Mi'kmaq of P.E.I. v. Province of P.E.I. et al.*, 2019 PECA 26 (CanLII), at paras. 64 and 98; *Cold Lake First Nations v. Alberta (Tourism, Parks and Recreation)*, 2013 ABCA 443 (CanLII), at paras. 29 and 239 ("*Cold Lake First Nations*"); and, *Native Council of Nova Scotia v. Canada (Attorney General)*, 2007 FC 45 (CanLII), at para. 58.

[198] The Director also directed the Panel to *West Moberly First Nations v. British Columbia (Energy and Mines)*, 2014 BCSC 924 (CanLII), wherein the court stated as follows at paragraph 148:

From my assessment of the evidence, placed in its context by the parties' submissions, I was unable to see a material deficiency in the consultation or the accommodation. Nor did the evidence show anything in the nature of dishonourable Crown conduct. Consultation is a two-way exercise. From time to time in the consultation exercise here, the West Moberly were reluctant or simply slow in bringing their information to the table. The Crown cannot be faulted for that, provided the Crown carried on, and assured itself that it had obtained the information it required in order to know the circumstances and consult adequately.

[199] Secondly, the Director disagrees with TNG's submission that he incorrectly framed TNG's asserted right or fail to consider the source of the non-degradation principle as a law received into common law, as a right pursuant to claimed Aboriginal title and as a right pursuant to claimed self-governance.

[200] With respect to TNG's submission that the principle of non-degradation is a law received into common law, the Director responds that although courts have recognized that Aboriginal laws may continue to exist, they do not become a part of Canadian law until recognized by treaty, judicial declaration, or statute. In support of that submission, the Director refers to *Coastal GasLink Pipeline Ltd. v. Huson*, 2019 BCSC 2264 (CanLII).

[201] The Director submits that absent a treaty, judicial declaration, or statute, there is no legal justification to sustain the argument that the principle of non-degradation could bind non-Indigenous persons conducting activities on non-Aboriginal title lands.

[202] With respect to TNG's submission that the non-degradation principle is a right deriving from Aboriginal title, the Director responds that this case does not concern a claim for Aboriginal title, but rather only the Crown's duty to consult and accommodate.

[203] With respect to TNG's submission that the non-degradation principle is rooted in an Aboriginal right to self-governance, the Director responds that TNG did not raise it as such during the consultation process. The Director further submits that linking the non-degradation principle to self-governance is overly broad. He further submits that he has no authority under the *Act* to determine that the non-degradation principle is part of an Aboriginal right to self-govern.

[204] Finally, the Director submits that he acted reasonably to accommodate the asserted claims of TNG, including by imposing conditions in the 2019 Amendment to reflect the G2G recommendations related to TNG's environmental concerns about the quality of the effluent being discharged pursuant to the 2019 Amendment.

[205] The Director submits that he was not required by law to accept TNG's submission that the only acceptable way to accommodate its asserted principle of non-degradation as an Aboriginal right was to require Gibraltar to comply with the principle of non-degradation. Rather, the Director submits that he was required to, and did reasonably, balance the competing interests of the parties, citing *Haida* at paragraph 50.

[206] On this basis, the Director submits that he did not breach the honour of the Crown by failing to adequately consult and accommodate TNG in respect of all of its asserted rights.

### The Third Party's Position

[207] Gibraltar supports the submissions of the Director on this ground of appeal.

### Panel's Discussion and Analysis

[208] Prior to the issuance of the 2019 Amendment, the Director engaged in a process of deep consultation and accommodation with TNG over the proposed increase of effluent discharge that Gibraltar is permitted to introduce into the Fraser River. This is established by the evidence and agreed to by the parties.

[209] However, it is clear from the consultation record, the table of consensus and non-consensus recommendations, and from the witnesses who testified, that the Crown did not consult with or attempt to accommodate TNG with respect to the principle of non-degradation as a component of TNG's asserted claims to Aboriginal title and self-governance.

[210] This Panel finds that it is clear that before TNG appealed the 2019 Amendment, the Director and other Ministry staff who consulted with TNG never appreciated or understood that the principle of non-degradation was presented by TNG as a component of an asserted Aboriginal right to self-government, distinct and separate from concerns about water quality and the impact of the effluent upon the ecosystem. The Director and his consultation staff treated the assertion of the non-degradation principle by TNG as a stewardship or water quality objective.

[211] The Panel finds that the reason for this fundamental misunderstanding is that until January 23, 2019, TNG did not assert during the consultation process that the non-degradation principle was rooted in T̄silhqot̄in law as a right to self governance.

[212] TNG's assertion of the principle of non-degradation as being rooted in T̄silhqot̄in law was, however, made on January 23, 2019, when Mr. Laplante expressed the principle in those terms, in a letter to Ms. Danyluk. This was before the Director issued the 2019 Amendment.

[213] The issue that remains before the Panel is whether, within the context of the nature, length and content of the consultation that preceded January 23, 2019, the Director was bound to make further inquiry and engage in further consultation with TNG with respect to the principle of non-degradation as a component of an Aboriginal right to self governance once it was raised. This process of consultation and accommodation is separate from TNG's stewardship and water quality objectives that the Director considered.

[214] The Crown's duty to consult with First Nations before making a decision which impacts or may impact their asserted Aboriginal rights is well known. The Supreme Court of Canada has written about this duty in numerous judgments. One of the important consultation principles mandated by the Supreme Court is that:

Flexibility is required, as the depth of consultation required may change as the process advances and new information comes to light.<sup>36</sup>

[215] In the context of this case, TNG submits that a flexible approach required that the Director not impose arbitrary deadlines to conclude consultation and that he not rush to make a decision on the 2019 Amendment until adequate consultation had occurred in

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<sup>36</sup> *Clyde River (Hamlet)*, para. 20.

respect of the principle of non-degradation, irrespective of the fact that it was not directly asserted as a component of an Aboriginal right until January 23, 2019.

[216] The Panel accepts this general proposition based on the applicable case law. This general proposition must, as is clear throughout the body of case law on this subject, be properly situated in the context of the process of consultation that occurred. In the present case, this context is created and supported through many meetings and agreements, most notably the TOR that governed the consultation with TNG. The TOR was negotiated by the parties to provide a formal structure to the Crown's consultation with TNG about their asserted Aboriginal rights and title that were relevant to the 2019 Amendment application.

[217] The Stewardship Agreement provided that consultation conducted in accordance with its provisions would fulfill the Crown's consultation duty. The Stewardship Agreement states:

The parties acknowledge that engagements and consultation by the Provincial Agencies with the TNG on behalf of the T̄silhqot̄in Nation in accordance with the Engagement Process will constitute the means by which Provincial Agencies will fulfill legal consultation obligations in relation to TNG and the T̄silhqot̄in Nation with respect to the Agreement Area and will provide the means by which potential accommodation options related to Aboriginal Rights may be identified by Provincial Agencies to assist them in fulfilling, where necessary, their legal accommodation obligations in relation to the T̄silhqot̄in Nation.<sup>37</sup>

[218] In accordance with the Stewardship Agreement, the [TOR] was negotiated by the Director and TNG and was agreed to govern the consultation process with respect to the 2019 Amendment. As Mr. Laplante testified, the work required to reach agreement on the terms of the [TOR] required months of negotiations between the Director and TNG.<sup>38</sup>

[219] The TOR constitutes a comprehensive agreement between the Director and TNG governing the process by which the T̄silhqot̄in people will be consulted and accommodated with respect to their asserted rights and title relevant to the 2019 Amendment application. Inherent in all of the provisions of the TOR is the overriding obligation on the parties to act in good faith. In particular, the parties agreed that they would aspire to reach a "common understanding of issues and develop joint recommendations which reflect best efforts to reach consensus regarding expectations..."<sup>39</sup>

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<sup>37</sup> Stewardship Agreement, clause 3.3.

<sup>38</sup> Affidavit of J.P. LaPlante sworn January 22, 2021, para. 31.

<sup>39</sup> TOR, page 4.

[220] The TOR also provides that “[if] the Parties do not reach consensus recommendations on any issue, despite the processes above, the Parties may submit additional materials to decision makers presenting points of disagreement, options and recommendations.”<sup>40</sup>

[221] The context provided by the terms of the Stewardship Agreement and the TOR are important in assessing the Director’s conduct after receiving the January 23, 2019, letter. As noted, this letter was the first direct assertion by TNG that the principle of non-degradation was grounded in T̓ilhqot̓in law. The Panel also notes that Mr. Laplante did not directly assert in the January 23, 2019, letter that the non-degradation principle was asserted as a component of an Aboriginal right. Rather, in the last paragraph of the letter, he stated:

Lastly, I reiterate the position that TNG has major concerns with the draft permit and application, both because of critical information that is missing (e.g. lack of alternatives assessment, as committed to ̓Esdilagh and TNG in 2015), **and because ̓Esdilagh has made it clear that non-degradation objectives should be applied to the Fraser River** and activities which affect the Fraser River.

[Emphasis added]

[222] The Stewardship Agreement, the TOR, the extensive history of consultation regarding the 2019 Amendment, and the wording of the January 23, 2019 letter are important factors in assessing TNG’s assertion of a lack of consultation regarding the principle of non-degradation. This is because the law not only requires the Crown to adequately consult and accommodate on the potentially impacted rights of an Aboriginal group, it also requires an Aboriginal group to give appropriate notice of the rights and title it asserts, defined with sufficient clarity.<sup>41</sup>

[223] In light of the uncontradicted evidence of TNG’s witnesses who testified about the history, source, and importance of the ̓Elhdaqox Dechen Ts’edilhtan, it is unclear to the Panel why the principle of non-degradation was not asserted as a component of an Aboriginal right at the outset of consultation. TNG also has not explained why the January 23, 2019 letter, delivered in response to the draft 2019 Amendment conditions, did not expressly assert non-degradation as a component of an Aboriginal right to self government which required further consultation and accommodation.

[224] The Director does not submit, and the Panel does not conclude, that the failure to raise the non-degradation principle as a component of an Aboriginal right before January 23, 2019, and the compounding vagueness of the January 23, 2019 letter as to the nature of the asserted right, constitute a bad faith attempt by TNG to frustrate the Director’s

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<sup>40</sup> TOR, page 5.

<sup>41</sup> *Haida*, para. 42.

ability to consult in good faith and reach a timely decision regarding the 2019 Amendment. It is, however, important context in assessing TNG's submission that the Director failed to understand the nature of the non-degradation principle asserted by TNG.

[225] The law is clear that Director was required to consult with TNG on any Aboriginal right potentially impacted by the 2019 Amendment, and that he had to adopt a flexible approach and not to conclude consultation and rush to render a decision. The law is equally clear that TNG was required to put forward its assertion of non-degradation as a claimed Aboriginal right, with its supporting evidence, as early as possible in the consultation process.

[226] The Panel concludes that the Director's failure to understand TNG's asserted principle of non-degradation as a component of an Aboriginal right is the inevitable outcome of TNG's failure to raise the issue in a clear and timely manner during the consultation process.

[227] The process of consultation on the 2019 Permit Amendment was, as previously laid out, governed by the TOR. This agreed-upon process was comprehensive and included provisions by which either party could seek or provide clarifications in the event of miscommunication or misunderstanding. It was within this context that TNG sent the January 23, 2019 letter to the Director.

[228] This letter, while raising the concept of the principle of non-degradation as rooted in T̓ìlhqot̓in law, does not express that the principle of non-degradation was a stand-alone Aboriginal right, nor that it was being raised in a context other than the existing communications pertaining to water quality and environmental concerns. Rather, the Panel finds that the wording of the January 23, 2019, letter is consistent with the understanding of the Director that the principle of non-degradation was raised as a water quality goal.

[229] The Panel finds that TNG did not, at any point in the process of consultation, explicitly and clearly state that the principle of non-degradation was a stand-alone Aboriginal right to self government. Because it did not do so, the Director did not make further inquiries into the principle of non-degradation, believing that, while rooted in T̓ìlhqot̓in law, this principle was a component of the Aboriginal rights already under consultation.

[230] Within the context of the nature, length and content of the consultation that preceded January 23, 2019, the Panel finds that the Director was not bound to make further inquiry and engage in further consultation with TNG with respect to the principle of non-degradation as a component of an Aboriginal right, as it was not explicitly raised with sufficient clarity for the Director to understand that it was being raised with him for such a purpose.

[231] Thus, while we agree with TNG that the Director was legally obligated to consult and accommodate TNG with respect to any asserted rights and title relevant to the 2019 Amendment application, TNG did not, at any point during consultation, raise with sufficient clarity the non-degradation principle as a component of a right to express or enforce T̓silhqot̓in law in the area of their asserted rights or title.

[232] TNG submitted that the Director should have reasonably accommodated the principle of non-degradation by requiring the effluent discharge to be of the same or better quality than the water upstream of the discharge point. As this was, from a technical standpoint, not possible within the term of the 2019 Amendment, it appears that the only way the Director could have accommodated TNG would have been to refuse the application for the 2019 Amendment.

[233] The non-degradation principle as a water quality or stewardship objective had been the subject of extensive consultation and accommodation. TNG does not assert otherwise. If the non-degradation principle is considered as an asserted Aboriginal law capable of application to third parties such as Gibraltar, it is apparent that any additional discharge of effluent authorized by the 2019 Amendment would violate this asserted law. This would present the Director with a binary choice: disregard the asserted law and authorize some increase in rate of effluent discharge or, inversely, accommodate the asserted law by refusing to increase the rate of effluent discharge.

[234] This binary choice conflicts with judicial decisions which provide that Aboriginal groups do not have a veto over government decisions unless and until their Aboriginal rights are proven. These judicial decisions do not require that the interests of Indigenous people prevail in the event that an asserted Aboriginal right cannot be fully and completely accommodated.<sup>42</sup>

[235] The Panel notes that even if the Director had turned his mind to refusing the 2019 Amendment application to accommodate the non-degradation principle as a component of an Aboriginal right, he would have been confronted by the reality that the effluent would continue to be discharged into the Fraser River at 190 L/s. There would have been a continuing violation of the non-degradation principle irrespective of the Director's decision in respect of the 2019 Amendment. Further, the panel notes that the Director was motivated, in this case, by the risk of eventual failure of the TSF, and so is not weighing the introduction of contaminants into the Fraser River against not introducing any, but rather introducing a larger volume steadily to delay or mitigate the risk of a catastrophic release at some time into the future.

[236] These observations are not to suggest that the consultation would not have been required, as the courts have been clear that consultation may result in disagreement between the Crown and affected Indigenous communities; however, they highlight the

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<sup>42</sup> *Coldwater First Nation v. Canada (Attorney General)*, 2020 FCA 34 (CanLII), para. 53.

difficult nature of the Director's decision, and the complex interplay that would have arisen between that issue and T̄silhqot'in law, if TNG had expressed the non-degradation as a principle of T̄silhqot'in law with sufficient clarity to trigger the duty to consult on that issue.

[237] For the foregoing reasons, the Panel concludes that in light of the extensive consultation with TNG about the 2019 Amendment application and the accommodations reflected in the conditions within the 2019 Amendment, including those relating to water quality, the Director acted reasonably and lawfully in bringing the consultation process to an end and rendering a decision on the application for the 2019 Amendment.

### **Environmental Grounds of Appeal**

[238] The second of the broader grounds of appeal that have been raised against the 2019 Amendment pertains to whether the Director's decision to issue the 2019 Amendment adequately protected human health and the environment, as required by section 16(1) of the *Act*.

[239] Under sections 6(2) and (3) of the *Act*, a person must not introduce or cause or allow waste to be introduced into the environment. An exception to this prohibition arises where a director under the *Act* issues or amends a permit which authorizes, under specific circumstances, the introduction of waste where such an activity would not normally be allowed.

[240] It is common ground for all parties to this appeal that the discharge of effluent from the Mine is considered waste under the *Act*. It is only through the Permit, and later the 2019 Amendment, that the effluent from the Mine may be discharged into the Fraser River.

[241] The Permit and the 2019 Amendment were capable of being issued only if they were sufficiently protective of the environment. Sections 14 and 16 of the *Act*, which govern the issuance and amendment of permits, contain the condition that permits only be issued when they contain requirements that are considered necessary by the director for the protection of the environment.

[242] The evidence of several expert witnesses is referred to within the following submissions. A more fulsome summary of the expert evidence is presented next prior to the parties' submissions. This is intended to aid the reader in presenting the technical aspects of the parties' arguments and evidence after first outlining the parties' more general themes and submissions.

### [Summary of Expert Reports on Appeal](#)

[243] All three parties to the appeal submitted expert reports. While the Panel will refer to the expert evidence presented in the appeal in the course of our reasons, a summary of



the expert reports is provided here to contextualize the issues under appeal, the submissions of the parties, and the Panel's reasons and findings.

*Mr. Nelson*

[244] TNG tendered two expert reports authored by Mr. Nelson. This Panel qualified Mr. Nelson as an expert on white sturgeon biology as it relates to fish population assessment within the Fraser River watershed.

[245] Mr. Nelson opined that as of January 2021, white sturgeon in the middle Fraser River (considered to be the Fraser River mainstream from Hells Gate extending to Prince George) are not listed under the *Species at Risk Act*, S.C. 2002, c. 29. Mr. Nelson stated that the "middle Fraser River" covers a huge distance of "approximately 580 linear river kilometers from [Hells Gate, BC to Nechako River confluence]."<sup>43</sup> According to Mr. Nelson, the Mine effluent discharge point and the IDZ are located near Marguerite, BC.

[246] Mr. Nelson opined that it is likely that mature white sturgeon overwinter and stage at locations downstream of the Mine effluent discharge point and then travel upstream to spawn, passing through the IDZ and effluent discharge point. Mr. Nelson stated that viable white sturgeon larvae that reside upstream "may pass" over the effluent discharge point and through the IDZ in June, July, and August each year of the operative life of the 2019 Amendment. Mr. Nelson provided the following description of this behaviour:

White Sturgeon larvae engage in "swim up" behaviour in which they swim up from the bottom substrate into the water column, typically at night (to avoid predation), and then sink back to the substrate...In flowing water, this behaviour will result in the transport of the larvae in a downstream direction and may assist with dispersal into deeper sections of the river.<sup>44</sup>

[247] Mr. Nelson confirmed in his expert report that there has not been a dedicated study into the early-life stages of white sturgeon in the middle Fraser River. His opinion is based on his review of other studies which, to him, suggest that white sturgeon in free-flowing rivers typically move upstream to spawn from downstream overwintering and feeding locations. In these other studies, according to Mr. Nelson, spawning adult white sturgeon travelled significant distances – possibly in excess of 250 kilometers. Mr. Nelson provided references to other studies that support his opinion that juvenile white sturgeon likely migrate over long distances.

[248] Mr. Nelson recommends addressing the poor reliability of current information about the abundance of white sturgeon in the middle Fraser River and to assess the current population status of white sturgeon more accurately in the middle Fraser River. Mr. Nelson recommends "expanded and updated studies of white sturgeon behaviour and ecology in the middle Fraser River that include movement, migration, habitat use,

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<sup>43</sup> January 25, 2021 Expert Report of Mr. Nelson, page 3, para. 11.

<sup>44</sup> January 25, 2021 Expert Report of Mr. Nelson, page 7, para. 20.

spawning locations, overwintering locations, growth rates, feeding behaviour, and food requirements.”<sup>45</sup>

*Mr. Sinclair*

[249] TNG also submitted expert reports from Mr. Sinclair, who was qualified by this Panel to give expert opinion in the field of environmental impact assessment as it relates to aquatic biology and ecotoxicology. The Panel qualified Mr. Sinclair to opine on the release of COPC by the discharge of the effluent into the Fraser River.

[250] Mr. Sinclair opined that concentrations of dissolved copper in the Mine effluent pose a potential risk to early life stage white sturgeon, based on studies from *Puglis et al. (2018)*<sup>46</sup> (“Puglis”) and *Wang et al. (2014)*<sup>47</sup> (“Wang”). Mr. Sinclair noted that these studies assessed the possible effects of various COPCs at certain concentrations, including dissolved copper, which may negatively affect early-life stage white sturgeon in laboratory conditions. Mr. Sinclair noted that studies following the investigations originating with Wang have been incorporated into the 2019 BCWQG, utilizing the biotic ligand model (the “BLM”) to assess impacts of dissolved copper on survival, growth, predator avoidance, and feeding. Mr. Sinclair testified that the BLM “...incorporates additional toxicity modifying factors such as pH, dissolved organic carbon, dissolved inorganic carbon, water hardness, alkalinity and a subset of major ions to best assess and understand the toxicity of dissolved copper.”<sup>48</sup>

[251] Mr. Sinclair also presented, through his expert report, that the incremental risk of the COPCs, including total molybdenum, nitrate, nitrite, and sulphate, appeared to be minimal. He agreed with the findings of the Phase 4 EEM Report that there was no identified change to the habitat or fish health in the middle Fraser River beyond the IDZ. Mr. Sinclair opined that at the edge of the IDZ, COPCs that exceeded the BCWQG also exceeded the BCWQG upriver of the discharge point. These particular COPCs included aluminum, chromium, methylmercury, and copper.

[252] He stated, however, that more investigation into the impact of dissolved copper concentrations on larvae-stage white sturgeon was required because, in his opinion, the concentration of dissolved copper in the effluent had the potential to exceed the BCWQG.

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<sup>45</sup> January 25, 2021 Expert Report of Mr. Nelson, page 6, para. 18, third bullet.

<sup>46</sup> Puglis, H.J., R.D. Calfee, and E.E. Little. 2018. Behavioural effects of copper on larval white sturgeon. *Environ. Toxicol. Chem.* 38(1): 132-144.

<sup>47</sup> Wang, N., C.G. Ingersoll, R.A. Dorman, W.G. Brumbaugh, C.A. Mebane, J.L. Kunz, and D.K. Hardesty. 2014. Chronic sensitivity of white sturgeon (*Acipenser transmontanus*) and rainbow trout (*Oncorhynchus mykiss*) to cadmium, copper, lead, or zinc in laboratory water-only exposures. *Environ. Toxicol. Chem.* 33(10): 2246-2258.

<sup>48</sup> January 25, 2021 Expert Report of Mr. Sinclair, page 5, para. 20.

[253] Mr. Sinclair testified that he did not consider cadmium as a COPC because the concentrations in the TSF were “lower than the upper limit of the Fraser River upstream of the discharge point.”<sup>49</sup> Mr. Sinclair stated that molybdenum concentrations remain below the 2019 Amendment limits, but that nitrate, nitrite, and sulphate concentrations have approached and, on one occasion, exceeded the 2019 Amendment limits. Mr. Sinclair confirmed that between 2012 and 2021, monthly mean sulphate concentrations were near or at the permitted levels, but these measurements related to concentrations measured at the point of effluent discharge and not at the edge of the IDZ. Mr. Sinclair testified that dilution of sulphate concentrations could result in water quality beyond the IDZ meeting the BCWQG.

[254] Mr. Sinclair noted that in the Minnow 2017 Report, cadmium and copper were no longer identified as COPC because their concentrations within the effluent did not meet the report’s criteria to be so designated. Mr. Sinclair opined “...based on [EEM studies] method and my screening, cadmium is not considered a COPC in Gibraltar Mine effluent.”<sup>50</sup>

[255] Regarding copper, Mr. Sinclair opined that because the BCWQG for dissolved copper were updated using the BLM, dissolved copper should now be considered a Tier I COPC. Mr. Sinclair summarized that between 2009 and 2020, the maximum average concentration of dissolved copper in the TSF was 2.46 µg/L with 14 percent of samples exceeding 1.5 µg/L. He opined that this means dissolved copper concentrations in the TSF “have the potential to affect water quality conditions downstream of the effluent discharge.”<sup>51</sup>

[256] In Mr. Sinclair’s opinion, the Tier I COPCs in the mine effluent are: dissolved oxygen, total suspended solids, combined nitrate and nitrite, nitrate, nitrite, sulphate, aluminum (total and dissolved), iron (total), molybdenum, cadmium, and copper. Chromium is the sole Tier II COPC. Tier III COPCs are: specific conductivity, hardness (as CaCO<sub>3</sub>), ammonia, antimony, barium, boron, calcium, cobalt, manganese, molybdenum, potassium, selenium, sodium, and strontium.

[257] However, Mr. Sinclair opined that the COPCs with the greatest potential for influencing water quality in the Fraser River are molybdenum, nitrite, nitrate, and sulphate. Mr. Sinclair also stated that the concentration levels of these COPCs have all increased since 2009, demonstrating that the effluent discharge is impacting water quality in the Fraser River. Mr. Sinclair noted that between 2017 and 2019, water quality testing in the reference area upstream of the effluent discharge point revealed concentrations of dissolved aluminum, total chromium, and total iron that either exceeded or approached the BCWQG (at that time). He also stated that concentrations of sulphate, nitrate, nitrite,

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<sup>49</sup> March 15, 2021, Transcript of Cross-examination of Mr. Sinclair, page 68, lines 16-27.

<sup>50</sup> Expert Report of Mr. Sinclair, January 25, 2021, page 5, para. 14.

<sup>51</sup> Expert Report of Mr. Sinclair, January 25, 2021, page 5, para. 15.

and total molybdenum are elevated downstream of the effluent discharge point but remain below the BCWQG. Mr. Sinclair opined “permit limits...are too high to ensure that concentrations in the receiving environment downstream of the discharge are consistent with upstream water quality.” Therefore, Mr. Sinclair concluded that water quality of the Fraser River can be influenced by the effluent discharge.

[258] Mr. Sinclair opined that while impacts to aquatic life in the Fraser River due to the effluent discharge are characterized as negligible or low for many of the COPCs, he stated that the impact of dissolved copper remains uncertain and additional work must be done to assess the appropriate risk thresholds.

[259] Mr. Sinclair also flagged the potential risk of chronic toxicity at the edge of the IDZ in low river flow scenarios and he recommended that effluent discharge rates be limited to 190 m<sup>3</sup>/s when the river flow rate is 880 m<sup>3</sup>/s, rather than 800 m<sup>3</sup>/s.

*Ms. Keogh*

[260] Ms. Keogh was presented as an expert witness by the Respondent. Ms. Keogh was qualified by the Panel as an expert in environmental toxicology. Ms. Keogh opined that, based on information collected during tissue plug sampling of white sturgeon population “in [middle Fraser River] is believed to be stable and at capacity.”

[261] A condition of the Permit issued to Gibraltar since 2009 is the requirement to monitor metal concentration in the tissue of white sturgeon captured downstream of the effluent discharge and IDZ. Baseline tissue samples were collected in 2007 and 2008, prior to Gibraltar being authorized to discharge effluent into the environment. Ms. Keogh’s reported on these findings in a March 2017 report.

[262] Ms. Keogh subsequently collected white sturgeon tissue plugs between 2010 and 2016. The purpose of her study was to determine if metal concentrations in white sturgeon muscle tissue have increased from baseline concentrations since Gibraltar Mine started discharging effluent in 2009.

[263] In her December 18, 2020, report (the “2020 Keogh Report”),<sup>52</sup> Ms. Keogh reported that her muscle tissue plugs were tested for six heavy metals, including copper, and compared to baseline tissue collection completed in 2007 and 2008 before effluent was discharged into the river.

[264] Ms. Keogh reported that white sturgeon exposure to copper concentrations is “...likely through sediment, diet, and aqueous exposure through the gills and olfactory system.”

[265] Ms. Keogh recognized the tissue plug studies were only one line of evidence of assessing the potential impacts to the aquatic environment in relation to the effluent discharge into the Fraser River from the Mine. She also noted that collection of metals in

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<sup>52</sup> Keogh, Kym, *Pre- and Post-Discharge Tissue Sample Comparison Report*, December 18, 2020, page 3.

muscle tissue is different than collection of these metals in organs but this method of tissue testing was the only non-lethal means of collecting some data. The 2020 Keogh Report noted her results of the post-discharge sampling “showed cadmium and molybdenum concentrations in fish tissue remained below detection limits.” The 2020 Keogh Report also noted that copper concentrations showed moderate evidence of decreasing in adult white sturgeon muscle tissue.”

[266] Additional evidence specifically related to the 2020 Keogh Report was admitted into evidence and Ms. Keogh was subject to cross-examination on this evidence. Under section 41(2)(a) of the *ATA*, the Panel ordered this evidence be held in confidence as it was in the public interest to protect data specific to the location of white sturgeon in the middle Fraser River.

*Mr. Barnes*

[267] Mr. Barnes was put forward as an expert witness by the Respondent. Mr. Barnes was qualified by the Panel as an expert in environmental impact assessment biology. Mr. Barnes is an Environmental Impact Assessment Biologist and had some involvement with the TAC meetings and G2G meetings. Mr. Barnes also completed a technical review of Gibraltar’s 2018 application to amend the permit to evaluate the potential impacts an increase in the effluent discharge from the Mine could have on the water quality of the Fraser River.

[268] Mr. Barne’s July 31, 2018 Environmental Impact Assessment Review identified potential risks to the environment from the proposed temporary increase in the rate of effluent discharge and gave recommended permit conditions to reduce those risks.

[269] Mr. Barnes made several recommendations, including:

- Maintain a permit requirement for Gibraltar to conduct regular toxicity testing of the water discharged from the Mine;
- Recommended lower permit limits for dissolved aluminum, total chromium, and total copper;
- Recommended maintaining minimum Fraser River flow threshold of 800 m<sup>3</sup>/s;
- Match the previous permit limit of 1,650 mg/L for sulphate; and
- Recommended that increased water quality monitoring and toxicity testing required as part of EEM be incorporated as a condition of the permit amendment.

[270] Mr. Barnes testified that the BCWQG “are designed to consider the impacts to the most sensitive forms of aquatic life”. Mr. Barnes recommended that the effluent discharge volume be limited or ceased if river flow dropped below 800 m<sup>3</sup>/s, or if nitrite concentrations upstream of the discharge outflow exceeded a specified amount. He also recommended lower limits for aluminum, total chromium and total copper in the Permit amendment was authorized.

*Mr. Stecko*

[271] Mr. Stecko was put forward as an expert witness by Gibraltar. The Panel qualified Mr. Stecko as an expert in aquatic chemistry and toxicology of metals. Mr. Stecko provided his opinion on both the water quality downstream of the effluent discharge point and the IDZ and the water quality upstream of the IDZ.

[272] Mr. Stecko's opinion was based on data from the EEM Studies. Mr. Stecko explained that the BCWQG are a measure of potential exposure and that sublethal toxicity testing is an indicator of potential effects. Biological monitoring, on the other hand, measures actual impacts in the receiving environment. In Mr. Stecko's opinion, biological monitoring in the receiving environment most accurately measures or provides inferences of the environmental effects associated with the Mine effluent discharge.

[273] Mr. Stecko stated that water quality monitoring "...is a measure of potential exposure" and does not measure "biological effects."<sup>53</sup> The BCWQG have been developed to interpret the potential for biological effects from specific concentrations of COPCs. Mr. Stecko noted that the BCWQG do not "take into account local environmental conditions and as a result natural conditions may exceed some guidelines."<sup>54</sup> Mr. Stecko stated that exceeding a long-term water quality guideline is an indicator of a potential for adverse effects and may give rise to a need additional investigation.

[274] Mr. Stecko identified cadmium concentrations as being consistently below the concentration that could be detected by the study methods used and as being consistently below the BCWQG. He noted that cadmium concentrations in the effluent have "typically" been lower than those in the Fraser River upstream of the discharge point. Based on EEM Studies data from 2014 to 2020, Mr. Stecko disagreed with Mr. Sinclair's opinion that cadmium has the potential to affect water quality conditions downstream of the effluent discharge location.

[275] Mr. Stecko opined that dissolved copper concentrations are similar in the Mine's effluent and in the Fraser River upstream of the effluent discharge point. Mr. Stecko added that while copper concentrations can potentially have downstream effects, there were no exceedances of the BCWQG for copper in 2020.

[276] Mr. Stecko noted that the Fraser River's flow rate at the discharge point rarely drops below 800 m<sup>3</sup>/s. Statistically, this would occur roughly once every 20 years. Under average conditions, the river's flowrate does not drop below 800 m<sup>3</sup>/s during the heightened effluent discharge window.

[277] Furthermore, Mr. Stecko stated that the effluent mixing model used to predict downstream effects has been found to be very accurate in the 2017 Minnow Addendum Report and the Phase 4 EEM Report, and these results could be extrapolated to lower-flow

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<sup>53</sup> March 1, 2021 Expert Report of Mr. Stecko.

<sup>54</sup> March 1, 2021 Expert Report of Mr. Stecko, page 10.

conditions in the Fraser River. In fact, the 2% concentration of effluent in the model used during chronic toxicity testing has not occurred in the environment, during periods when the Mine effluent is authorized to be discharged at higher rates.

[278] Mr. Stecko added that the IDZ is a small area within the Fraser River. The IDZ was noted to be two to ten-meters wide, 100 meters downstream of the discharge point, during EEM field programs in 2019. At that point, the Fraser River is 200 to 300 meters wide, depending on water levels. Furthermore, based on studies in 2017, the concentration of effluent 250 meters downstream of the discharge point was measured at 1.3%. As such, the effluent, representing 0.036% of the Fraser River's flow rate at 800 m<sup>3</sup>/s, is expected to be fully mixed with no influences downstream.

[279] Mr. Stecko testified that biological monitoring within a study area provides a direct measure of the biological conditions compared to baseline or reference conditions to determine if there is any difference. Mr. Stecko noted that under the MDMER, biological monitoring is a basis for determining effects of effluent by assessing effects on fish health, the benthic invertebrate community and mercury concentrations in fish tissue. Mr. Stecko noted that in 2013 the Ministry identified the value of biomonitoring especially related to a reduced ability to control for environmental variables, compared to in controlled settings.

[280] Mr. Stecko acknowledged that biological monitoring within a specific study area has weaknesses, especially related to potential actors in the environment that may reduce the effectiveness of the biological monitoring. However, these factors can be addressed by "careful control of factors such as water depth, water velocity, and substrate, which are key factors that can influence benthic invertebrate communities".

[281] Mr. Stecko opined that leopard dace and peamouth chub, which live close to the discharge location, are the species most exposed to the effluent discharge. These species are also abundant upstream and are therefore suitable for statistical comparison. They are considered sentinel fish species.

[282] Mr. Stecko was specifically asked to address Mr. Sinclair's concern that some of the COPCs could result in a risk of chronic toxicity at the edge of the IDZ during low flow conditions in the Fraser River. Mr. Stecko responded that: "[c]hronic toxicity is an indicator of potential risk but is not a measure of effects within the receiving environment."<sup>55</sup>

[283] Mr. Stecko noted that certain COPCs not related to the Mine effluent at concentrations above the BCWQG both upstream and downstream of the effluent discharge outfall which indicate "either upstream influence or natural elevations."<sup>56</sup> However, Mr. Stecko opined that only influences of concentrations in the effluent resulting in exceedance of the BCWQG are of concern. Mr. Stecko stated, "concentrations of the

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<sup>55</sup> March 1, 2021 Expert Report of Pierre Stecko, page 22, para. 1.

<sup>56</sup> March 1, 2021 Expert Report of Pierre Stecko, page 4, para. 1.

analytes that are elevated due to Gibraltar Mine effluent discharge remain far below applicable guidelines for the protection of aquatic life.”<sup>57</sup>

### The Appellant’s submissions

[284] TNG appealed the issuance of the 2019 Amendment on several grounds which relate to the requirements found within the *Act*. While these grounds of appeal are legally and factually intertwined, there are three categories of concern on which TNG presented evidence: 1) that the Director lacked the requisite knowledge on the effluent and the receiving environment to issue the 2019 Amendment; 2) that the effluent negatively impacts the water quality within the Fraser River; and, 3) that the receiving environment contains specific values in need of heightened protection, namely white sturgeon. While the evidence presented in relation to these intertwined grounds of appeal are applicable to each other, they are presented separately here to aid the reader.

#### *The Director lacked the requisite knowledge of the effluent and of the receiving environment to issue the 2019 Amendment*

[285] TNG opposes the issuance of the 2019 Amendment on the grounds that the Director did not obtain all necessary information to make an informed decision about whether the environment is adequately protected. TNG submits that the Director’s “wait and see” approach, which permitted the increased discharge of effluent prior to knowing the potential impacts to the environment, was contrary to his duty under the *Act*.

[286] TNG argues that the 2019 Amendment should not have been issued because there were outstanding concerns that were raised and identified by the parties through the G2G and TAC meetings. TNG submits that the Director erred by allowing an increased volume of discharged effluent while the monitoring of potential environmental effects was occurring. This error was compounded, TNG alleges, as the Director had previously concluded that monitoring was necessary in order to assess the potential impact of the effluent on the receiving environment prior to any assessment of a permanent amendment to the Permit. TNG also submits that this increased volume of discharge was permitted in the context of increasing cumulative effects of contaminants on the river.

[287] TNG submits that granting the 2019 Amendment effectively authorized the discharge of waste while “key information regarding the impact thereof was being collected”.

[288] TNG notes that the Director authorized the discharge while requiring Gibraltar to collect this additional key information because of the issue of excess water collection at the mine site. TNG submits that the Director should not have balanced the risk of potential impacts to the environment resulting from increased effluent discharge against the risk of accumulating water at the mine site without reference to whether Gibraltar was going to

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<sup>57</sup> March 1, 2021 Expert Report of Pierre Stecko, page 4, para. 1.



be raising the dam at the TSF as part of its mining activities. TNG argues that the Director did not have a binary choice: he could have evaluated the third option of increasing the height of the dams when assessing the potential impacts to the environment.

[289] TNG submits it was not necessary to grant the temporary 50% increase in the discharge of effluent because of a potential risk of overtopping or dam failure of the TSF. TNG submits that the Ministry had not identified any issues with the integrity of the TSF either during the appeal or within the 3-year term of the 2019 Amendment.

*The effluent negatively impacts the water quality within Fraser River*

[290] TNG submits that the evidence before the Panel demonstrates that the concentrations of molybdenum, nitrite, nitrate, and sulphate have all increased since the discharge of Mine effluent into the Fraser River commenced in 2009. TNG submits that dissolved copper concentrations, which are present within the effluent, have the potential to change water quality in the area of the Fraser River where the effluent mixes with the river water.

[291] TNG asserts that while the concentrations of these chemicals are lower than those associated with the protection of aquatic life in the BCWQG, these concentrations are higher downstream of the IDZ as compared to upstream, contrary to the Nation's law. TNG submits that the 2019 Amendment results in an incremental loading of COPCs into the Fraser River and that this incremental loading creates the potential to exceed the concentrations listed in the BCWQG downstream of the IDZ.

[292] TNG also raises water quality as an issue submitting that the EEM studies are not designed to assess impacts on early life stage white sturgeon. TNG submits the Panel should accept the recommendation of Mr. Sinclair, an expert certified to provide expert evidence by the Panel, to assess the risk of dissolved copper based on zero observed effects rather than the updated BCWQG, as these may or may not be protective of early-life stage white sturgeon.

[293] TNG submits that even though EEM studies found no observable effects of the effluent discharge on benthic studies of aquatic life, sentinel fish populations or sentinel fish tissue samples, these measurements are not helpful in assessing potential risk posed by dissolved copper on early life stage white sturgeon. TNG argues that sentinel fish are species that accumulate pollutants in their tissues without significant adverse effects.

[294] TNG submits that their concerns about dissolved copper concentrations were raised with the Director prior to him issuing the 2019 Amendment but were not considered or addressed. Since that time, the BCWQG were updated to reflect a new assessment model for dissolved copper. TNG submits that the culturally important and endangered status of the white sturgeon required a "rigorous environmental risk assessment" prior to issuing the Permit. TNG submits the Director's reliance on the BCWQG was insufficient to assess the potential risk and effects on white sturgeon.

[295] TNG emphasizes Mr. Sinclair's opinion that while the incremental risk from copper in the effluent discharge appears minimal based on reported annual concentrations, more analysis from data collected at different times of the year as compared to background levels is required. TNG notes that even Mr. Stecko confirmed that between 2014 to the end of 2020 the average concentration of dissolved copper in the effluent was moderately higher than in the Fraser River. Mr. Stecko also agreed that based on the new BCWQG, dissolved copper in the effluent has the potential to influence water quality conditions in the Fraser River downstream of the discharge location.

[296] TNG submits that data provided by Mr. Sinclair suggest potential exceedances of dissolved copper concentrations both upstream and downstream of the IDZ relative to the BCWQG. Evidence in the data described in the Phase 4 EEM Report from 2020 shows that dissolved copper levels both upstream and downstream of the IDZ came close to exceeding the 2019 BCWQG.

[297] TNG also submits that though the third and fourth reports of the data collected during the EEM Studies found no observed effects on benthic invertebrates, sediment, sentinel fish populations or on tissue samples of sentinel fish, these metrics are not useful or relevant to predicting the effects or risk of bioaccumulation of dissolved copper on gill surfaces of early-life stage sturgeon.

*The receiving environment contains specific values in need of heightened protection, namely white sturgeon*

[298] TNG submits it is undisputed that the Mine effluent is changing the water quality of the Fraser River downstream of the effluent discharge location. TNG asserts that this change in water quality resulting from the 2019 Amendment could impact early-life stage and juvenile white sturgeon. Therefore, TNG submits that the Panel must conclude that the Director erred in his duty to adequately protect the environment by issuing the 2019 Amendment, as he did not incorporate sufficiently protective measures to protect the unique characteristics of the white sturgeon.

[299] TNG submits the white sturgeon face threats from decreasing food resources and competition with hatchery-origin sturgeon. According to TNG, white sturgeon are a special feature of the environment which require careful assessment and protection. Chief Francis Laceese stated:

Our Tsilhqot'in teachings recognize the rights of sturgeon to live and reside in these rivers, and it is therefore of critical importance to our Nation that the rivers that flow our Territory are protected so that the sturgeon can continue to reside there just as they have since the beginning of time.<sup>58</sup>

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<sup>58</sup> Witness statement of Chief Francis Laceese, para. 13.

[300] TNG argues that the Panel should accept Mr. Sinclair's opinion that COPCs in the effluent and within the IDZ may negatively affect the white sturgeon. TNG submits that Mr. Nelson's and Mr. Sinclair's evidence demonstrates the potential for early-life stage and juvenile white sturgeon to pass through the IDZ. Mr. Nelson opined, in part, that white sturgeon and, possibly, early-life stage white sturgeon, pass through the IDZ. Mr. Nelson opined that "early life stage white sturgeon inhabit both the main water column and the interstitial spaces of the river bed...".<sup>59</sup>

[301] TNG submits the Panel should give more weight to its experts than that of Ms. Keogh, whose expert evidence is expanded on below. TNG says that Ms. Keogh's evidence does not assist the Panel in determining whether the effluent discharge was harmful to the environment. While TNG agreed that Ms. Keogh's studies were a means of looking for metal concentrations in white sturgeon muscle tissue, her study did not fulfill the condition under item 3.8 of the 2019 Amendment, a condition present in earlier versions of the Permit as well, to "...include monitoring and assessment for metal bioaccumulation and potential resultant health impacts on sturgeon that inhabit the discharge area, or that may be exposed to the effluent."

[302] TNG relies on Mr. Sinclair's opinion that early life stage white sturgeon may be more sensitive to dissolved copper than either adult white sturgeon or the sentinel species. TNG urges the Panel to adopt Mr. Sinclair's opinion that for white sturgeon, as a sensitive species and special feature of the Fraser River, dissolved copper should be considered a Tier I COPC. If considered to hold this designation, dissolved copper would pose an uncertain risk to aquatic life, and especially to white sturgeon, based on the potential effects of dissolved copper on early-life stage white sturgeon identified in academic studies.

[303] Furthermore, TNG submits the Director failed to gather sufficient information regarding the abundance, population status, behaviour, ecology, habitat, and potential impacts of the effluent on white sturgeon. TNG further submits that the Panel should accept the evidence of Mr. Sinclair and Mr. Nelson that the 2019 Amendment was issued without knowledge of the impacts of increased effluent discharge on early-life stage white sturgeon. It submits further that for a sensitive and endangered species such as white sturgeon, the potential for effects should be set at a very low level of observed effects to prevent the possible negative effects on white sturgeon. TNG submits the above-noted absence of evidence illustrates that the 2019 Amendment did not reasonably protect white sturgeon and, therefore, did not protect the environment.

#### [The Respondent's submissions](#)

[304] The Director submits he took a cautious approach in assessing, and then issuing, the 2019 Amendment, balancing the anticipated risks from an increased rate of effluent

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<sup>59</sup> Appellant's Closing Submissions, para. 76.

discharge against concerns with the growing water balance at the Mine. The Director states that authorizing a temporary increase in the discharge of effluent as an alternative to accumulating water at the TSF was consistent with the mandate created by EMPR to move water offsite whenever possible, if authorized under permit. The Director submits he still required permit conditions protective of the environment, including conditions protective of white sturgeon.

[305] The Director says that both the evidence before him when issuing the 2019 Amendment and the evidence presented during the appeal supports the conclusion that the environment is protected. He reaches this conclusion through assessing the impact of the effluent, including COPCs, on the Fraser River and on white sturgeon, and evaluating the risk to the environment in not issuing the 2019 Amendment.

[306] The Director testified that he considered the risk of a potential uncontrolled discharge of water from overtopping or dam failure as a greater risk to the environment than the potential risk to white sturgeon from the temporary increase in the rate of effluent discharge resulting from the 2019 Amendment.

[307] The Director submits that he was aware of TNG's concerns about potential harm to the environment and white sturgeon, but "[he] wasn't seeing the evidence that [the] potential was actually occurring."<sup>60</sup> The Director also submits that he did not see any impacts that were "directly attributable to the discharge."<sup>61</sup> The Director submits that he adequately considered the potential impact of dissolved copper on early-life stage white sturgeon in his assessment of the effect of the 2019 Amendment.

[308] In his submissions, the Director relies on evidence from Ms. Keogh and Mr. Barnes. The Director submits he followed Mr. Barnes' recommendations to prevent downstream copper concentrations from becoming elevated due to incremental loading from the effluent discharge and to ensure the discharge concentrations would not result in exceedances of the BCWQG downstream of the discharge point.

[309] The Director asserts, based on the data presented to him before issuing the 2019 Amendment and before the Panel now, there is no evidence to suggest early-life stage white sturgeon are more sensitive than the species studied during the EEM Studies. The Director submits TNG has not provided persuasive evidence that a separate analysis is required to assess potential impacts on early life-stage white sturgeon, and that the analysis already done demonstrates that the level of effluent permitted in the 2019 Amendment is protective of white sturgeon. In reaching this conclusion, the Director relies on the data gathered through the various reports produced from the EEM Studies and on the expert evidence presented in this appeal. There are five main points that the Director says supports this position.

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<sup>60</sup> Transcript of testimony of Mr. Hill, March 19, 2021, page 8, line 9-10.

<sup>61</sup> Transcript of testimony of Mr. Hill, March 19, 2021, page 9, line 40-41.

[310] Firstly, the Director relied on the data produced through the EEM Studies, as well as additional reports utilizing data collected within the relevant area of the Fraser River. The Director relied on the 2017 Minnow Report and the 2017 Minnow Addendum Report which predicted that, under most circumstances, the Mine effluent discharge would not increase total copper concentrations in the Fraser River and impacts to aquatic organisms were not expected, relative to total copper concentrations present upstream of the IDZ. The Director submits that when he issued the 2019 Amendment it was unlikely that a short-term intermittent increase in effluent discharge would pose a risk to white sturgeon at any life stage or that effects monitoring on localized sentinel fish was inadequate to ensure the protection of other aquatic species in the middle Fraser River, including white sturgeon.

[311] Secondly, the Director relies on the evidence of Mr. Stecko, discussed in more detail above. Mr. Stecko gave evidence explaining the comparison of water quality downstream relative to water quality upstream of the IDZ. This comparison was based upon the EEM Cycle monitoring data that records effluent concentrations of COPCs, effluent characterization, sublethal toxicity testing of effluent on four different species, and water quality monitoring.

[312] The Director submits the Phase 4 EEM Study and Mr. Stecko's expert evidence both support the conclusion that the toxicity and bioavailability of dissolved copper varies significantly between laboratory studies and in the natural environment. This discrepancy is accounted for in the 2019 BCWQG.

[313] The Director noted the following evidence from Mr. Stecko given in his oral testimony regarding the difference between toxicity of dissolved copper in a laboratory setting and the natural environment:

... I mean those conditions, copper can be very bioavailable and, therefore, toxic. Under natural conditions when you have higher dissolved organic carbons, the copper is less bioavailable and—and less toxic. So—so it's critical that any comparisons are really apples-to-apples comparisons, if you will, and that's why the Biotic Ligand Model is—is a substantial step forward.<sup>62</sup>

[314] The Director submits that it is Mr. Stecko's expert opinion that the availability and toxicity of dissolved copper in the Fraser River is "very different" than in laboratory studies. The Director argues that the BLM for dissolved copper in the BCWQG, and which was incorporated into the Phase 4 EEM Study, is a more sophisticated and site-specific means of assessing concentrations of dissolved copper in the Fraser River.

[315] Thirdly, the Director relies on the evidence introduced by Mr. Sinclair. The Director submits that Mr. Sinclair's evidence identified potential impacts of dissolved copper

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<sup>62</sup> Transcript of testimony of Mr. Stecko, March 18, 2021, pages 79-80, lines 45-5.

concentrations on white sturgeon and other aquatic life, but his opinion did not support the conclusion that there were any adverse impacts upon white sturgeon that were realized by the 2019 Amendment.

[316] The Director states that Mr. Sinclair's evidence identified total molybdenum, nitrate, nitrite, and sulphate as the having the "greatest potential for influencing water quality in the Fraser River." However, Mr. Sinclair acknowledged that the level of total molybdenum tested well below Permit limits and only one sample of monthly nitrate and nitrite testing exceeding the permitted limit between 2012 and 2021. The Director submits Mr. Sinclair confirmed that the average sulphate concentrations, measured monthly between 2012 and 2021 at the edge of the IDZ, were within target concentrations from the BCWQG.

[317] The Director submits that Mr. Sinclair's analysis of dissolved copper concentrations downstream of the IDZ showed that those concentrations are below both the BCWQG and the range of copper concentrations upstream. The Director asserts Mr. Sinclair acknowledged, under cross-examination, that "one would not" expect to see effects on aquatic life where the concentrations of COPCs, including dissolved copper, are below the levels listed in BCWQG for the protection of aquatic life.

[318] The Director submits that Mr. Sinclair also acknowledged that Phase 4 EEM Study did not identify any impacts to invertebrates or fish due to the release of the effluent. Regarding Mr. Sinclair's concerns and opinion about the potential impacts of dissolved copper concentrations on early-life stage sturgeon, the Director submits that Mr. Sinclair could not opine about exposure times, if any, of early-life stage white sturgeon in or around the discharge location and the IDZ. The Director submits that Mr. Nelson's evidence also did not provide evidence or data regarding the exposure times of white sturgeon in or through the IDZ.

[319] Fourthly, the Director relies on the evidence introduced by Ms. Keogh. Ms. Keogh testified that she understood the aqueous copper levels in the Fraser River were below the levels studied in the laboratory and reported in cited academic papers. She testified it was important to look at all data, including metal levels in invertebrates, water quality levels, and sediment levels of metals. All of these factors are monitored through the EEM studies.

[320] The Director submits that Ms. Keogh is the only environmental toxicologist who opined on the potential impacts of the Mine effluent on middle Fraser River white sturgeon. The Director submits that Ms. Keogh acknowledged the limitations of forming conclusions about impacts of the effluent discharge on white sturgeon based only on muscle tissue samples from her studies. She noted that the assessment of effects of the increased effluent on white sturgeon would have to include other sources of evidence. This is because there is no other way to ethically test metal concentrations in the organs of white sturgeon.

[321] The Director asserts Ms. Keogh's findings have been corroborated by the EEM Studies, which have not shown any indication that the Mine effluent is affecting aquatic life or the environment in the Fraser River. Consistent with this, Mr. Stecko testified that

tissue testing of benthic invertebrates in the IDZ effluent plume showed no difference in results relative to benthic invertebrates tested upstream of the effluent discharge point and the IDZ.

[322] The Director submits that “[i]n contrast to Mr. Sinclair’s report which only considered the “potential” for impacts to the Fraser River, the [Phase 4 EEM Study] merits far greater weight because it extensively considered the “actual” impacts on the receiving environment.”<sup>63</sup> The Director submits Mr. Sinclair was not able to opine that there are adverse impacts to white sturgeon from the increased rate of effluent discharge.

[323] Fifthly, the Director submits that the evidence introduced by Mr. Nelson is unreliable and should not be considered by the Panel. The Director submits that the Panel should not give any weight to Mr. Nelson’s expert report or to his rebuttal to Ms. Keogh’s expert report. The Director submits that Mr. Nelson exceeded his area of expertise by opining on fish toxicology.

[324] The Director submits that Mr. Nelson’s opinion is substantively deficient because it has no supportive data. The Director submits that despite the data gaps, Mr. Nelson opined about the likely behaviour of white sturgeon in and around the IDZ. The Director submits that Mr. Nelson’s evidence only supports that white sturgeon swim to different locations in the middle Fraser River at different times for different reasons. The Director submits this does not support TNG’s submission that further Permit conditions were required because larvae or juvenal white sturgeon populations might be adversely impacted by the increased effluent discharge.

[325] Generally, the Director disputes TNG’s allegation that the conditions set out in the 2019 Amendment inadequately protected the environment. The Director submits that all the pre-screening comments from TNG on the draft 2019 Amendment were addressed. The Director submits that additional areas of investigation in the 2019 Amendment will be subject to further discussion among the parties, and that, based on the data collected through the EEM Studies, further action can be taken, such as the setting of COPC concentration limits which, if exceeded, would trigger specific responses.

[326] With respect to cadmium and copper, the Director submits there is now additional data that confirm concentrations of cadmium and copper in the Mine effluent do not exceed the concentrations of these chemicals upstream in the Fraser River. The Director submits copper concentrations in the Mine effluent remain constant from sitting in the TSF for years prior to discharge. The Director asserts that under the 2019 Amendment conditions, the Mine effluent discharge will not increase total copper concentrations within the Fraser River and impacts on aquatic life are not expected.

[327] The Director states that the 2019 Amendment conditions require significant monitoring, and a trigger-response plan was developed as part of the 2015 Permit

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<sup>63</sup> Respondent’s Closing Submissions, para. 161.

conditions. These 2015 Permit conditions persist through the duration of the 2019 Amendment. The 2019 Amendment conditions are aligned with monitoring requirements that are required under the MDMER. The Director submits these conditions are adequate to verify compliance with the permit and to react appropriately to exceedances of permitted COPC concentrations, given the reliability of the dispersion model in the IDZ and the stability of the TSF effluent water quality.

[328] The Director disputes TNG's contention that "there is no requirement to turn the discharge off during low flow conditions." The 2019 Amendment curtails the rate of discharge in the event that the river flow measures less than 800 m<sup>3</sup>/s, based on the average of the previous 24 hours.

[329] Overall, the Director submits that he had the necessary information to make an informed and reasonable decision to, over the short-term, increase the rate of effluent discharge and address the continued build-up of excess water on the Mine site. He further submits that the 2019 Amendment adequately protects the environment and properly balances the risk to the environment from an increase in effluent discharge against the risk of catastrophic failure of the TSF resulting from an excess of accumulating water.

#### The Third Party's submissions

[330] In its submissions, Gibraltar notes the importance of understanding that the authorized rate of discharge, under certain conditions, at 190 L/s from April 10 to November 10 annually has been authorized since 2009 and is not the subject of the present appeal. The subject of this appeal is the temporary authorization to increase the rate of discharge to 285 L/s from April 10 to November 10 each year for three years: 2019 through to 2021.

[331] Gibraltar submits that TNG's submissions and evidence seek to challenge the authorization of the discharge of effluent generally, rather than whether the three-year period of a 50% increase over the previously authorized effluent rate, is protective of the environment.

[332] Gibraltar states that in recent years the TSF receives more input water than is being discharged from the site. Previous and current iterations of the Permit require that rainwater and snowpack melt be collected and managed through permitted discharge points, though most of this water is stored in the TSF. Gibraltar submits the TSF water is not toxic to fish, and that rainbow trout are stocked in the TSF and monitored for both acute and chronic toxicity.

[333] Gibraltar argues that if sufficient water does not leave the TSF, it will be required to progressively increase the height of the TSF dam. If water is not discharged from the TSF, water could overflow the dam or could cause erosion of the dam wall. This situation could result in a dam failure similar to the failure that occurred at the Mount Polly mine site on August 4, 2014.



[334] Gibraltar submits that TNG has not proved, on the balance of probabilities, that the 2019 Amendment failed to adequately protect the environment. Rather, Gibraltar asserts that granting the 2019 Amendment was protective of the environment. Gibraltar noted that since 2009, various iterations of the Permit have required extensive environmental monitoring. Gibraltar argues that the Director did not base his decision to issue the 2019 Amendment solely on modelling and predicted environmental effects, but on demonstrated evidence that there are no adverse environmental effects associated with the increased rate of effluent discharge.

[335] Gibraltar submits Mr. Stecko confirmed the purpose of the Phase 4 EEM Study was to determine whether the Mine effluent affects fish, fish habitat, and/or use of fishery resources. Gibraltar states that the Phase 4 EEM Study confirms the effluent is not causing effects on fish or fish habitat in the middle Fraser River.

[336] Gibraltar argues that testing under the EEM Studies that uses sentinel species allows for the prediction of whether the Mine effluent is likely to negatively affect other species, such as white sturgeon. Gibraltar notes that sentinel species are selected for acute and chronic toxicity testing because they are sufficiently abundant both upstream and downstream, and these species are among those which are most exposed to the Mine effluent due to their proximity to the discharge location and the IDZ. Gibraltar submits the Panel should accept Mr. Stecko's opinion that that white sturgeon would not make a good sentinel species for EEM Studies because they accumulate less metal in their tissue than other fish. Gibraltar notes that Mr. Nelson also opined that sturgeon were not good selections for contaminant monitoring even though he is not an expert on that topic.

[337] Gibraltar submits that the BCWQG are meant to provide confidence that, at certain concentrations, chemicals of concern are not expected to cause harm to aquatic life. Gibraltar notes that even if a chemical's concentration exceeds the BCWQG, this does not necessarily mean there is a risk to aquatic life. Rather, it means that more analysis of the relevant species and life stages in the receiving environment is required.

[338] Regarding copper concentrations, Gibraltar relies on Mr. Stecko, who identified that the 2019 BCWQG have been improved, based on the BLM, to better account for the presence of copper in different water conditions. Gibraltar submits Mr. Stecko's evidence that all substances described in the BLM-based guideline were incorporated in the Phase 4 EEM Study, which showed all copper concentrations in the effluent are below the new BLM-based BCWQG recommendations.

[339] Gibraltar submits the Panel should not accept Mr. Sinclair's recommendation that effects monitoring should be measured at a level of observed effects level lower than what is required by the 2019 Amendment. This would, in Gibraltar's view, result in a "zero-tolerance" standard that is inconsistent with the intent of the *Act*. The *Act* contemplates permitted discharges of effluent into the environment and does not reflect a zero-tolerance intent.

[340] Gibraltar submits the Panel should give little weight to Mr. Sinclair's evidence because he was not objective, and he demonstrated a lack of understanding of his role as an expert witness. Gibraltar submits Mr. Nelson's expert opinion should be disregarded as a result of collaboration with Mr. Sinclair. Overall, Gibraltar submits the EEM Studies demonstrate there is no observable harm to aquatic life resultant from the Mine effluent discharge. Additionally, Gibraltar reaffirms its position that TNG has failed to discharge its legal burden of proof to demonstrate that the 2019 Amendment is not protective of the environment.

### Panel's Discussion and Analysis

[341] The Panel acknowledges that at the date of the release of this decision the 2019 Amendment is spent, as it expired on November 10, 2021. This raises an issue of mootness.

[342] While the 2019 Amendment has run its course, the Panel concludes that the question of whether the 2019 Amendment conditions were protective of the environment remains a live controversy among the parties and our findings and recommendations may be of value to the parties if future amendments to the Permit are required. No party has asked that the appeal not be addressed due to mootness so, as a result, the Panel will address the merits of this appeal, even if it is moot.

[343] Before the Panel can begin to set out its analysis, we must first consider the assertions that Gibraltar made in the course of the hearing about the evidence of Mr. Sinclair and Mr. Nelson.

[344] When he was informed of the role of an expert before the Panel, Mr. Sinclair freely admitted his previous actions did not follow the requirements of this role. However, the Panel finds that none of Mr. Sinclair's actions demonstrated that he was anything other than forthright with his expert opinion. The Panel also finds there was nothing in either Mr. Sinclair's or Mr. Nelson's conduct or evidence that indicated that they were not able or not willing to provide the Panel with fair, objective, and non-partisan evidence. As a consequence, Mr. Sinclair's and Mr. Nelson's expert evidence will be weighed against the other evidence presented in this matter in the same manner as each of the other expert witnesses.

[345] Our analysis of the possible environmental impacts resulting from the 2019 Amendment must begin with identifying the parameters of the Director's jurisdiction, and therefore the Board's jurisdiction, when considering an amendment to an effluent discharge permit.

[346] As the Panel has previously noted, the Director's jurisdiction to amend a waste discharge permit is described in s.16(1) of the *Act*. The operative language in that section is "[a] director may, subject to section 14(3), this section and the regulations, **for the protection of the environment**...amend the requirements of the permit or approval" (emphasis added). It is understood that the "environment" at issue in this appeal are the

waters, bed, wildlife, fish and fauna of the middle Fraser River at, around and below Margarite, BC. Namely, the receiving environment into which the Mine effluent is introduced.

[347] The plain language wording of section 16 of the *Act*, if read without context, might lead a reader to conclude that the 2019 Amendment should not have been issued, as any increase in effluent containing contaminants at any concentration cannot possibly be “for the protection of the environment”. It is beyond debate that, in this context, adding nitrate, nitrite, dissolved copper, sulfur, and molybdenum (and other contaminants comprising the effluent) into the Fraser River does not “protect” the Fraser River.

[348] Indeed, TNG adopts this perspective, presenting it in the language of a “zero-tolerance” approach, in its submission that the Director erred in failing to consult and accommodate TNG in respect of applying its principle of non-degradation in determining whether to issue the 2019 Amendment.

[349] For the reasons set out previously, the Panel has rejected TNG’s argument that the Director should have refused to issue the 2019 Amendment on the basis of TNG’s principle of non-degradation as a separate Aboriginal Right.

[350] The Panel is cognizant of the inherent tension created by the *Act* which, on the one hand, permits discharge of effluent into the environment under certain conditions but which, on the other hand, only authorizes amendments to an effluent discharge permit if they are protective of the environment. The Board has previously determined that an application for a waste discharge permit (or an application to amend a waste discharge permit) does not contemplate a zero-tolerance approach to contamination of the environment. The Panel agrees with the approach succinctly set out in *John Pickford v. Director, Environmental Management Act*, 2019 BCEAB 6 (CanLII). In that decision the Board stated, at paragraph 181:

The Board has also consistently held that a “cautious” approach should be adopted in assessing applications to emit waste under the *Act*: *Shawnigan*<sup>64</sup> at pages 50 to 52; and, *Toews*<sup>65</sup> at para. 235. At paras. 232 to 233 of *Toews*, the Board stated:

... the Panel agrees with the Board’s findings in previous cases that a “cautious” approach, involving a comprehensive technical analysis of the potential harm that the proposed emission may cause to human health and the environment, should be adopted in assessing applications for permits to emit waste, and

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<sup>64</sup> *Shawnigan Residents Association v. Director’s Delegate, Environmental Management Act*, 2015 BCEAB 5 (CanLII) (“*Shawnigan*”).

<sup>65</sup> *Emily Toews v. Director, Environmental Management Act*, 2015 BCEAB 23 (CanLII) (“*Toews*”).

amendments to such permits, under the [Act]. That approach was summarized in *Shawnigan* at para. 284, as follows:

... a cautious approach is not the same as a “zero tolerance” approach. The *Act* provides a legislative scheme that authorizes the introduction of waste into the environment provided that any risk to the environment can be properly controlled, ameliorated and, to the extent possible, eliminated.

[351] It is clear to the Panel, based on the wording of the *Act*, in its entire context and harmoniously with its scheme and object and the intention of the legislature, that for the dual purposes of the protection of the environment and the permissive introduction of human caused material into the environment, materials may be authorized to be introduced into the environment, provided that the introduction of this material conforms to the requirements found within the *Act*. The Panel adopts the Board’s prior analysis on this point.

[352] The decision that was before the Director in issuing the 2019 Amendment, and which now is before the Panel, is if the 2019 Amendment is sufficiently protective of the environment. The proper consideration of this question involves a comprehensive technical analysis of the potential harm that the proposed discharge of effluent may cause to human health and the environment.

[353] The specific circumstances of the decision to issue the 2019 Amendment, and the merits of this appeal, require the analysis of the related question of whether a potential future risk of dam failure can be included in the analysis of whether the 2019 Amendment is protective of human health and the environment.

[354] The application to amend the Permit was sought, in part, in response to an increase in, and ongoing accumulation of, water within the Mine TSF, resulting from environmental factors such as rainfall and snowmelt. Due to this accumulation, dams within the TSF were placed at an increased, and increasing, risk of failure or of being overtopped by water. Were the TSF to fail in either of those ways, the immediate and uncontrolled release of the stored TSF effluent into the Fraser River could result in a sudden release of a much larger volume of contaminants into the Fraser River than contemplated in the 2019 Amendment, certainly over a much shorter timeframe. It is unknowable what the impact of this type of event would be, but all the parties agreed that this outcome should be avoided, though they differ on the method by which excess contaminated water should be removed from the Mine site.

[355] TNG acknowledged that the increasing accumulation of water in the TSF poses a risk, but it submits that there is no immediate risk of TSF failure, and that Gibraltar should be required to build a water treatment facility to process the TSF water before discharging it into the environment.

[356] The question that the Panel must then consider is whether a potential future risk of the TSF failing or overtopping should form a part of our analysis of whether the 2019 Amendment is protective of the environment.

[357] The Director weighed this risk when granting the 2019 Amendment. He determined that a temporary increase in rate of discharge authorized under the 2019 Amendment would reduce or otherwise ameliorate the risk of the TSF dams overtopping or failing without unreasonably impacting the environment.

[358] Section 16 of the *Act*, when read with the principles of modern statutory interpretation,<sup>66</sup> states that the Director may amend a permit “for the protection of the environment”. This wording is broad. It is not limited to consideration only of the direct and immediate effects of the increase in effluent discharge upon the receiving environment of the Fraser River. This broad wording can incorporate weighing the risk to the environment from granting the 2019 Amendment against the future risk to the environment from refusing the 2019 Amendment and thereby increasing the risk of the TSF dams overtopping or failing.

[359] An emitter takes the environment as they find it. The environment could be robust and healthy, capable of safely receiving emissions. Alternatively, the environment could be vulnerable and not capable of receiving even a small volume of emissions. The cause of this vulnerability, or robustness, could be natural or human made, or, most likely, some combination of both. Regardless of cause, a Director under the *Act* will consider the state of the environment and what emissions it can receive. The Director will then impose, for permits allowing the introduction of waste (such as effluent) into that particular environment, requirements that they think are advisable for the protection of the environment.

[360] Consideration of the receiving environment requires an assessment of the impacts of cumulative effects through evaluating the current robustness of the environment and analysing the predicted impacts of the proposed emission. This can result in the same emissions being permissible in one receiving environment but not in another. By focusing the analysis on what impact the current authorization is predicted to have on the current environment, the *Act* requires that the impacts of current and previous inputs, whether natural or human made—and whether or not these latter inputs were authorised—are accounted for.

[361] Although there was minimal risk of overtopping or failure of the TSF dams during the term of the 2019 Amendment, water levels within the TSF are expected to increase in the future. This increase in effluent within the TSF must be managed. The receiving environment in issue in the present appeal must be evaluated with this in mind. The Panel

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<sup>66</sup> *Rizzo & Rizzo Shoes Ltd. (Re)*, 1998 CanLII 837 (SCC), [1998] 1 SCR 27.

finds that the *Act* requires that we consider this possible future risk as a factor in our analysis of whether the 2019 Amendment is protective of the environment.

[362] Our analysis of this future risk includes weighing evidence regarding the predicted and actual impacts to the environment, including to aquatic life, resulting from the increase in effluent discharge authorized by the 2019 Amendment. The evidence and submissions in this appeal centred largely on the impact of the increased effluent on white sturgeon, and early life stage white sturgeon in particular. This is because of white sturgeon's status as a Provincial red-listed species, its status as endangered as determined by the Committee on the Status of Endangered Wildlife in Canada ("COSEWIC"), and of its cultural importance to TFN.

[363] The Panel will consider whether the 2019 Permit Amendment adequately protected the environment by addressing the following questions:

1. What are the potentially harmful chemical and biological components of the increased discharged effluent?
2. Are there any sensitivities or special features of the receiving environment and of juvenile white sturgeon that must be considered?
3. What are the known impacts on the receiving environment, and on white sturgeon in particular?
4. What is the potential impact to the environment from either allowing or refusing the 2019 Amendment?

*What are the potentially harmful chemical and biological components of the discharged effluent?*

[364] Our analysis of the environmental impacts of the release of the Mine's effluent focuses only on the 50% increase in effluent discharge authorized by the 2019 Amendment. The discharge of effluent at a rate of 190 L/s, which persisted through the duration of the 2019 Amendment, was authorized under the 2009 Permit and the 2015 Permit. These decisions are not under appeal before the Board and the Panel does not have the jurisdiction to make any order pertaining to this baseline discharge. The jurisdiction of the Board in this appeal is limited to the decision of the Director. The BC Court of Appeal stated this succinctly in *Unifor Local 2301 v. Rio Tinto Alcan Inc.*, 2017 BCCA 300, in stating: "[a]n appeal of a decision does not lay an existing permit open to attacks at large. The appeal must be narrowly focussed on the particular impugned decision."<sup>67</sup>

[365] The baseline effluent discharge of 190 L/s is, however, a consideration that is validly before the Panel as it is part of the receiving environment into which the additional effluent is discharged. Any analysis of the effects of the increased effluent discharge

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<sup>67</sup> Para. 40.

authorized by the 2019 Amendment must, by necessity, take into account the impact of the existing effluent discharge on the receiving environment.

[366] The composition of the effluent must therefore be known, and its effects on the receiving environment understood. The evidence shows that the Mine concentrators efficiently and effectively treat the effluent water. Gibraltar uses a mineral concentration process described in Gibraltar's "Fraser River Discharge Permit Application":

The mineral concentrating process employed at the site requires lime to produce a copper mineral concentrate and utilizes sodium hydrosulphide to produce molybdenum mineral concentrate. The high pH water streams that are produced as a by-product of the mineral concentrating processes are utilized to perform the same function that a conventional high-density lime water treatment plant would. By adding water collected from the mine site into the mill, these high pH streams generated by the milling process neutralize the water and precipitate the dissolved metals into the solids in the tailings slurry.<sup>68</sup>

[367] The Minnow Phase 3 EEM Report described the characteristics of the Mine effluent and predicted impacts to the environment as follows:

- Mine supernatant effluent mixes quickly in the Fraser River with concentrations at 1% or less 250 meters from the diffuser;
- sublethal toxicity testing between 2014 and 2016 indicated that the effluent had limited influence on several species; the effluent had little influence on water quality, but the Fraser River continues to have elevated concentrations of several metals up and downstream relative to the BCWQG for the protection of aquatic life, including total chromium, copper, iron, zinc and dissolved aluminum;
- Mine effluent indicators, including nitrite, nitrate, sulphate, and molybdenum, were significantly higher downstream of the discharge, but these elevated levels were still below the BCWQG for the protection of aquatic life;
- there is no evidence that [Mine] effluent was negatively impacting the sediment quality of the Fraser River; and
- effluent discharge effects on benthic invertebrates, tissue chemistry and fish health showed only "subtle differences...although these may reflect natural variability within the river."

[368] As part of his assessment of the impact of the potentially harmful chemical and biological components of the Mine effluent and the risk to the environment and aquatic

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<sup>68</sup> Attached to the Affidavit of Mr. Yamelst, page 91, under heading "3.1.3 Source Control and Best Management Practices for Contaminants of Concern".

life, the Director considered information from the Phase 3 EEM Report and, subsequently, incorporated recommendations provided by Mr. Barnes that the 2019 Amendment limit or cease the increased rate of discharge if the river flow drops below 800 m<sup>3</sup>/s.

[369] Mr. Barnes recommended lower permit limits for aluminum, total chromium, and total copper. In his report to the Director, Mr. Barnes stated that by “adopting these lower permit limits, I anticipate that the edge of IDZ water quality can be maintained relative to upstream conditions and [the BCWQG].”<sup>69</sup>

[370] The Panel notes that Mr. Barnes also testified that data in the 2017 Minnow Addendum Report indicated that nitrite may no longer be a COPC but should be treated as a COPC until further data confirms whether nitrite concentrations are trending down below the BCWQG levels. These recommendations were adopted by the Director in the 2019 Amendment.

[371] In his report to the Director, Mr. Barnes also noted that total copper can be above the water quality guidelines in the Fraser River upstream of the effluent discharge and he outlined predictions of when dissolved copper at the edge of the IDZ could increase relative to conditions upstream.

[372] According to the Director, data monitored from the Fraser River evaluated against new copper guidelines confirmed copper concentrations in the effluent do not exceed concentrations of copper in the Fraser River upstream of the discharge plume each year, on average. The Director submits that copper concentrations in the effluent remain constant because the effluent sits in the TSF for years, allowing metals to settle, and is not as variable as the upstream river waters. The Director noted the 2017 Minnow Addendum Report identified that, under most conditions, the effluent discharge does not increase total copper concentrations within the Fraser River. The Panel will discuss the relevance of this finding when examining the evidence of potential impacts on aquatic life.

[373] The Phase 4 EEM Report identified that the effluent mixes quickly in the Fraser River, with a maximum effluent concentration of 3 percent within the river water when measured 46 meters downstream of the IDZ, and a maximum effluent concentration of 1 percent within the river water when measured 250 meters downstream of the IDZ. The report notes the Mine effluent had limited influence on the water quality of the Fraser River and noted that elevated concentrations of analytes relevant to the BCWQG are observed both upstream and downstream of the discharge outfall. These chemicals included chromium, copper, iron, zinc, and dissolved aluminum. The Phase 4 EEM Report also noted:

These elevated concentrations are a result of upstream natural and anthropogenic influences and were most often lower downstream of the discharge relative to upstream.

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<sup>69</sup> Affidavit of Mr. Barnes, page 620.



[374] The Phase 4 EEM Report identified that measured levels of nitrate, nitrite, sulphate, and molybdenum were all higher downstream of the discharge relative to upstream, but these mine indicator analytes “remained well below” the relevant threshold values within the BCWQG. The Panel gives significant weight to the evidence from the EEM studies and the specific findings of the Phase 4 EEM Report. While nitrate, nitrite, sulphate, and molybdenum have some influence on water quality downstream of the effluent discharge and IDZ, we find the weight of evidence supports the conclusion that the 2019 Amendment is protective of the environment. We arrive at this conclusion after considering that these concentrations are below the BCWQG, there is a lack of evidence that the Mine effluent is affecting fish populations, and “no consistent” evidence of an effect resulting from the Mine effluent within the Fraser River was presented.

[375] The Panel found the expert evidence presented by Mr. Sinclair and Mr. Stecko to be helpful in identifying the relevant COPCs found within the effluent. While their evidence will not be repeated here as it is set out in detail above, their combined evidence indicated that the COPCs with the greatest potential to influence water quality in the Fraser River were molybdenum, nitrite, nitrate, and sulphate, as the concentration levels of these COPCs have increased since 2009.

[376] The Panel notes there is conflicting evidence on the effect of dissolved (and total) copper concentrations, including between the concentrations of total copper in the effluent and the Fraser River water quality upstream. We note that there is disagreement between the experts regarding the potential impact of total copper on the receiving environment, and especially on early life stage sturgeon. As a result, the Panel adopts a cautious approach and we consider dissolved copper to be a COPC present in the effluent.

[377] The Phase 4 EEM Study identifies on page III that:

Overall, the influence of the Gibraltar Mine discharge on the Fraser River appears to be minor. A small but detectable influence on water quality was evidence in slightly higher conductivity, nitrate, nitrite, sulphate, and molybdenum concentrations downstream of the discharge relative to upstream, but concentrations of these analytes were well below BCWQG. **However, multiple lines of evidence, including sediment quality, benthic invertebrate community, fish health, and benthic and fish tissue chemistry, continue to indicate no consistent evidence of an effect resulting from Gibraltar Mine effluent within the Fraser River.**  
[emphasis added]

[378] Based on the evidence presented, the Panel finds that the COPCs relevant to our analysis of whether the 2019 Amendment adequately protects the environment are molybdenum, nitrate, nitrite, sulphate, and copper. These are the chemical and biological substances from the Mine effluent that, based on the available evidence, the Panel considers could have a reasonable potential to negatively affect the receiving

environment. The Panel notes, however, that these COPCs have also been identified as exceeding the BCWQG upstream of the effluent discharge point.

[379] The Panel notes there are several other metal concentrations which periodically exceed the BCWQG, but which are not present in the Mine effluent.

*Are there any sensitivities or special features of the receiving environment and of juvenile white sturgeon that must be considered?*

[380] TNG has specifically identified white sturgeon, especially early-life stage sturgeon, as a special feature of the middle Fraser River near the Mine effluent outflow and the IDZ. It is not disputed that careful consideration should be given to the potential harm the discharge of mine effluent may have on this culturally important species.

[381] The Panel accepts that the middle Fraser River white sturgeon population has been assessed as endangered by the COSEWIC. This committee analyses the health and viability of various animal species within Canada and provides recommendations to decision makers under the *Species at Risk Act* who determine the status and vulnerability of species under that act. The middle Fraser River white sturgeon population has not been identified as endangered under the *Species at Risk Act*.

[382] The Panel accepts that white sturgeon is a culturally important species to the TNG that is important to protect. The Panel also notes that there may be multiple factors that could impact white sturgeon populations other than those attributable to the effluent discharge, including environmental conditions such as loss of suitable habitat and sufficient food sources and the influence of hatchery-origin sturgeon. These factors, where known, are considered in the analysis of the impact of the effluent discharge on the Fraser River and on white sturgeon. However, the issue before the Panel in this appeal pertains only to the increased Mine effluent discharge, and any findings or remedies must be so constrained.

[383] The Panel finds that white sturgeon in the middle Fraser River are a special and unique feature of that ecosystem and are therefore to be specifically considered and evaluated when assessing whether the 2019 Amendment was protective of the environment.

[384] The Panel also finds that the water quality of the Fraser River upstream of the Fraser River is also a notable factor in consideration of the potential effects of the Mine effluent discharge on the environment. TNG argues that the Fraser River is affected by impacts of industrialization upstream and they have concerns about the cumulative impact of the increased volume of Mine effluent discharged into the river that has not been treated before hand.

[385] For this reason, the Panel places great weight on the evidence of the EEM Studies which incorporate measurements of the potential effects of the Mine effluent in reference to the water quality upstream and downstream from the Mine discharge point and the IDZ.

*What are the known impacts on the receiving environment, and on white sturgeon in particular?*

[386] Our analysis of the potential impacts of the Mine effluent considers the receiving environment as a whole while focussing on the evidence presented relating to the COPCs identified above and on potential or known impacts on white sturgeon in the middle Fraser River.

[387] This analysis is made more difficult by the lack of much direct information pertaining to the impact of the effluent upon white sturgeon. A complete understanding of the impacts of the COPCs on white sturgeon is only possible through examination of the fatty tissue and organs of white sturgeon, which cannot be completed without killing the fish. This would be contrary to the stated goal of protecting white sturgeon within the middle Fraser River. As previously noted, the only testing permitted on white sturgeon is non-lethal sampling of muscle tissue, collected in this case through Ms. Keogh's studies. These sampling results gives some information, but less than would be ideal, especially since collection of the tissue samples occurred prior to the increased rate of discharged effluent under the 2019 Amendment.

[388] The reality that there is less than perfect evidence before us does not have the result of rendering a decision on this issue impossible. Most decisions are made without perfect evidence. It is the responsibility of the decision-maker to ensure that they have sufficient information to inform themselves as to the likely impact of making a decision, and to fully consider all information that is before them to make sound and reasonable inferences where direct evidence is not available. The Panel finds that sufficient information exists to render a decision on this issue, having been collected from water quality studies, from non-lethal sampling of white sturgeon muscle plugs, and from studies of sentinel species.

[389] The evidence respecting the potential impacts on the environment and on white sturgeon encompasses several areas, including a) the exposure of early-life stage white sturgeon to dissolved copper and b) evaluation of Mine effluent impacts on the receiving environment.

Exposure of early-life stage white sturgeon to Mine effluent, specifically dissolved copper

[390] Our analysis of the potential effect on white sturgeon of exposure to the Mine effluent first requires evaluation of the evidence of the nature and extent of early life-stage white sturgeon exposure to Mine Effluent.

[391] There is limited evidence available about white sturgeon population movements in the middle Fraser River and, more specifically, in and around the effluent discharge point and the IDZ.

[392] Evidence about the likely locations<sup>70</sup> of white sturgeon, including early life-stage white sturgeon (encompassing both larvae and juveniles), was presented on appeal. If white sturgeon habituate or regularly travel through the IDZ or immediately adjacent to it, there is a greater likelihood that the chemical components of the effluent may have an impact on white sturgeon and, in particular, early life-stage white sturgeon. The relevance of this information relates to TNG's position that dissolved copper has the potential to affect early life-stage white sturgeon through absorption of dissolved copper on gill surfaces.

[393] Ms. Keogh's sampling location data demonstrates that juvenile sturgeon were caught many kilometers distant from the effluent discharge location—both upstream and downstream of the IDZ. However, there was limited evidence that white sturgeon, in any life stage, live within the Fraser River at or near the IDZ.

[394] TNG relied on the expert evidence of Mr. Nelson as to the likely population and movement of white sturgeon in the middle Fraser River watershed. TNG submitted that Ms. Keogh's evidence regarding white sturgeon "also touched on white sturgeon status and knowledge gaps, although she admitted on cross-examination she is not an expert in white sturgeon population biology."<sup>71</sup> Regardless, TNG submitted that Ms. Keogh's evidence was not "materially inconsistent with, or contradicted," by the evidence of Mr. Nelson.

[395] To summarize the evidence presented by Mr. Nelson, set out in detail previously, he opined that it is likely that white sturgeon migrate upriver through the effluent discharge plume to spawn. This, in his opinion, likely results in viable sturgeon larvae passing through the effluent plume in the IDZ during their "swim up" behaviour during the months when the increased effluent discharge is authorized.

[396] The Panel is not persuaded by Mr. Nelson's opinion and agrees with the submission of the Respondent that all that can be deduced from Mr. Nelson's opinion is that white sturgeon swim to different locations within the middle Fraser River at different times. The Panel is not persuaded by Mr. Nelson's opinion that it is more likely than not that white sturgeon larvae pass through the Mine effluent plume.

[397] The Panel recognizes that there is evidence that white sturgeon may live in and swim back and forth in the areas above and below the IDZ. There is evidence that white sturgeon can travel great distances. However, there is only speculative evidence that early life-stage white sturgeon, including larvae, pass through the IDZ. There is no reliable data regarding white sturgeon feeding locations, spawning locations or behaviour that has

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<sup>70</sup> The Panel issued an order sealing the sampling location data collected by Ms. Keogh as part of her studies from 2007–2008 and 2013–2016.

<sup>71</sup> Appellant's Closing Arguments, para. 77.

been presented to support Mr. Nelson's opinion. Mr. Nelson himself acknowledged a lack of reliable scientific data and reports to support his opinion.

[398] The Panel notes that in considering the likelihood of white sturgeon exposure to Mine effluent, Mr. Nelson did not address the evidence about the physical characteristics of the IDZ. In particular, he did not address the evidence that the flow rate was not measured to drop below 800 m<sup>3</sup>/s in the fall months, that effluent mixing was consistent, that the effluent mixing plume is small compared to the estimated width of the river at the point of discharge—representing only 0.036 percent of river discharge at 800 m<sup>3</sup>/s flow rate.

[399] In contrast, Mr. Stecko considered the physical characteristics of the IDZ at length. Mr. Stecko stated that “[t]he width of the effluent mixing zone 100 m downstream of the discharge ranged from 2 to 10 [meters] during the 2019 EEM field programs. In contrast, the width of the Fraser River at the diffuser ranges from 200 to 300 [meters], depending on water levels.”<sup>72</sup>

[400] Further, Mr. Stecko stated, “[t]he width of measurable effluent further downstream is only marginally wider, and under conditions identified (2% at the IDZ), effluent is diluted to 1.3% 250 [meters] downstream of the discharge.”<sup>73</sup> The Panel gives significant weight to Mr. Stecko's evidence that the IDZ represents a small area of the Fraser River where the effluent is diffused. The Panel is persuaded by Mr. Stecko's opinion that “no influence is expected downstream as effluent becomes fully mixed within the Fraser River, representing 0.035% of river discharge at 800 m<sup>3</sup>/s flow rate.”<sup>74</sup>

[401] Based on this evidence, the Panel finds that as a result of the small size of the IDZ and limited impact on the water quality of the Fraser River, there is insufficient evidence to conclude that white sturgeon, including larvae and juveniles, experience any significant exposure to the Mine's effluent. We find that there is insufficient evidence to conclude that larval or early-life stage white sturgeon pass through the effluent discharge plume.

[402] The second important question in evaluating the impact of the 2019 Amendment on middle Fraser River white sturgeon is whether a different risk assessment analysis is required to assess potential effects of dissolved copper on white sturgeon. TNG took the position that assessment of the effects of COPCs, and especially dissolved copper, on other aquatic species could not be used to infer possible effects on white sturgeon.

[403] The Panel received evidence from several experts on the distinctive sensitivities of white sturgeon. As white sturgeon are bottom-feeders, their patterns of movement and feeding habits differ from fish who do not feed in this way. As such, the impact of COPCs on white sturgeon requires expertise to identify and understand. Ms. Keogh, whose

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<sup>72</sup> March 1, 2021 Expert Statement of Pierre Stecko, page 25, para. 3.

<sup>73</sup> March 1, 2021 Expert Statement of Pierre Stecko, page 25, para. 3.

<sup>74</sup> March 1, 2021 Expert Statement of Pierre Stecko, page 25, para. 3.

evidence is recounted above, was one such expert. She provided evidence that for “white sturgeon, exposure to copper concentrations is likely through sediment, diet, and aqueous exposure through the gills and olfactory system.”<sup>75</sup>

[404] Given the environmental pathways by which dissolved copper can affect white sturgeon, evidence was presented to the Panel from three distinct sources: water quality testing, sublethal chronic toxicity testing of white sturgeon, and testing of sentinel species. The possible affect of other COPCs will be discussed later in this decision.

[405] TNG says the evidence of Mr. Sinclair and Mr. Nelson supports the conclusion that white sturgeon have a greater sensitivity, compared with other fish species, to dissolved copper. While Mr. Sinclair’s evidence discusses the potential impact of dissolved copper on early-life stage white sturgeon, the Panel has found that Mr. Nelson’s opinion regarding the location of early-life stage white sturgeon within or near to the IDZ is speculative. The Panel cannot rely on Mr. Nelson’s opinion on this point.

[406] Both Mr. Sinclair and Mr. Stecko testified that dissolved copper in the effluent, mixed with the existing copper concentrations in the Fraser River above the discharge location, has the potential to alter the water quality downstream of the IDZ. Mr. Stecko stated in his report that, typically, the levels of dissolved copper in the Fraser River (above the discharge point) and in the effluent have been similar.<sup>76</sup> Although Gibraltar did not begin to monitor for dissolved copper until 2020, “[a]nalysis of water quality data collected in 2020 indicated that there were no instances of guideline exceedances in the Fraser River.”<sup>77</sup> Mr. Stecko also reported that this was “[d]espite a high level of conservatism incorporated into the guideline.”<sup>78</sup>

[407] The Panel gives significant weight to Mr. Stecko’s evidence and to the inferences that can be drawn from the collected data. Mr. Stecko testified that the BCWQG level for dissolved copper, which incorporates the BLM, is based on tests of the most sensitive species. Mr. Stecko opined that the BLM is the best available method of predicting potential effects on aquatic life, as it accounts for water quality conditions “...that modify the bioavailability and toxicity of copper in aquatic environments... ”<sup>79</sup> Mr. Stecko opined the bioavailability and toxicity of dissolved copper in the environment can be very different than what is observed in laboratory studies.

[408] Even where white sturgeon are present downstream of the IDZ, the Panel finds that downstream dissolved copper concentrations were, on average, lower than concentrations found upstream of the effluent discharge point. In reaching this conclusion, the Panel finds persuasive the evidence presented through the EEM studies, as

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<sup>75</sup> Pre- and Post-Discharge Tissue Sample Comparison Report, December 18, 2020, Page 3.

<sup>76</sup> March 1, 2021, Expert Report of Pierre Stecko, page 10, para. 2.

<sup>77</sup> March 1, 2021, Expert Report of Pierre Stecko, page 17, para. 2.

<sup>78</sup> March 1, 2021, Expert Report of Pierre Stecko, page 17, para. 2.

<sup>79</sup> March 1, 2021, Expert Report of Pierre Stecko, page 17, para. 2.

these reports are not projections of what is or is not likely to occur but are, rather, accurate measurements of the impact of the effluent in the receiving environment. The Panel is therefore not persuaded that dissolved copper within the discharged effluent is likely to negatively affect water quality downstream of the discharge point.

[409] The Panel accepts the conclusions reached in the *Puglis* and *Wang* studies, which suggest that dissolved copper may negatively impact the growth and behavior of white sturgeon. However, the evidence before the Panel also indicates that dissolved copper concentrations are not materially elevated by the increased rate of effluent discharge under the 2019 Amendment due, in part, to the rapidity of the effluent's dilution. This finding is supported by the Panel's previous finding that there is insufficient evidence that early life-stage white sturgeon are exposed to the Mine effluent.

[410] We are also persuaded by the expert opinion of Mr. Stecko that the incorporation of the BLM standards into the BCWQG provide for reasonable inferences regarding the likelihood of whether the dissolved copper concentrations in the Fraser River are harming aquatic life and in particular early life-stage white sturgeon. Mr. Stecko explained that the EEM Studies contain mechanisms which would require further studies and investigation, and which are triggered when significant concentrations of COPCs are observed. These mechanisms were not triggered during the Phase 4 EEM Study.

[411] Ms. Keogh's 2017 and 2020 reports reflect an attempt by the Director to find a non-lethal means to measure potential metal concentrations in white sturgeon by taking minimally invasive tissue plug samples. As lethal testing of white sturgeon is to be avoided, this method of study provides the most accurate data of the impact of dissolved copper on white sturgeon within the Fraser River. In her 2020 report, Ms. Keogh acknowledged that her studies provide no information regarding metal concentrations in the organs of white sturgeon but opined her findings are part of a larger environmental monitoring program to assess impacts to the aquatic environment in relation to the Mine effluent discharge. As complete knowledge of the impact of the introduction of human introduced material is not possible in this case, or indeed in any case, thoughtful consideration must be given to determine how best to gather the data necessary to make decisions under the *Act*. The Panel finds that Ms. Keogh's studies reflect this thoughtful consideration in gathering the best available data.

[412] The EEM Studies data assists the Panel in understanding the effect of dissolved copper on the receiving environment, which is an indicator of the health of white sturgeon within the middle Fraser River. Firstly, the EEM Studies did not identify any changes in sediment quality downstream of the IDZ when compared with sediment samples taken upstream of the discharge point. This evidence is relevant given the testimony this Panel heard regarding white sturgeon being bottom feeders and the possibility of consuming copper in that process. Secondly, the EEM Studies established that there were no demonstrated effects of the Mine effluent on benthic invertebrates or sentinel fish, including to these organisms' tissue chemistry, downstream of the IDZ when compared with these organisms' tissue chemistry upstream of the discharge point.

[413] The Panel gives significant weight to this evidence because it reflects in-situ examination of effects rather than predicted effects based on the BCWQG, and because it examines the aquatic life most exposed to the increased Mine effluent. This analysis also incorporates an examination of the effects of the dissolved concentrations in the water itself. Regardless of the method of absorption, the lack of change in sentinel species' tissue chemistry as between species members tested above and below the discharge point is compelling evidence that the Mine effluent is not unreasonably harming aquatic life.

[414] The Panel notes that the updated BCWQG now include the BLM methodology for assessing dissolved copper. Analysis of the Fraser River water quality downstream of the discharge point under the updated BCWQG did not identify any guideline exceedances in 2020.<sup>80</sup> As such, whether based on in-situ analysis or on the standards in the BCWQG for the protection of aquatic life, dissolved copper has not been demonstrated to be a risk to the receiving environment because of the increased Mine effluent discharge authorized under the 2019 Amendment.

[415] This significant new evidence based on BLM methodology incorporated into the BCWQG was not available to the Director at the time the 2019 Amendment was issued. It is compelling evidence, as it considers the potential impact of dissolved copper in the Mine effluent in the receiving environment. The presence of this evaluative factor further protects the environment, and in particular white sturgeon, as it monitors for levels of dissolved copper that, if exceeded, could detrimentally affect aquatic life.

[416] TNG submits that this Panel should accept Mr. Sinclair's opinion that a more rigorous risk assessment must be incorporated into the 2019 Amendment for white sturgeon because of their unique status. The Panel is not persuaded by this argument. The Panel is, instead, persuaded by the weight of evidence which establishes that it is more likely than not that the assessment of risk due to dissolved copper under the current BCWQG are protective of white sturgeon. This evidence included the Phase 4 EEM Study data, which involved multiple lines of monitoring and risk assessment, and Ms. Keogh's reports, which provide the best available evidence and analysis of the impacts of copper on white sturgeon in the receiving environment.

[417] The panel notes that the 50% increase in discharged effluent authorized under the 2019 Amendment must be reduced if the flow rate of the Fraser River drops below 800 m<sup>3</sup>/s averaged over the previous 24 hours. This safeguard is found within the Permit itself and indicates not only that the Director considered the receiving environment's capacity to absorb the effluent, including specific situations where the concentration of effluent has a greater likelihood of impacting the environment, including white sturgeon.

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<sup>80</sup> March 1, 2021, Expert Report of Pierre Stecko, page 17, para. 2.



[418] This evidence, considered in the context of the robust EEM studies which demonstrated no related effects to benthic invertebrates or sentinel fish populations, supports the conclusion that, on the balance of probabilities, the increased effluent discharge will not negatively impact white sturgeon, including early life-stage white sturgeon. While it is possible that white sturgeon of all life stages pass through the IDZ, and are thereby exposed to COPCs like sulphate, nitrite, nitrate, and molybdenum, the Panel finds there is insufficient evidence the discharge of these COPCs is causing harm to the environment or aquatic life, including white sturgeon.

[419] While the Panel concludes there is no appreciable potential impact to early life-stage white sturgeon from the increased effluent authorized under the 2019 Amendment, it would be of assistance in future permit applications if chronic toxicity and sublethal testing of other aquatic life species can be undertaken so as to provide inferences regarding the potential harm to white sturgeon. Consequently, the Panel makes a non-binding recommendation that any subsequent applications to amend the Permit in a manner similar to the 2019 Amendment include the evaluation of data gathered through chronic toxicity and sublethal testing of aquatic life that provide information on potential harm to, and which can be correlated to impacts on, white sturgeon.

#### Evaluation of Mine impacts on the receiving environment

[420] In making his decision on whether to issue the 2019 Amendment, the Director considered the EEM Studies data available to him when concluding that issuing the amendment would not harm the environment. Factors considered by the Director included:

- the effect of the Mine effluent discharge on river turbidity was negligible because the effluent sits in the TSF for years allowing suspended solids to settle before discharging into the river;
- the Mine effluent discharge would not likely change the concentration of sediment-bound metals downstream of the discharge because the concentration of these metals exist upstream of the discharge location;
- concentrations of copper, or other sediment-bound metals above the BCWQG, were not likely attributable to the Mine effluent but rather a result of seasonal release of sediment-bound metals during freshet because the water quality concentrations of the mine effluent in the TSF are generally consistent year-round;
- the EEM studies to that point supported a low likelihood of any risk to aquatic life based on assessment of test organisms exposed to the Mine effluent in the IDZ;
- sulphate concentrations were unlikely to exceed maximum limit in the Permit, and a condition of 2019 Amendment is to reduce flow rate of effluent if the allowable sulphate concentration was exceeded;

- there was a low probability of BCWQG exceedances for nitrate because the 2019 Amendment does not allow any discharge in winter low flow conditions and effluent discharge is to be curtailed to 190 L/s if the river flow drops below 800 m<sup>3</sup>/s,
- EEM studies at that time did not identify any adverse effects on downstream sediment quality, benthic invertebrate community, benthic invertebrate tissue quality, health of sentinel fish populations and sentinel fish tissue quality relative to upstream of the discharge point and the IDZ; and
- There was no information available to suggest potential adverse cumulative effects on white sturgeon and no evidence of white sturgeon living in the waters around the effluent discharge and IDZ.

[421] The Panel notes that there is a tension between the expert opinions provided by Mr. Sinclair and Mr. Stecko. Mr. Sinclair stated that while impacts to aquatic life in the Fraser River due to the effluent discharge is characterized as negligible or low for many of the COPCs, he opined that the impact of dissolved copper remains uncertain and that additional information about appropriate risk thresholds needs to be gathered.

[422] Mr. Sinclair raised a concern that COPCs in the effluent would cause incremental loading when combined with the COPCs in the receiving environment, which could lead to additional stresses on aquatic life.

[423] Mr. Stecko was specifically asked to address Mr. Sinclair's concern that some of the COPCs could result in a risk of chronic toxicity at the edge of the IDZ during low flow conditions on the Fraser River. Mr. Stecko stated, "[c]hronic toxicity is an indicator of potential risk but is not a measure of effects within the receiving environment."<sup>81</sup>

[424] The EEM Studies provide crucial information about the environment of the Fraser River both upstream and downstream of the discharge point and IDZ, and at the IDZ itself. The Director submitted he was aware of TNG's concerns about whether the receiving environment, and in particular white sturgeon, would be harmed by the increased rate of effluent discharge but "I didn't see any evidence that impacts were occurring."<sup>82</sup>

[425] When the Director issued the Permit Amendment he relied, in part, on the Phase 3 EEM Study which identified no observed effects on benthic sediment, on sentinel fish populations, or on tissue samples of sentinel fish.

[426] Page 60 of the Phase 4 EEM Report, published in December 2020, discussed the results from sublethal toxicity testing from earlier EEM studies and testing in 2019 as follows:

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<sup>81</sup> March 1, 2021, Expert Statement of Pierre Stecko, page 22, para. 3.

<sup>82</sup> March 19, 2021 Transcript, Douglas Hill, page 2, lines 4150 to 4152.

... although some sub-lethal effects were observed at low effluent concentrations, the in-river benthic invertebrate survey results provide a clear indication if these concentrations have actually affected the biota inhabiting the area immediately downstream of the discharge, in comparison to test organisms that would not inhabit the immediate receiving environment.

[427] Mr. Sinclair does not challenge the Phase 4 EEM Report findings, which do not identify impacts on the receiving environment associated with the effluent. Rather, Mr. Sinclair's criticism focuses on concerns regarding impacts on early-life stage white sturgeon which he opined was not reflected in the testing.

[428] The Panel is not persuaded by Mr. Sinclair's evidence and gives more weight to the expert opinion of Mr. Stecko and the persuasive evidence of the EEM Studies. The Panel accepts Mr. Stecko's opinion, which relies on and interprets the findings of EEM Studies conducted on the impacts of Mine effluent discharge over 10 years, and which utilized multiple lines of scientific testing and evaluation. During that time, the EEM Studies have not found that any significant harm to aquatic life has occurred within the Fraser River as a result of the Mine effluent. This evidence supports the conclusion that the Fraser River is able to diffuse and dilute the Mine effluent, thereby mitigating its effects.

[429] Having considered the features of the Fraser River at the discharge point, the discharge plume characteristics, the EEM studies to date, and the available expert opinions, the Panel concludes that the receiving environment in the Fraser River has not been negatively impacted as a result of the discharge of the Mine effluent. Mr. Stecko addressed this in his expert report, and the panel gives his opinion significant weight. Further, his opinion on the Fraser River flow conditions and dilution of effluent in the IDZ was supported by evidence gathered from four phases of the EEM Studies. The EEM Studies did not identify any effluent-related differences in sediment quality, benthic invertebrate health, or fish health downstream of the discharge point compared to upstream references.

[430] As discussed above, the Panel has concluded the increased rate of Mine effluent discharge does result in some limited impacts to water quality downstream of the discharge point. However, the COPCs identified, including sulphate, nitrite, nitrate, and molybdenum, are all well below the guidelines for the protection of aquatic life.

[431] The Panel considered and weighed the additional Phase 4 EEM Report data, some of which has been made available since the issuance of the 2019 Amendment, in making its own decision on if the 2019 Amendment is protective of the environment. The Panel finds that, based on the evidence presented and evaluated on a balance of probabilities, there have been no adverse effects on the health of the Fraser River or the aquatic life within the river resultant from the discharge of the Mine effluent, including the increased volume of effluent authorized by the 2019 Amendment.

[432] As the EEM Study data encompasses the evaluation of the total effluent discharge, and not only the additional discharge authorized by the 2019 Amendment, both the volume of effluent authorized by the 2019 Amendment and the existing contaminant loading in the receiving environment are assessed, including contaminants present in the baseline level of Mine effluent authorized by previous versions of the Permit. As the total effluent discharge has had no observable significant impact on the Fraser River, the portion of the effluent discharge authorized under the Permit Amendment, a 50% increase over the previously authorized amount, must also be considered to have no observable significant impact on the receiving environment.

[433] The Panel considers that, based on the available evidence as presented by all parties, there is sufficient information to determine whether the increase of dissolved copper discharged by the Mine effluent has a detrimental impact on the receiving environment of the Fraser River. The Panel finds that the use of the current BCWQG, which is inclusive of the BLM, is protective of white sturgeon at all phases of its development. The updated methodology, in conjunction with the reported findings from the other evidentiary sources discussed above, has demonstrated that there is sufficient evidence to delineate the risks associated with dissolved copper, without obtaining additional evidence.

*What is the potential impact to the environment from either allowing or refusing the 2019 Amendment?*

[434] TNG has submitted that the Director had insufficient information before him to issue the 2019 Amendment. TNG argued that effluent from the Mine negatively impacts the Fraser River, particularly the white sturgeon within, as they are more sensitive to dissolved copper and other COPCs.

[435] Based on the evidence described above, the Panel finds that the 2019 Amendment was protective of the environment, inclusive of white sturgeon within the middle Fraser River. The Panel finds that the concentrations of sulphate, nitrate, nitrite, and total molybdenum, while elevated related to upstream concentrations, were below the BCWQG. In reaching this conclusion, the Panel relies on the EEM Reports, on studies conducted before and after the effective date of the 2019 Amendment, and on Mr. Stecko's expert opinion.

[436] The Panel finds that the water quality within the Fraser River, and the concentration of dissolved copper, is not materially impacted by the discharge of the Mine effluent. Current EEM requirements are sufficient to detect changes in the aquatic environment that could endanger white sturgeon or other aquatic life, and the 2019 Amendment contains conditions which will cease the increased volume of effluent authorized to be released by the 2019 Amendment should concentrations of dissolved copper exceed threshold values. The Panel considers these conditions and safeguards found within the 2019 Amendment to be appropriate in the circumstances.

[437] While perfect information is never available, the Director, in issuing the 2019 Amendment, considered the evidence before him as to the current and prospective impacts of the effluent on the Fraser River. This data included several years of reports from the EEM Studies as well as data from scientific studies conducted by Ms. Keogh. Based on this evidence the Director considered that the 50% increase in effluent discharge would be protective of the environment, given that it mitigates against the controlled release of the solution contained in the TSF from overtopping or dam failure. The Panel agrees with the Director.

[438] The information and evidence presented in this appeal which was not before the Director confirms this decision. The data from additional years of EEM Studies and Mr. Stecko's opinion confirm that there are no significant impacts on the environment generally, or on white sturgeon specifically, as a result of the Mine effluent.

[439] Further, there was no conclusive evidence presented that white sturgeon live within, or that early life stage larvae travel through, the IDZ. Rather, the evidence before the Panel as to the movement of the white sturgeon was simply that they move within the river channel and may or may not pass through the IDZ.

[440] There was no compelling evidence brought before the Panel to indicate the additional dissolved copper emitted into the Fraser River resulting from the 2019 Amendment has caused, or will likely cause, harm to white sturgeon. Rather, the evidence demonstrates that the concentration of dissolved copper within the Fraser River is below the BCWQG marker to suggest any effects on white sturgeon. The Panel considers the BCWQG, as amended in 2019 to reflect BLM methodology, to be an appropriate standard to assess this risk.

[441] The EEM Studies considered the entirety of the discharged mine effluent, as there was no practicable way in which the copper concentration attributable only to the 2019 Amendment could meaningfully be analysed independently of the baseline effluent discharge of a 190 L/s. In this way, the Panel has considered the cumulative impact of the effluent on the receiving environment in assessing the impact of the 2019 Amendment. The Panel placed significant emphasis on the evidence pertaining to the water quality, including the concentration of dissolved copper, both above and below the IDZ. The evidence demonstrated that while there were elevated concentrations of dissolved copper present in the water upstream of the IDZ, the concentrations of dissolved copper downstream of the IDZ remained below both the current BCWQG and the copper concentration levels upstream of the discharge point.

[442] The Panel has also placed significant weight on the evidence that the benthic invertebrates studied did not display actual harm resultant from the effluent discharge, despite this discharge occurring over many years. Mr. Stecko's expert evidence demonstrated that benthic invertebrate species are the most exposed to effluent and therefore the most likely to show harm. The Panel considers this to further support its conclusion that there have been no significant impacts to bottom-feeding white sturgeon

as a result of the increased effluent discharge authorized by the 2019 Amendment. The Panel accepts Mr. Stecko's opinion, for the reasons provided above, that the effluent discharge has had no observable impact on the Fraser River or the aquatic environment.

[443] The Panel accepts the evidence of some elevation of COPCs concentrations downstream of the discharge outflow relative to upstream. However, the Panel found that these COPCs concentrations are below the current BCWQG levels. These findings support, in part, the Panel's conclusion that the Fraser River effectively dilutes and assimilates the Mine effluent.

[444] The Director's decision, and now the decision of the Panel, cannot occur in a vacuum, without context. The context surrounding the 2019 Amendment, as discussed previously, is that there was an increased accumulation of water within the TSF which was not balanced by the then-current rate of effluent discharge. In response to the recommendations arising from the breach of a storage facility dam and consequent spill of tailings supernatant and rainwater into a creek at the Mount Polley Mine, Gibraltar applied for a temporary increase in the rate of effluent discharge. The uncontested evidence was that the dams within the TSF were not in imminent danger of failing.

[445] However, the Panel finds that though the risk of failure was not imminent, it was foreseeable. If action was not taken to alleviate the conditions within the TSF, the increasing accumulation of water could result in a future dam failure if not properly managed. The Panel has concluded that the temporary increase in the allowed effluent discharge from the Mine was an appropriate way to manage the situation, at least in the short-term.

[446] The 2019 Amendment must, then, be considered in this light. The risk to the receiving environment of the increase in effluent discharge must be weighed against the future risk of a TSF dam failure. The evidence in this appeal has demonstrated that the increase in effluent discharge resultant from the 2019 Amendment is protective of the environment. As this increased discharge does not negatively impact the environment, and addresses the environmental risk associated with increasing water impoundment at the Mine, the balance of weighed factors clearly supports the finding that the 2019 Amendment was appropriate in the context in which it was made. The Panel concludes that there is insufficient evidence to support a conclusion that the Director should have further investigated an alternative method to address the increasing demands on the TSF, including by requiring the construction of effluent treatment facilities at the Mine.

[447] In sum, the Panel finds that the 50% increase in the discharged effluent authorized by the 2019 Amendment is protective of the environment and aquatic life, including white sturgeon. The Panel relies on the findings generated by the EEM studies in the receiving environment and by the expert evidence described above to conclude the 2019 Amendment was protective of aquatic life in the Fraser River.

## DECISION

[448] For the reasons set out above, the Panel finds that the discharge of Mine effluent authorized by the 2019 Amendment was protective of the environment.

[449] As stated within these reasons, the Panel makes a non-binding recommendation that any subsequent applications to amend the Permit in a manner similar to the 2019 Amendment include the evaluation of data gathered through chronic toxicity and sublethal testing of aquatic life that provide information on potential harm to, and which can be correlated to impacts on, white sturgeon.

[450] In making this decision, the Panel considered all evidence and submissions provided to the Board, whether or not they were specifically referenced.

[451] For the reasons provided above, we dismiss the Appellant's appeal.

"Robert Wickett, K.C"

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Robert Wickett, K.C., Panel Chair  
Environmental Appeal Board

"David Bird"

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David Bird, Panel Member  
Environmental Appeal Board

"James Mattison"

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James Mattison, Panel Member  
Environmental Appeal Board

## APPENDIX: GLOSSARY OF TERMS

	DEFINED TERM	TRADITIONAL LANGUAGE
Environmental Appeal Board	The Board	
Gibraltar Mines Ltd. (3 <sup>rd</sup> Party)	Gibraltar	
Gibraltar's mine	The Mine	
Tailing Storage Facility	TSF	
<i>Environmental Management Act</i> , S.B.C. 2003, c. 53	<i>Act</i>	
<i>Metal and Diamond Mine Effluent Regulations</i>	<i>MDMER</i>	
Permit PE-00416	Permit (for amendments add relevant year i.e., 2009, 2015, etc.)	
Initial Dilution Zone	IDZ	
Soda Creek Indian Band	Xats'ull First Nation	
Ministry of Environment and Climate Change Strategy	The Ministry	
Ministry of Energy, Mines and Petroleum Resources	EMPR	
Litres per second	L/s	
Tsilhqot'in National Government	TNG	
Director under the <i>EMA</i>	Director	
Alexandria Indian Band		?Esdilagh First Nation
Toosey Indian Band		
Xats'ull First Nation v. Director, Environmental Management Act and Gibraltar Mines Ltd., Decision No. 2005-EMA-006(a), May 9, 2008	Xats'ull Decision	
"The People of the River" "The River People"		T'silhqot'in
Chief		Nits'il'in
Little Chief (or Councillor)		Nits'il'in Yaz



Fraser River	Fraser River	?Elhdaqox, Sturgeon River
Land / Lands		Nen
Water		Tu
T̓ilhqot'in law		Dechen Ts'edilhtan
Sturgeon River Law		?Elhdaqox Dechen Ts'edilhtan
Applications information requirements	AIR	
Information Requirements Table	IRT	
Doug Hill, Regional Director of Mining Operations	The Director	
Environmental Effects Monitoring Studies by Minnow Environmental Inc.	EEM Studies, comprised of 4 Phases from the years 2010-2020.	
Environmental Effects Interpretative Reports by phase	Phase 1 EEM Report Phase 2 EEM Report Phase 3 EEM Report Phase 4 EEM Report	
Minnow Environmental Inc. hired by Gibraltar to conduct EEM Studies	Minnow	
T̓ilhqot'in Stewardship Agreement	Stewardship Agreement	
Modified level 4 Engagement Terms of Reference	TOR	
Technical Advisory Committee, created by the Modified Level 4 Engagement	TAC	
Government-to-Government meetings between the Crown and TNG	G2G	