



**Denison Mines Corp.
Wheeler River Uranium Project
Draft Environmental Impact Statement**

Technical Review

February 28, 2023

**Submitted by:
Birch Narrows Dene Nation**



Contents

- 1.0 Introduction..... 2**
 - 1.1 Acknowledgement 2
 - 1.2 Birch Narrows Dene Nation 2
- 2.0 Denison Mines Wheeler River Project..... 3**
- 3.0 Community Engagement on the Draft EIS 11**
- 4.0 Technical Review of the Draft EIS 12**
 - 4.1 Indigenous Knowledge and Land Use and Cultural Heritage..... 12
 - 4.2 Quality of Life & Economics 19
 - 4.3 Water Resources 25
 - 4.4 Aquatic Wildlife..... 48
 - 4.5 Wildlife and Terrestrial Ecology 59
 - 4.6 Atmospheric Environment 67
 - 4.7 Mine Infrastructure and Engineering..... 77
- 5.0 Conclusion 82**
- 6.0 References 82**

1.0 Introduction

Denison Mines Ltd (Denison; the Proponent) has proposed a new uranium mining and processing operation called the Wheeler River Project (the Project). The Project is located next to Saskatchewan Highway 914 between the McArthur River and Key Lake operations, about 230 km as the crow flies east northeast of Turnor Lake (Figure 1). The Project is located within the Ancestral Lands of Birch Narrows Dene Nation (BNDN).

The Project is currently undergoing a joint Federal and Provincial environmental assessment under the *Canadian Environmental Assessment Act 2012* (CEAA 2012) legislation. Through the CEAA 2012 process, Denison must prepare an Environmental Impact Statement (EIS) which documents the expected environmental, social and cultural impacts of the Project. BNDN has been provided funding by the Canadian Nuclear Safety Commission (CNSC) to review the draft EIS to assess the potential impacts of the Project on BNDN Treaty and Aboriginal rights and interests.

In this report, BNDN has prepared comments on the draft EIS. Each comment includes recommendations to the CNSC and Denison on how to avoid, mitigate, accommodate or compensate for potential adverse impacts to BNDN Treaty and Aboriginal rights and interests.

1.1 Acknowledgement

Birch Narrows Dene Nation would like to acknowledge that the Wheeler River Project is located in an area of extensive traditional land use by English River First Nation (ERFN) and other Indigenous groups. While the Wheeler River Project is located within BNDN's Ancestral and Treaty Lands and BNDN has historic and current land use and cultural sites near the Project site, BNDN recognizes the direct impacts of the Project upon ERFN. As such, BNDN would like to work collaboratively with Denison to develop an agreement that contains environmental protection and accommodation measures commensurate with the magnitude of impacts on our Treaty and Aboriginal rights to mitigate any potential impacts related to the Wheeler River Project.

1.2 Birch Narrows Dene Nation

Birch Narrows Dene Nation is a Denesųliné First Nation band within the meaning of the Indian Act (Canada) and an Aboriginal people within the meaning of Section 35(1) of the Constitution Act, 1982 (Canada). BNDN members have occupied the lands of Dene Nene or "Land of the People" in northern Saskatchewan since time immemorial in accordance with our own laws and system of government. Today, BNDN is a diverse and vibrant community of Dene, Cree and Métis citizens with 812 registered members. BNDN has 3 reserves, one at Turnor Lake (IR 193B) adjoins the village of Turnor Lake Saskatchewan and is the main reserve for BNDN. Churchill Lake (IR 193A) is at the junction of Churchill Lake and Frobisher Lake, and Turnor Lake (IR 194) is on Peter Pond Lake east of Dillon, SK. BNDN's vision is a healthy, self-reliant, educated, and united community. BNDN's mission is to provide good governance and create opportunities for the wellbeing of all members.

As a signatory of Treaty 10, BNDN asserts that Treaty 10 was not an agreement to surrender lands and resources. As such BNDN laws, customs and jurisdiction still apply to our Ancestral Lands. There are cultural sites and artifacts left throughout the region that are significant for our members. Our community members continue to hunt, fish, gather and trap on the lands throughout our Ancestral Lands. Any direct or cumulative impacts from development could negatively affect our ability to exercise Aboriginal and Treaty rights, including the livelihoods of those who live off the land. The lands, waters and resources throughout our Ancestral Lands are essential to the well-being and survival of our First Nation.

The BNDN Traditional Use Study Specific to Nexgen's Proposed Rook 1 Project (Firelight Research Inc., 2019) reports the following BNDN historical context:

Chief Raphael Redshilldkze signed Treaty 10 on behalf of the Clear Lake Band on August 28, 1906. Treaty 10 was based on other numbered treaties, and included the following standard hunting, trapping, and fishing rights clause:

And His Majesty the King hereby agrees with the said Indians that they shall have the right to pursue their usual vocations of hunting, trapping and fishing throughout the territory surrendered as heretofore described, subject to such regulations as may from time to time be made by the government of the country acting under the authority of His Majesty and saving and excepting such tracts as may be required or as may be taken up from time to time for settlement, mining, lumbering, trading or other purposes. (Indian Claims Commission 1995, p.56)

The Clear Lake Band later came to be known as the Peter Pond Band. This Band was separated in 1972 into the Buffalo River Band and Turnor Lake Band; today, they are known as the Buffalo River Dene Nation and the Birch Narrows Dene Nation (Indian Claims Commission 1995).

BNDN members continue to exercise our Treaty and Aboriginal rights including hunting, trapping, fishing, plant gathering and cultural/spiritual practices in the immediate area of the Wheeler River Project and throughout our Ancestral Lands.

BNDN has constitutionally protected Treaty rights, inherent Aboriginal rights, Aboriginal title and interests in and to Dene Nene. BNDN must be consulted and accommodated by the Crown with respect to potential impacts on our rights.

2.0 Denison Mines Wheeler River Project

Denison Mines Ltd has proposed to construct, operate and decommission the Wheeler River uranium Project. Denison is the 95% owner of the Wheeler River Project and is advancing the Project through concurrent Federal and Provincial Environmental Assessments under the Canadian Environmental Assessment Act 2012 (CEAA 2012). The Canadian Nuclear Safety Commission (CNSC) is the Federal Agency responsible for the Federal approval of the environmental assessment of the Project. The

Saskatchewan Ministry of Environment is the Provincial Agency responsible for the Provincial environmental assessment approval.

Denison expects to produce approximately 70.2 million pounds of U_3O_8 over a 20 year mine life. The Wheeler River Project has 2 uranium deposits, the Phoenix and the Gryphon deposits. The Phoenix deposit is very high grade (19% U_3O_8) and contains about 70.2 million lbs of U_3O_8 . The Gryphon deposit is lower grade (but still high grade by global standards) at 1.8% U_3O_8 and contains 49.9 million pounds of U_3O_8 . While the Gryphon deposit is described on Denison's website, the Phoenix deposit is the only deposit considered in the environmental assessment. The Gryphon deposit is not suitable for in situ recovery mining (the mining method proposed for the Phoenix deposit) and would require conventional long hole mining similar to other mines in the Athabasca Basin. Denison has not stated publicly whether they intend to proceed with developing the Gryphon deposit.

The Project is located in the eastern Athabasca Basin next to Saskatchewan Highway 914 between the McArthur River and Key Lake operations, about 230 km as the crow flies east northeast of Turnor Lake (Figure 1). The Wheeler River Project is unique in that it will be the first uranium mining project in Canada to employ the in situ recovery (ISR) method of extracting uranium from the ore body. ISR mining is very different from conventional mining operations including other uranium mining operations in the Athabasca Basin. Instead of an open pit or underground mining operation where ore is blasted and hauled to the processing facility on site, the ISR method injects an acidic liquid (called a lixiviant) into the ore body through groundwater wells. The lixiviant dissolves the uranium in the ore body, and a different groundwater well pumps the lixiviant back up to the surface once it is impregnated with dissolved uranium (Figure 2). When the lixiviant is pumped back up to surface with the dissolved uranium in it, it is called a uranium bearing solution (UBS). The UBS is then sent to the processing facility on site where the uranium is removed from the UBS and converted into yellowcake (Figure 4). Yellowcake is a solid uranium concentrate that is the final product from the mine that will be sent for further processing off site.

Denison selected the ISR method of mining after considering 32 alternate mining methods in their preliminary economic assessment (PEA) the PEA found that the orebodies at the Wheeler River Project are well-suited for ISR mining because the ore body is very porous (the lixiviant can flow through the ore body very easily but the rock right below the ore body is not porous (water moves through it very slowly. To ensure that the lixiviant used to dissolve the uranium does not contaminate the surrounding groundwater, Denison proposes to construct a freeze wall around the mining area. The freeze wall will be built by drilling holes around the ore body that will be cased and then have a freeze brine pumped through the drill hole. The freeze brine will freeze the surrounding bedrock so that the ISR mining does not contaminate the surrounding groundwater. Freeze walls have been used extensively at other mines in Saskatchewan including at McArthur River and Cigar Lake to prevent groundwater from entering the mines. Denison is planning to install 300 freeze wells around the ore bodies to create a continuous freeze wall all the way around the deposits.

Once the UBS is brought to surface, radon will be purged from the UBS prior to storage in the UBS holding area. The UBS will then go through a multi-step precipitation circuit which will use chemicals to separate out the yellowcake. The leftover liquid from the processing circuit will be treated in a water treatment plant before being discharged into Whitefish Lake or recycled into the ore deposit as lixiviant. Solid wastes will be stored in a precipitate storage area, with the intention of processing the precipitates at the McArthur or Key Lake mills towards the end of mine life to remove the remaining uranium in the precipitates.

Because the Project will be mined using the ISR method, decommissioning and closure of the Wheeler River Project will be different from other mines. In particular, Denison plans to flush out the ore zone to remove any residual contamination from the ISR before they decommission the freeze wall.



Figure 1: Location of Wheeler River Project (Red Star) (Wheeler River EIS Executive Summary page 34)

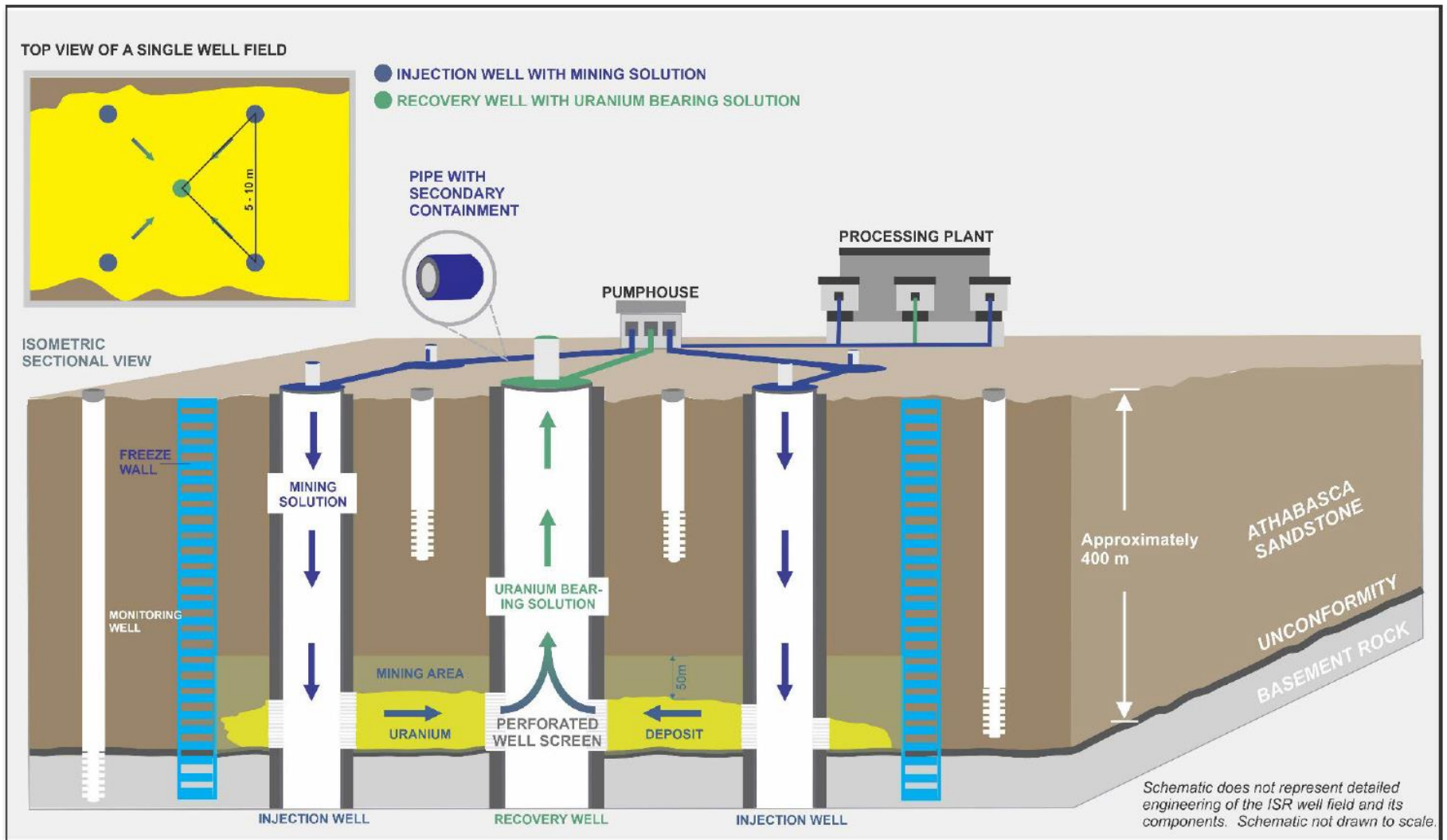
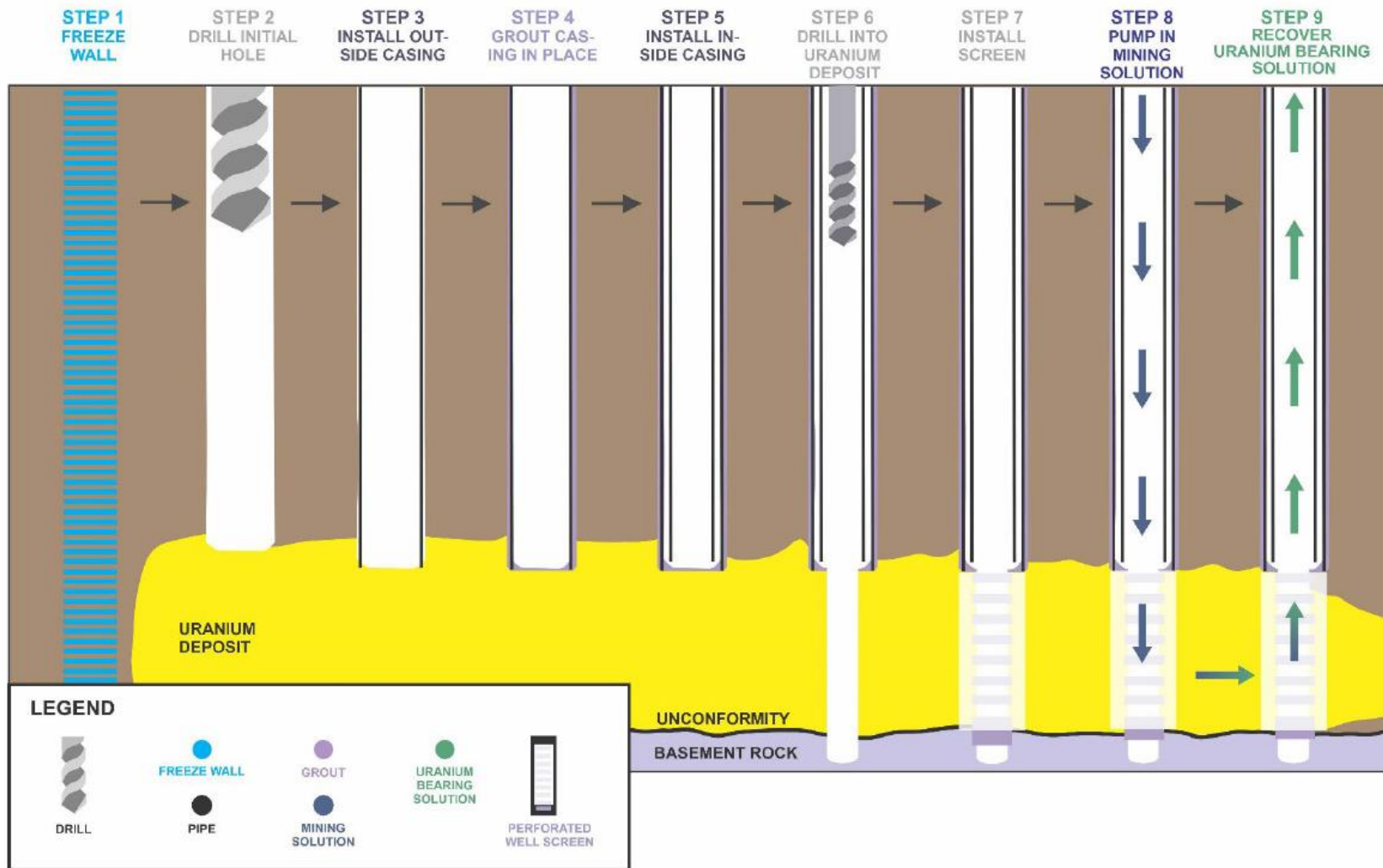


Figure 2: Overview of the In Situ Recovery Process (Wheeler River EIS Executive Summary page 14)



Schematic represents injection and recovery well installation concept at the prefeasibility stage. Details of well design, installation, and dimensions may be refined. Schematic not drawn to scale.

Figure 3: Proposed installation sequence (Denison, 2022)

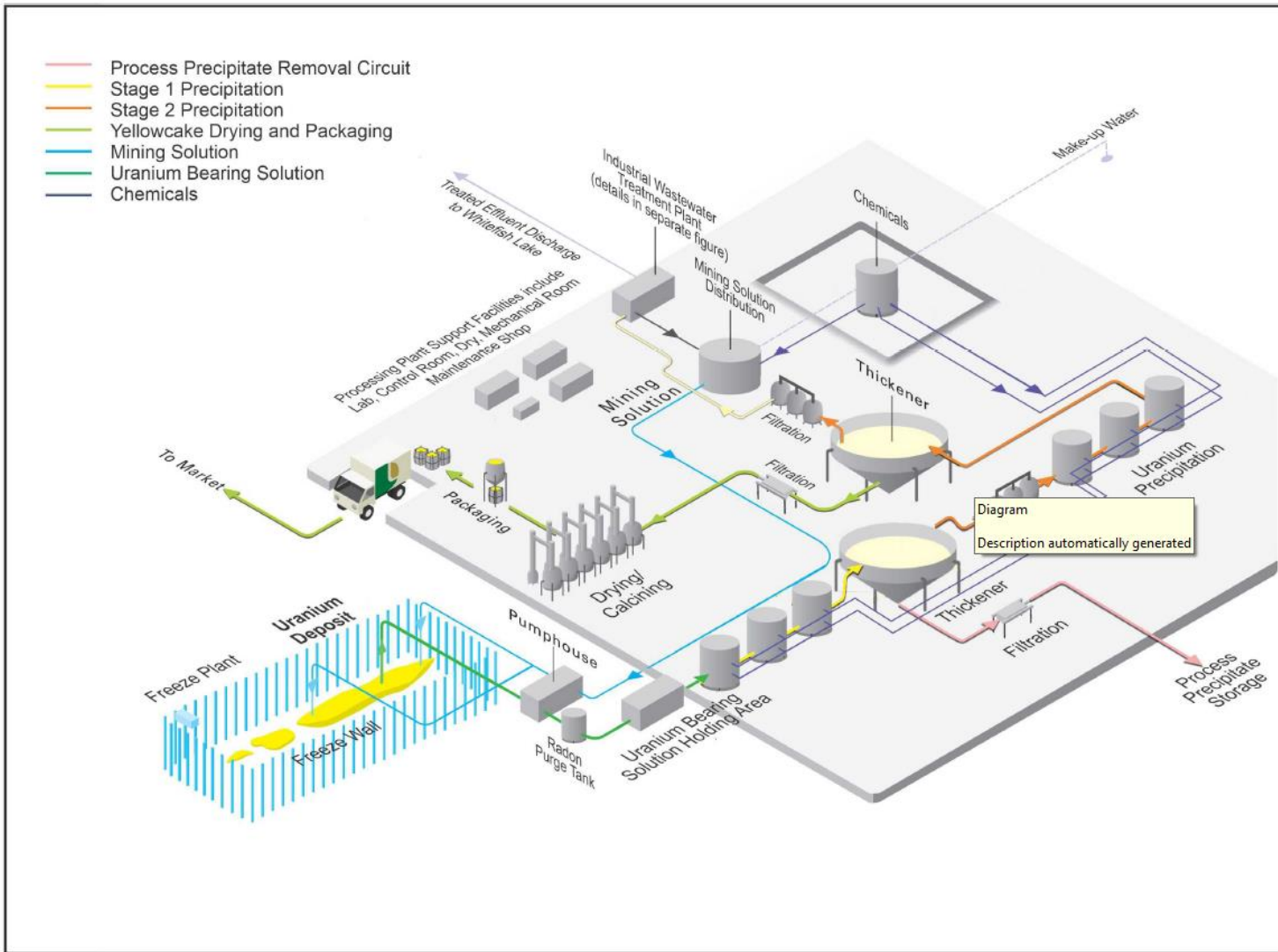


Figure 4: Overview of the Processing facilities at Wheeler River (Wheeler River EIS Executive Summary page 17)

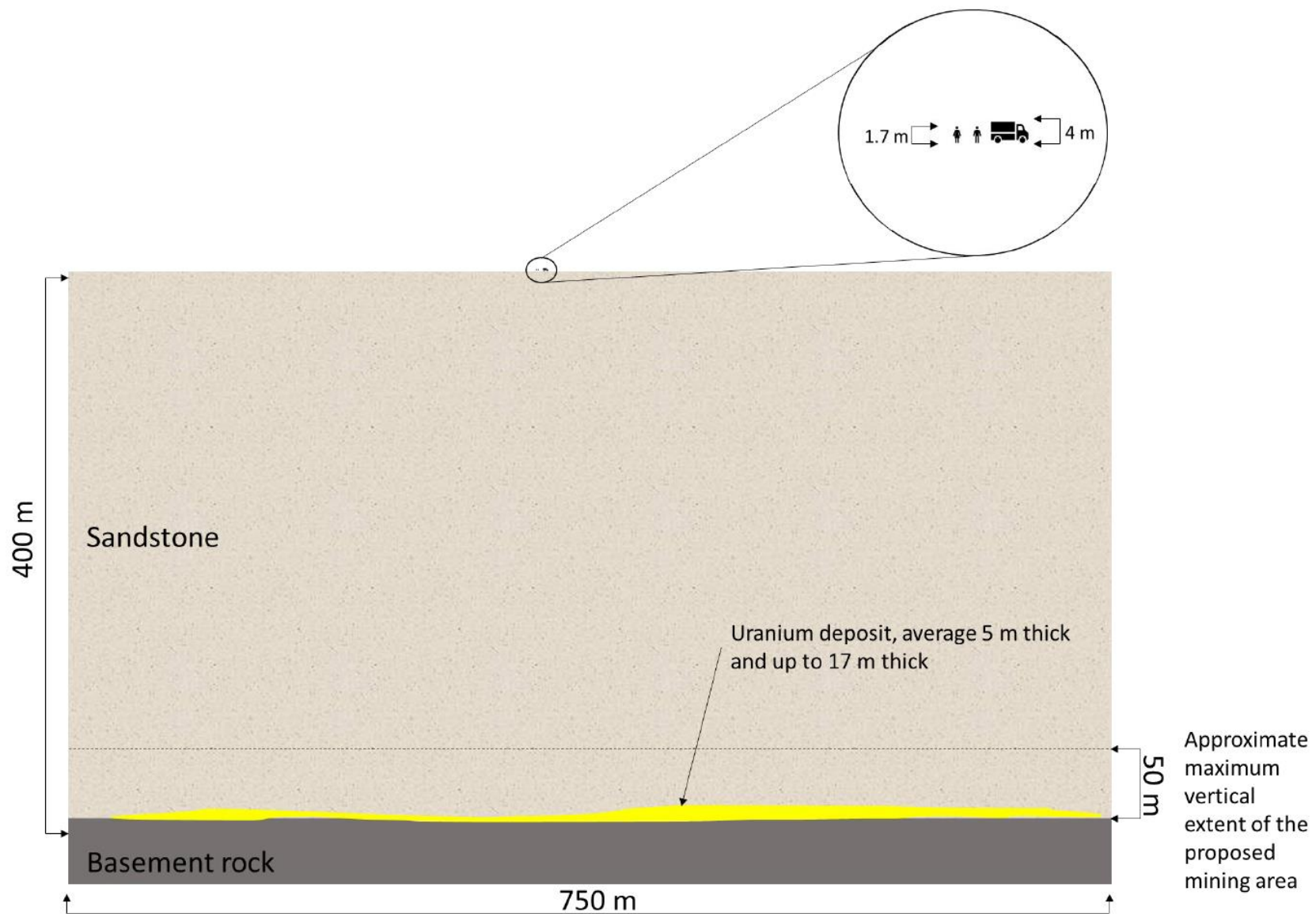


Figure 5: Figure showing scale of ore body and overlying sandstone in comparison to a person on surface (Denison, 2022)

3.0 Community Engagement on the Draft EIS

BNDN council members and lands department staff met with Denison on February 14, 2023 in Saskatoon for an introduction to the Wheeler River Project. As of the time of submission of this review, BNDN has not yet held a community meeting on the Wheeler River project. BNDN anticipates holding a community meeting on the Project in March or April 2023.

4.0 Technical Review of the Draft EIS

BNDN has undertaken a technical review of the license revocation application for the Project, including the baseline documents and technical appendices. This technical review is divided by discipline in Sections 4.1 through 4.7 and is focused on information gaps, deficiencies in data, underrepresentation of potential effects, inadequate monitoring, and lack of involvement of BNDN. All of these priorities for BNDN comments are discussed through the lens of potential impacts of the Project on BNDN Treaty and Aboriginal rights, interests and claims.

4.1 Indigenous Knowledge and Land Use and Cultural Heritage

Indigenous Knowledge and Land Use

Denison has included the consideration of Indigenous Knowledge and Land Use in its development of the EIS. Communities that have shared Indigenous Knowledge reports include English River First Nation, Kineepik Metis Local #9 and the Ya'thi Néné Lands and Resources Office for the Athabasca Denesųłiné First Nations.

In addition, Denison is in the process of supporting several activities to aid in community-led collection of additional Indigenous Knowledge and Land Use, which Denison intends to integrate into its EIS process.

Denison's assessment of Indigenous Knowledge and Land Use included the consideration of "Indigenous Land and Resource Use" (ILRU), "Other Land and Resource Use" (OLRU), and "Cultural Expression." ILRU considered traditional practices of land use including gathering materials for non-commercial purposes by Indigenous peoples, while OLRU considered recreational and commercial use of resources by both Indigenous and non-Indigenous peoples. Cultural expression considered activities Indigenous peoples take part in that support cultural continuity – specifically knowledge transmission and traditional diet.

For ILRU, the key indicators of resource availability, land and waters available for traditional practices and perceived suitability of land and resources for aesthetics were not carried forward to residual effects assessment as Denison perceives they can be managed through mitigation measures. With mitigation measures, Denison notes that residual effects of the Project and cumulative impacts may result in increased competition in the area, which could impact community perceptions of using the area. Denison proposes monitoring activities related to the biophysical environment to monitor these activities.

For OLRU, the Project is similarly anticipated to have an impact on the perceived suitability of the lands and resources close to the Project Area. Denison proposes to deal with residual issues through the development of management plans, emergency response programs, and by minimizing the amount of land disturbed. Denison also proposes to enter into a relationship with any commercial land users impacted by the Project. While the Project may result in increased competition for commercial

resources, Denison notes that resource use activities are regulated by the Province, which may mitigate this issue. Monitoring for biophysical elements is proposed for OLRU.

Finally, for cultural expression, Denison notes that the Project may change the location of cultural practices that support knowledge transmission. Denison notes that the anticipated lack of impact to cultural camps, a small Project footprint and likely persistence of ILRU activities may minimize this impact, however. Denison also intends to have a worker rotation system, which will ensure Project employees can participate in traditional land use activities. Impacts to traditional food are anticipated to be low in magnitude.

The current footprint of the Project is located within the treaty and ancestral lands of BNDN. The proposed location retains both current and historical significance to the community; however, BNDN Indigenous Knowledge and Land Use has not yet been included or considered in Denison's EIS. A fulsome consideration of BNDN's Indigenous Knowledge and Land Use is required to assess the impacts the Project may have on BNDN's rights and interests and contribute to a baseline of ecological knowledge and cultural use in the area. The negotiation of the Study should be part of a broader process agreement. The information BNDN provides should be considered within the EIS process and may result in a different effects assessment.

Cultural Heritage

The Project is situated within a region the Government of Saskatchewan's Heritage and Conservation Branch classified as being sensitive for heritage resources. Denison conducted two Heritage Resource Assessments during baseline studies and identified two archaeological sites within the Project Area. Both sites contained a single artifact. The Heritage and Conservation Branch assessed the sites as retaining low interpretive value and advised that the Project continue as planned.

Notwithstanding, Denison has also developed a Heritage Resource Management Plan to account for artifacts that may be unintentionally discovered during development activities. The Plan includes the requirement for any archaeological site to be assessed by a qualified archaeologist, local discussions with Indigenous leadership, and working with the Heritage Conservation Branch to identify appropriate mitigation measures.

Given the above findings and measures to address unidentified sites, the effects assessment determined any residual effects to heritage resources to be not significant.

The cultural heritage work does not currently include any Indigenous Knowledge, Land Use and Occupancy information from BNDN; this information should be considered to strengthen the assessment given the location of the Project in the traditional and treaty lands of BNDN. Some of the methodology used by the archaeologists to conduct the assessment may not have been the most rigorous; however, consideration of any potential additional sites by BNDN may alleviate this. The Heritage Resource Management Plan is likewise a positive addition to account for any unidentified sites;

however, this Plan would be strengthened with more robust language around commitments to the involvement of Indigenous communities.

Key Issues

- BNDN Indigenous Knowledge and Land Use has not yet been included or considered in Denison’s EIS. A fulsome consideration of BNDN’s Indigenous Knowledge and Land Use is required to assess the impacts the Project may have on BNDN’s rights and interests and contribute to a baseline of ecological knowledge and cultural use in the area.
- The cultural heritage work does not currently include any Indigenous Knowledge, Land Use and Occupancy information from BNDN; this information should be considered to strengthen the assessment given the location of the Project in the traditional and treaty lands of BNDN.

Table 1. Comments and recommendations for the Wheeler River EIS related to cultural heritage, Indigenous knowledge and land use

#	Document Reference	Comment	Request/Recommendation
1.	Wheeler River Project Draft EIS – 5.7; 5.8.1	The Project is located within the treaty and ancestral lands of BNDN and maintains both current and historical significance to the community. BNDN Indigenous Knowledge, Land Use and Occupancy are not currently considered within the EIS. Should the Project proceed without the consideration of BNDN’s Knowledge, Land Use and Occupancy, it may cause irreparable loss of culturally significant sites and access to resources that the community depends upon. It may also contribute to a loss in cultural transmission.	<p>a) Denison should provide BNDN with funds to conduct a community-led Indigenous Knowledge, Land Use and Occupancy Study for consideration within the EIS process. At minimum, the Study should consider BNDN’s Indigenous Ecological Knowledge, commercial and non-commercial harvesting practices, and cultural occupation of the region (including historical sites). The Study should also consider cultural transmission, information about the history of the area and BNDN community members’ perspectives on the Project.</p> <p>b) The community-led Indigenous Knowledge, Land Use and Occupancy Study should be a component of a broader process agreement between BNDN and Denison that serves as a pathway for obtaining BNDN’s consent for the Project.</p>

			<p>c) Denison should work with BNDN to consider the appropriate integration of the results into all aspects of the EIS and management/monitoring plans, as well as any additional appropriate mitigation and/or accommodation measures.</p>
2.	<p>Heritage Baseline Study 2017 (Golder); Heritage Resource Impact Assessment 2020 (Golder); Heritage Resources Management Plan 2022 (Canada North)</p>	<p>Archaeology as a profession has been dominated in North America by non-Indigenous researchers, despite most sites being Indigenous in origin. It is positive that Golder Associates made efforts to engage and involve Indigenous communities (by including an ERFN representative in fieldwork and by considering ERFN and Pinehouse Kineepik Metis land use maps) in their 2017 heritage baseline study and 2020 heritage resource impact assessment. Notwithstanding, the proposed Project area is within BNDN’s treaty and ancestral lands and there may be heritage sites that the community is aware of. BNDN was not involved in either of these studies and BNDN may have Indigenous Knowledge of important heritage sites within the Study Area that should be considered.</p>	<p>a) Denison should provide BNDN with funds to conduct a community-led Indigenous Knowledge, Land Use and Occupancy Study for consideration within the EIS process.</p> <p>b) The Heritage Resources Management Plan should be updated following the consideration of Indigenous Knowledge, Land Use and Occupancy provided by BNDN. This may result in the requirement for further assessment and/or mitigation measures, which should be developed in consultation with BNDN.</p> <p>c) Denison should facilitate BNDN involvement in any additional archaeological fieldwork that takes place, including providing BNDN with capacity funding for members who participate. Terms to facilitate BNDN involvement in future archaeological work should be a component of a broader process agreement between BNDN and Denison.</p>
3.	<p>Heritage Baseline Study 2017 (Golder) – methods; Heritage Resource Impact Assessment 2020 (Golder) – methods</p>	<p>The methodology within both the 2017 and 2020 heritage studies included ‘judgmental’ shovel probing and initial troweling through soil to identify cultural heritage material. While the discretion of a professional archaeologist needs to be taken into account, relying subjectively on which areas to shovel test and not employing</p>	<p>a. BNDN recommends that Denison undertake further archaeological investigations based on the results of the BNDN TKLU study prior to construction of the project.</p> <p>b. Future archaeological assessment programs should be designed</p>

		<p>a systematic approach is not reproduceable and may result in sites being missed; this is of particular concern given that large sections of the areas retaining potential were not subject to shovel testing. Further, troweling through soil rather than subjecting all excavated soil to sifting through 6mm mesh means that artifacts/ecofacts may easily be overlooked. Given that the north of Saskatchewan has not been thoroughly investigated archaeologically, and given that 76 sites and nine find areas were recorded just 35 km south of the Project area as part of Dr. David Meyer’s multi-year archaeological investigation, the results of these assessments do not seem rigorous.</p>	<p>collaboratively with BNDN and other Impacted Indigenous Nations.</p>
4.	<p>Heritage Baseline Study 2017 (Golder) – methods; Heritage Resource Impact Assessment 2020 (Golder) – methods</p>	<p>The presence of strandlines are noted as being an indicator of archaeological potential; however, it is unclear within the reports whether any strandlines are present within the Study Area. Most of the investigations and shovel probes that took place were around existing waterbodies.</p>	<p>Please indicate whether strandlines are present anywhere in the Study Area.</p>
5.	<p>Heritage Baseline Study 2017 (Golder) – methods; Heritage Resource Impact Assessment 2020 (Golder) – methods</p>	<p>It is unclear whether the locations identified by other Indigenous communities in their Land Use maps were investigated archaeologically and subject where appropriate to shovel testing. Knowing this will give confidence to BNDN that areas they may identify as retaining potential may undergo further assessment if necessary.</p>	<p>Please indicate whether the areas identified by other Indigenous communities in their Land Use maps were investigated archaeologically.</p>

6.	Heritage Resources Management Plan 2022 (Canada North) – 4.0	The archaeological context provided is very Western/Scientific. Denison must also include historical/pre-historical accounts of Indigenous communities to provide an appropriate and comprehensive assessment of the archaeological context of the region.	Denison must include a write-up of Indigenous historical and prehistorical accounts in consultation with relevant Indigenous communities. This write up must include historic context provided through oral history interviews as part of BNDN’s community-led Indigenous Knowledge, Land Use and Occupancy Study for the Project.
7.	Heritage Resources Management Plan 2022 (Canada North) – 5.1 1e & 1f	BNDN notes that there has been limited engagement of our Nation as part of the archaeological baseline studies undertaken at the site. The Wheeler River Project is within our Treaty and Ancestral Lands where our members have deep ancestral ties and continue to exercise our rights to this day. As stewards of the land since time immemorial and holders of both Treaty and Aboriginal rights in the Project area, Denison must engage with us as partners on their activities on our lands. This includes their planning and decision-making related to archaeological materials to which our members have ancestral and spiritual ties.	Indigenous communities should be consulted and engaged in decision making rather than merely informed if the archaeological material is expected to be Indigenous in origin.
8.	Heritage Resources Management Plan 2022 (Canada North) – 5.1 7	Given the Ancestral and Treaty ties our members have to the project area, our members have valuable knowledge and context to inform the Heritage Resource Impact Assessment (HRIA) for the Project that must be considered prior to being reviewed or approved by any regulatory body.	The draft HRIA should be reviewed by BNDN and other impacted Indigenous Nations prior to being submitted for regulatory approval.
9.	Heritage Resources Management Plan 2022	Discerning archaeological artifacts/ecofacts is difficult at times even to the trained eye; consequently, it is important to undergo training to	a) Staff should undergo training regarding the cultural material they may encounter while on site

	(Canada North) – 5.1.1	understand what you could be looking for.	b) BNDN and other Indigenous communities should be invited to attend this training
10.	Heritage Resources Management Plan 2022 (Canada North) – 5.3	In numerous instances the Heritage Resources Management Plan (HRMP), Denison has used noncommittal language to describe future Indigenous engagement related to heritage resources. BNDN notes that engagement of impacted Nations is essential for proper heritage resource management and as such the language in the HRMP should reflect the necessity of this engagement.	Throughout the HRMP, Denison must change the language of “should” to “will” where appropriate. For example: management options <i>will</i> be presented to the applicable Indigenous communities for feedback and <i>will</i> include consultation.
11.	Heritage Resources Management Plan 2022 (Canada North) – 5.3.1	BNDN notes that Section 5.3.1 does not confirm that impacted Indigenous Nations will have the opportunity to participate in future archaeological fieldwork. While BNDN understands that many impacted Nations will have arrangements directly with Denison to facilitate member participation, this should additionally be made available to all impacted Indigenous Nations as part of best practices at the Project.	In addition to any provisions developed in a Project Agreement between BNDN and Denison for the Wheeler River Project, Denison should include a clause that confirms that all impacted Indigenous communities will be invited to have monitors participate in any additional fieldwork and that Denison will provide capacity funding for Nations that wish to participate.

4.2 Quality of Life & Economics

This section provides the outcome BNDN's review pertaining to Denison's assessment of the Project's impacts on Quality of Life (Section 12) and Economics (Section 13) in the EIS. A summary of EIS content and key issues follows, with comments and recommendations set out in the table below.

Despite these sections being separate in the EIS, it is appropriate that BNDN has considered them together in this review given the interconnectedness of their impacts and their interconnectedness in BNDN's objectives related to the Project. **Given the impacts and risks BNDN will experience during the life of the Project, it is necessary in the context of the Duty to Consult and Accommodate that BNDN experience corresponding economic benefits, including the provision of jobs for BNDN members, contracts for BNDN businesses, and training and capacity building to support BNDN's participation in all aspects of the Project. However, it is also essential that BNDN realizes these benefits in a culturally appropriate way, and in a way that holistically upholds community well-being, by protecting traditional land use and cultural practices and preventing potential negative impacts such as exacerbating mental health and substance abuse issues, or the issues associated with a transient workforce.** The area described as the "Local Study Area" and "Regional Study Area" in the EIS is BNDN's home, and BNDN will remain living here long after the Project's life cycle is complete. It is therefore of utmost importance that Denison considers the long-term well-being and way of life of BNDN in a holistic way with the Project's potential economic benefits.

Section 12 of the EIS assesses the impact of the Project on Quality of Life. Denison has split the section into three distinct subsections:

1. **Cultural Expression** – potential project impacts on land use, knowledge transfer and traditional diet
2. **Community Well-being** – potential project impacts on population, demographics, employment, education, and community cohesion
3. **Infrastructure and Services** – project impacts related to traffic, community infrastructure and services, and emergency services capacity.

Section 13.0 of the Wheeler River Project EIS discusses the economic impact of the Project. A review was completed in collaboration with BNDN to comment, identify potential concerns/deficiencies, and provide recommendations to reduce the impact of the Project on BNDN and enhance community benefits. Economy selected as a VC because the Project-will alter the local and regional economy positively and negatively. Denison uses the following key indicators to assess the economic impact of the Project.

1. **Employment & Training** – jobs (direct and indirect) and mine related training programs
2. **Increase Income** – Provide higher paying employment for local residents, priority hiring for local people
3. **Business Opportunities** – contract opportunities for local and regional businesses including Indigenous Businesses
4. **Government Revenues** – tax revenue and royalties for provincial and federal governments

5. Traditional Economy – Potential impacts on participants in the traditional economy (e.g., harvesting, arts & crafts, guiding)

Denison expects the Project to employ a workforce of three hundred during the Construction phase and 180 during the Operations phase. Denison has committed to provide residents and communities in the Local Study Area (LSA) priority for employment and training and business opportunities, followed by Indigenous and/or other communities in the RSA. Denison expects the total capital costs for the Project to be approximately \$387 million. Denison expects the total annual operating costs for the Project to be approximately \$39 million per year to cover administration, camp operations, labour, and maintenance costs (Denison, 2022).

Section 12 and 13 of the EIS present demographic and labour market statistics on each key indicator from Statistics Canada and provincial data. The EIS also include results of engagement with other local First Nation and Metis groups including Health and Socio-Economy Studies and Indigenous Knowledge Studies. There was extensive discussion on the perspectives and impacts of neighbouring First Nations and Metis groups, but no discussion on the Project's impact on BNDN from an economic or quality of life perspective. Denison did not conduct any primary research with BNDN to assess the Project's impact.

The EIS discusses the potential negative impacts of the Project on the Traditional Economy and Community well-being. Members of local Indigenous communities including BNDN rely on a subsistence-based economy where the harvesting of wild food and other materials from the lands and waters is an essential element of the economy and culture. Local community members depend on the water, land, and animals for their livelihood and income. The Project has the potential to disrupt the Traditional Economy through increased human industrial activity and alterations to how community members use the land in the LSA. The physical presence of the Project and its activities, including participation in the Project may limit some traditional land and resource activity for some members.

While Denison has considered some of the effects of population changes and increased income caused by the Project and its transient workforce, such as an increased demand for services and housing, the full range of impacts associated with these dynamics of a remote mining project on community well-being have not been considered and proposed mitigation measures are also not sufficient. BNDN has recommended that Denison revise the EIS to include an assessment of all potential effects of a transient workforce and changes to population dynamics, including those disproportionately experienced by Indigenous women and girls, and other segments of the population.

Denison concludes that the Project will have a net benefit to the economy and quality of life. Denison states that the negative effects of the Project can be mitigated and that residual impacts are not significant. Denison will implement mitigation and enhancement measures to ensure the positive effects of the Project on the economy and quality of life including:

- Human Resource Development Plan to prioritize Indigenous and non-Indigenous communities in the LSA in terms of employment and training opportunities. Denison will develop hiring practices, and providing supports to individual workers and, in some cases, their families.
 - Supports could include providing transportation for workers; establishing health and wellness programming; establishing life skills programming; implementing a no drug and alcohol policy on site; and offering culturally sensitive employment policies (e.g., providing a space for an on-site elder counsellor for culturally relevant programming).
- Establishment of a procurement approach through all phases of the Project, focusing on businesses based within the LSA communities, followed by Indigenous and / or businesses in the RSA.

(Denison, 2022)

Key Issues:

- Denison does not consider Birch Narrows a LSA Community and thus is not eligible for priority employment, training or contracting opportunities related to the Project.
- Denison did not gather or incorporate any BNDN specific Indigenous Knowledge or community wellbeing data in the EIS.
- Denison does not have a plan to monitor the socio-economic impacts of the Project.

Table 2. Comments and recommendations for the Wheeler River EIS related to socioeconomics, employment, and contracting

#	Document Reference	Comment	Request/Recommendation
12.	EIS Section 13.1.3	BNDN is not included as a Local Study Area (LSA) Community despite being closer to the Project than other LSA Communities. The Project is situated on BNDN’s ancestral lands. BNDN members currently and historically use the LSA for harvesting (commercial and personal) and ceremonial purposes.	BNDN must be identified as a LSA Community. BNDN members and businesses must be eligible for LSA priority status for employment, training, and business opportunities. The EIS should be revised accordingly. A formal agreement between BNDN and Denison is required to outline socioeconomic offsetting measures and benefits should the Project move forward.
13.	EIS Section 12.0 & 13.0	There is no BNDN specific Indigenous Knowledge or socioeconomic data presented in the EIS.	Denison must conduct Indigenous Knowledge and Community well-being Study (or similar) to gather BNDN specific information.

			<p>These studies will allow for a more fulsome assessment of the Project on BNDN rights and interests. Additionally, BNDN specific data will enhance Denison’s baseline data and help to inform mitigation and monitoring measures.</p>
14.	EIS Section 13.0	<p>Denison does not classify BNDN as a LSA community. As such, members are not entitled to priority training and employment provisions from Denison on the Project.</p> <p>Without the LSA Community designation, BNDN members are less likely to be employed or trained through the Project.</p> <p>Denison references a Human Resource Development Plan (HRDP) as a mitigation measure to ensure local and regional community members are hired in priority. However, Denison does not provide sufficient details to allow Birch to assess the adequacy of the HRDP.</p>	<p>BNDN must be identified as a LSA Community. BNDN businesses and member owned businesses must be eligible for LSA priority status for business and contracting opportunities. The EIS should be revised accordingly.</p> <p>A formal agreement between BNDN and Denison is required to outline socioeconomic offsetting measures and benefits should the Project move forward. This must include ways for BNDN businesses and member owned businesses to participate in the Project.</p> <p>BNDN requests the ability to review and comment on Denison’s Human Resource Development Plan to provide input and recommendations to encourage community participation and employment in the Project.</p>
15.	EIS Section 13.3.2.4	<p>Denison does not classify BNDN as a LSA community. As such, BNDN businesses and partnerships are not entitled to priority procurement provisions from Denison on the Project.</p> <p>Denison states that it will strive to “sustain similar participation targets for the Project as experienced across other mining industries in northern Saskatchewan.” Denison states it has “established an internal procurement approach that requires the</p>	<p>BNDN must be identified as a LSA Community. BNDN businesses and member owned businesses must be eligible for LSA priority status for contracting opportunities. The EIS should be revised accordingly.</p> <p>A formal agreement between BNDN and Denison is required to outline socioeconomic offsetting measures and benefits should the Project move forward.</p>

		<p>procurement of all goods and services for the Project to first consider businesses based within the LSA communities prior to looking elsewhere.”</p> <p>Without the LSA Community designation BNDN businesses are unlikely to benefit from the Project.</p>	
16.	EIS Section 12.0	<p>While EIS does consider the effects of population changes related to the Project on social adaptability, demand for services and housing, it does not address the full range of potential impacts associated with a transient workforce.</p> <p>Significant research has been conducted to demonstrate the negative impacts of remote workers and work camps on Indigenous women and girls. This must be considered in the EIS.</p>	<p>The EIS must include an assessment of all potential effects of a transient workforce and changes to population dynamics, including those disproportionately experienced by Indigenous women and girls, and other segments of the population. This must incorporate findings of research like the 2017 study completed by Lake Babine Nation and Nak’azdli Whut’en (Indigenous Communities and Industrial Camps), and/or related research in the context of the LSA.</p>
17.	EIS Section 12.0 and 13.0	<p>BNDN notes that no specific management or monitoring plan has been included in the EIS documentation related to the verification of residual socio-economic impacts, both positive and negative, for the local economy.</p>	<p>a) Denison must develop a Socio-Economic Monitoring Plan for the life of the Project to verify the effects assessment included in the EIS and to be included in the Project’s approach to adaptive management. This Plan would include an approach, co-developed with Indigenous groups in the LSA (including BNDN), to monitoring the realization of the benefits and impacts of the Project (e.g., employment and procurement targets, training and capacity building, community investments, etc.) as mitigation and enhancement measures are implemented. Monitoring and subsequent regular evaluation would allow for the real-time adjustment of</p>

			<p>targets and/or an approach to adjusting enhancement measures or identifying offsetting benefits where targets are not met.</p> <p>b) The Crown must include the development of a Socio-Economic Monitoring Plan as a condition of approval for the Project.</p>
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4.3 Water Resources

In their EIS for the Wheeler River Project, Denison has undertaken a variety of baseline studies to understand the current surface water and groundwater conditions in the Project area. Denison has also modelled the impacts to surface water and groundwater quantity and quality from the project based on their planned activities at the Project. Because the project is using in situ recovery (ISR) to extract the uranium from the ore body, the project is quite different from other uranium mines in Saskatchewan and has some distinct potential impacts to the environment.

Denison expects the impacts to surface water (lakes and rivers) to be extremely minimal compared to other mining operations as there will be substantially less contact water and groundwater for them to manage through treatment and discharge compared to a conventional underground or open pit mine. In the EIS Denison has assumed that they will not recycle any water from their processing plant even though they expect to be able to recycle process water through the ISR process. Even with this relatively conservative assumption, Denison expects the impacts to Whitefish Lake (where treated effluent will be discharged) to be minimal, with a mixing zone of about 5 m. Denison expects to treat all site water through the industrial wastewater treatment plant (IWWTP) prior to discharge to the environment.

Because they do not need to dewater the groundwater for the mine or overprint any significant water bodies, Denison expects to have very little or no (undetectable to the naked eye) impact on surface water levels in lakes and streams around the project.

With their planned mitigation measures, Denison intends for the groundwater in the mining area to be completely isolated from the surrounding natural groundwater during mining. If their mitigation measures are as effective as they expect, there will be no impacts on the surrounding groundwater during operations when they are using ISR to extract the uranium.

After the mine is decommissioned, the freeze wall around the mining area will thaw and groundwater from the ore body (which will have high concentrations of many metals) will interact naturally with the surrounding natural groundwater. To understand how the groundwater impacted by mining will migrate and evolve over time, Denison has undertaken a detailed analysis of how groundwater will flow (using software called FEFLOW) and how the chemistry of the groundwater will change over time (using a software called PHREEQC). Denison ran several different models to predict how groundwater chemistry will flow and evolve over time. Based on their modelling, they expect mine-contaminated groundwater to flow towards Whitefish Lake. Denison's model indicates that selenium and cobalt will be the only contaminants that reach Whitefish Lake in concentrations above water quality guidelines. They expect the peak contamination of selenium to occur 500 years post-decommissioning of the mine, and peak cobalt contamination to occur 30,000 years post-decommissioning of the mine. Based on their model, they expect the changes to Whitefish Lake from the groundwater migration to be essentially undetectable in Whitefish Lake.

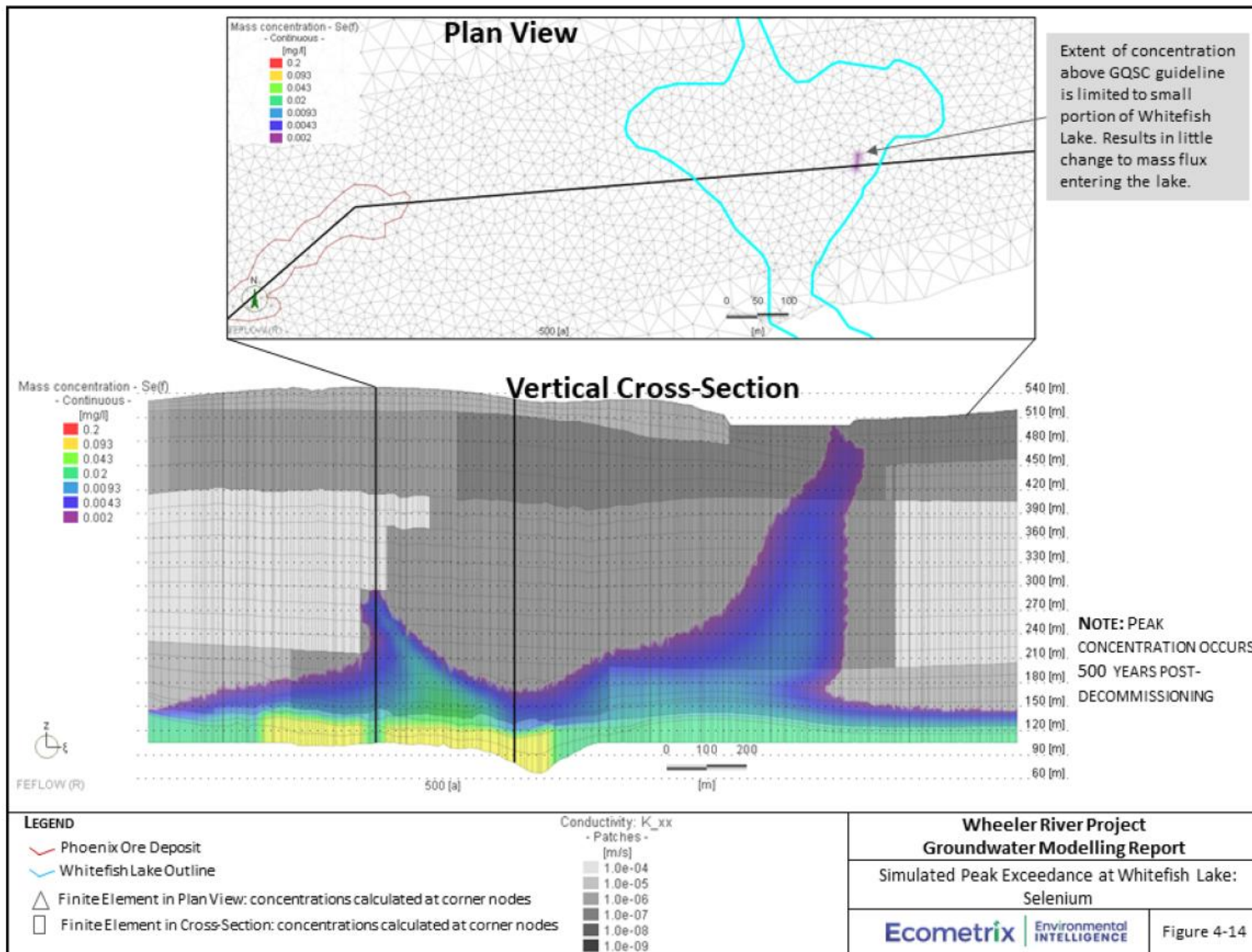


Figure 6: Modelled selenium migration from the ore body post-decommissioning (Ecometrix, 2022)

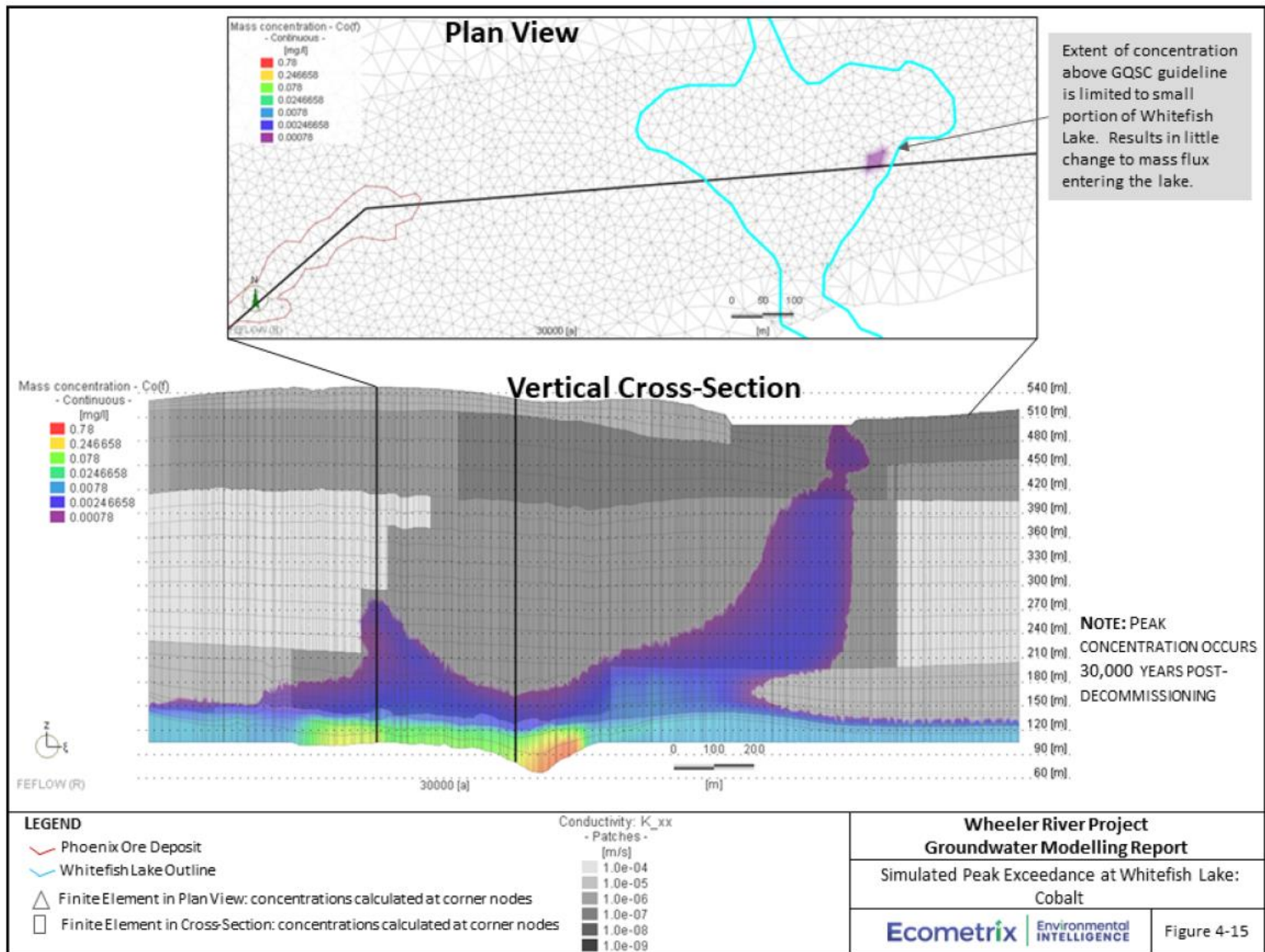


Figure 7: Modelled cobalt migration from the ore body post-decommissioning (Ecometrix, 2022)

Key Issues:

- Denison has not done baseline work on the background concentrations of mercury in soils and wetlands. Denison notes that increases in nutrient and sulphate concentrations can dramatically alter mercury biogeochemical cycling yet they have done no work to assess the presence of mercury in soils or the potential for increased mercury biogeochemical cycling (including mercury methylation) in the downstream environment
- The groundwater modelling indicates that there will be limited or no significant effects on groundwater quality in the long term. This finding is dependent on assumptions in the model which have very limited research to validate the findings. As such the findings in the groundwater model could potentially underestimate the mobility of many metals (and potential for contamination of the environment) in the post-decommissioning phase of the mine.

Table 3. Comments and recommendations for the Wheeler River EIS related to water resources

#	Document Reference	Comment	Request/Recommendation
18.	Draft EIS Appendix 9b Section 2.5.1 and Appendix 8e Table 4	<p>In several instances in the draft EIS Denison has noted that Indigenous Nations are concerned with the possibility of mercury contamination from mining operations. BNDN shares these concerns with other Indigenous Nations. Due to the very low concentrations of mercury present in the Phoenix deposit, Denison has not meaningfully studied the potential impacts the Project may have on altering mercury biogeochemistry in the downstream environment.</p> <p>BNDN notes that background mercury concentrations can be elevated in many unexpected and remote locations due to atmospheric deposition (often due to coal plants) (Jackson, 1997). BNDN is very concerned that Denison has not analyzed for mercury as part of their baseline soil geochemistry assessments for the Project, especially in wetlands downstream of the</p>	<p>a) BNDN requests that Denison undertake baseline studies of mercury concentrations in soils, with a focus on baseline concentrations of mercury in organic wetland soils downstream of the project. Note that mercury sampling should sample total mercury and methylmercury in all analyses, as well as porewater total mercury and methylmercury. The study design and implementation should be undertaken collaboratively with BNDN.</p> <p>b) BNDN recommends that the CNSC requires Denison to undertake a baseline assessment of mercury in soils (with a focus on wetlands) prior to construction of the Project. This may be established as a condition of approval for the Project.</p> <p>c) Depending on the findings of the baseline mercury in soils and wetlands studies, the CNSC should include a condition of approval on the Project that</p>

		<p>Project. Mercury concentrations in wetland soils are sensitive to changes in water chemistry that can lead to increased mercury methylation. This is especially acute from increases in nutrients and sulphates which can active sulfate reducing microorganisms that methylate mercury (Liu, Li, & Cai, 2012). Table 4 of Appendix 8e shows that the effluent discharged to Whitefish Lake will have mercury concentrations almost 5,700 times background concentrations. This dramatic increase in sulfate loading to Whitefish Lake may not exceed water quality objectives unto itself but may be sufficient to meaningfully change mercury biogeochemistry in downstream wetlands.</p> <p>BNDN is very concerned with the complete lack of assessment and analysis of baseline mercury concentrations and the potential changes to mercury cycling that could be induced by the Project.</p>	<p>requires Denison to monitor mercury biogeochemistry in the receiving environment over the life of mine.</p>
<p>19.</p>	<p>Draft EIS Appendix 7c Section 3.5.6.2.1 and Draft EIS Figures 7.6-10 and 7.6-11</p>	<p>Figure 7.6-10 and 7.6-11 of the draft EIS show the results of Denison’s modelling of uranium mobility and adsorption from the ore body following the decommissioning of the mine. The figures show that the model indicates that all dissolved uranium will be effectively removed from solution within a short distance of the orebody via adsorption to clays present in the bedrock. In Section 3.5.6.2.1 of Appendix 7c of the draft EIS Denison notes that there is very limited literature available on uranium</p>	<p>a) Denison must develop a process agreement with BNDN to work through our concerns related to long-term groundwater contamination from the Project. This process agreement would lay out the pathway to obtaining BNDN consent for the Project through providing our Nation with confidence that the groundwater and surface water near to the project will not be irreparably contaminated. The process agreement will include additional studies and consultation activities with BNDN</p>

	<p>fate and transport, especially in similar environments to the Wheeler River Project. Denison’s uranium speciation model relies almost entirely on a single academic article studying the partitioning of uranium in the alteration halo surrounding the Cigar Lake uranium deposit. Of very important note is that this paper is focused on the pre-mining environment at Cigar Lake and does not examine how uranium partitioning may be dramatically altered by ISR mining. Health Canada published a document on uranium in drinking water in 2017 literature review of uranium mobility, complexation and chemistry in groundwater which documents the widely varying behaviour of uranium in groundwater depending on redox conditions, pH, pressure, and other ions available for complexation which may increase or decrease uranium mobility (Health Canada, 2017).</p> <p>Uranium will be present in extremely high concentrations (100 mg/l) in the restoration solution. Many other anions and cations which uranium is known to form complexes with will also be present in the solution at very high concentrations. The limited literature upon which Denison has developed their models to predict uranium mobility post-decommissioning is insufficient to confidently assert that the very concentrated restoration solution will behave as predicted.</p>	<p>that Denison must undertake. The satisfaction of all terms in the process agreement would be defined by the signing of a Project Agreement between Denison and BNDN.</p> <p>b) BNDN recommends that Denison commit to funding bench-scale studies to validate the outputs from their FEFLOW and PHREEQC modelling. The bench-scale studies should be undertaken by an independent academic.</p>
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Uranium is a common groundwater contaminant around the world and is known to be stable in dissolved forms in groundwater in many locations. Furthermore, some studies have indicated that the effectiveness of adsorption as a mechanism for attenuation of uranium in solution is significantly overstated, especially in environments where there is competition from other ions, as there will be in the restoration solution (Gandhi, Sampath, & Maliyekkal, 2022).

BNDN is very concerned that Denison has portrayed their groundwater contamination model in Appendix 7c with an inappropriate level of confidence given the level of uncertainty reasonably inferred from the lack of foundational literature relevant to the circumstances at Wheeler River and the well-understood complexity of uranium fate and transport in groundwater.

It is not impossible to imagine that surface water contamination could eventually occur, especially given the exceptionally high concentrations of uranium in the restoration solution. By consenting to the Wheeler River Project, BNDN is supporting a process that will be irreversible once it commences and may be very difficult to manage should the underlying modeling assumption prove to be inaccurate by a significant margin. As a Nation whose members put a very high emphasis on the protection of groundwater resources, BNDN

		requires substantially greater reassurance through dialogue with Denison and further studies to have confidence that the Project will not irreparably degrade the natural environment in our Ancestral Lands.	
20.	Draft EIS Section 7.6.2.1 and Appendix 7c Section 4.6	<p>In Section 7.6.2.1 of the draft EIS, Denison mentions that they anticipate the outward migration of lixiviant as is observed at other ISR operations globally, and has incorporated their assumed concentrations of metals and the extent of area affected by flare from the ISR operations. Section 4.6 of Appendix 7c states that the flare zone is expected to extend 11 to 13 m but have modelled with a “conservative 50 m flare zone.</p> <p>It is not clear how Denison derived their assessment that the flare zone would extend 11 to 13 m and that a 50 m flare zone is considered conservative for the purposes of modelling. BNDN requires further information to have confidence that the design is as conservative as the Proponent has suggested.</p>	<p>BNDN requests that Denison provide further information on how the size of the area above the deposit affected by flare was calculated and how they determined that 50% restoration solution was determined as the appropriate concentration to base water quality modelling.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>
21.	Draft EIS Appendix 7c Section 3.2.2.1	<p>Section 3.2.2.1 of Appendix 7c of the draft EIS describes the natural redox conditions in the ore zone as naturally reducing. The operation of the wellfield will result in the groundwater in the ore zone becoming oxidizing. Post decommissioning, the groundwater in the ore zone can be reasonably anticipated to return to baseline (reducing) redox conditions.</p>	<p>BNDN requests further information on how increasingly reducing groundwater conditions post decommissioning may impact adsorption kinetics of contaminants expected to adsorb to clays.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>

		<p>BNDN notes that as redox conditions becoming increasingly reducing post closure, adsorption kinetics of contaminants adsorbed to clays could shift so that contaminants desorb from clays and are remobilized into solution. It is not clear to BNDN that the evolution of redox geochemistry and its implication on adsorption kinetics has been adequately considered by Denison.</p>	
22.	<p>Draft EIS Appendix 7c Section 3.4.</p>	<p>In Section 3.4 of Appendix 7c, Denison reports that they have excluded colloids from their post-decommissioning geochemical modelling. Denison has also noted that colloids would serve to enhance mobility of contaminants and they could precipitate out of solution.</p> <p>BNDN is concerned that by excluding the precipitation of colloids with adsorbed contaminants as a pathway for contaminant transport, Denison has significantly underestimated the mobility of contaminants and the consequent risks to the receiving environment.</p>	<p>BNDN requests that Denison prepare an additional geochemical model that considers the roles that colloids could potentially contribute to contaminant transport. The findings of this additional model (along with the other models) should be reviewed with BNDN.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>
23.	<p>Draft EIS Appendix 7c Section 4.0</p>	<p>In Section 4.0 of Appendix 7c of the draft EIS, Denison reports that the composition of restoration solution 1 and restoration solution 2 were derived from metallurgical testing. While this is likely the best</p> <p>BNDN notes that the initial solution used in the geochemical modelling is enormously consequential in the accuracy of the modelling and require further confirmation and confidence</p>	<p>BNDN requests that Denison provide further information on how the chemistry in restoration solution 1 and restoration solution 2 were derived and any evidence they can provide that gives them confidence that these solutions are an accurate reflection of what will be observed in the wellfield.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns</p>

		that the restoration solutions are accurate to within a reasonable margin of error for the geochemical modelling.	related to long term groundwater contamination from the Project.
24.	Draft EIS Appendix 7c	BNDN notes that Denison has not provided any discussion on the extent to which the lixiviant and the solution used to flush the wellfield at the end of operations will interact with the underlying paleoweathered bedrock. BNDN notes that it is possible that there are mineral phases within the paleoweathered bedrock that are also readily soluble when exposed to the lixiviant. While BNDN recognizes that the paleoweathered bedrock has a low permeability, it is unclear to BNDN as to whether the lixiviant will contribute to mobilization of contaminants from the paleoweathered bedrock that requires consideration in the post-decommissioning groundwater model.	<p>BNDN requests that Denison provide any available information on how the bedrock may be altered (through dissolution of soluble mineral phases) by the lixiviant and the flushing of the wellfield during decommissioning, and whether this has been factored into their post-decommissioning groundwater model.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>
25.	Draft EIS Appendix 7c Section 5.2.2	In section 5.2.2 of Appendix 7c of the draft EIS Denison reports the assumptions built into their post-decommissioning groundwater modelling. BNDN notes that Denison has assumed that adsorption reaction sites are assumed to be available uniformly throughout the subsurface parameter zones. The presence of sufficient adsorption sites is a primary variable which determines the outcomes of the groundwater modelling, as adsorption of ions out of solution is the primary means by which contaminant transport is attenuated in Denison’s modelling.	<p>BNDN requests that Denison provide justification for the assumption that adsorption sites will be uniformly available throughout the sub-surface parameter zones. BNDN requests that Denison provide information on how they estimated the extent to which adsorption sites are already saturated prior to mining.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>

		BNDN is concerned that the presence of a variable that is so consequential to the findings of the model is based primarily on assumptions with limited information to base the assumptions upon.	
26.	Draft EIS Appendix 7c Table 3-10	<p>Table 3-10 of Appendix 7c of the draft EIS shows the expected adsorbing mineral properties of the mineral phases to which contaminants are expected to adsorb out of solution. BNDN notes that the lixiviant and restoration solution could affect the ability of. In particular, the clays immediately surrounding the orebody are within the freeze wall and will be directly exposed to the lixiviant during operations, which may impact the clays ability to adsorb contaminants out of solution.</p> <p>BNDN notes that the clays immediately surrounding the orebody may be soluble in the presence of the lixiviant or may be altered to have a lower capacity to adsorb metals. BNDN requires further information from Denison to have confidence that the clay phases which play a crucial role in contaminant attenuation will not have their adsorptive capacity impacted by the operation of the wellfield.</p>	<p>BNDN requests that Denison provide available information on whether clay mineral phases are anticipated to dissolve through the ISR mining process, and whether the restoration solution will impact the ability of clays to effectively adsorb contaminants.</p> <p>This item would be best addressed and resolved with BNDN through the process agreement to address BNDN’s concerns related to long term groundwater contamination from the Project.</p>
27.	Draft EIS Section 1.1.1	In Section 1.1.1 of the Draft EIS, Denison notes that “the Gryphon deposit is not amenable to ISR mining and, accordingly, is not included in the EIS”. Denison has previously reported that the Gryphon deposit has nearly as much uranium as the Phoenix deposit.	Given the potential longer term mining activities at the Wheeler River project beyond the Phoenix deposit, BNDN requests that any project agreement between BNDN and Denison include terms for ongoing dialogue related to future exploration and project development activities at the

		<p>While the Gryphon deposit is not amenable to ISR, it is potentially still an economic resource which Denison may wish to mine.</p> <p>While the Gryphon deposit is not in scope for this environmental assessment, BNDN expects to be kept informed of future potential mining activities on the Wheeler River Project which Denison may be considering, including additional exploration on the Property, as future activities on the Property will also have impacts on our Treaty and aboriginal rights and interests.</p>	<p>Wheeler River Project and at all Denison Projects on BNDN Ancestral Lands.</p>
28.	Draft EIS Section 2.3.3.1.3	<p>In Section 2.3.3.1.3 of the draft EIS Denison describes the proposed decontamination, demolition and disposal activities at the Project. BNDN notes that Denison has described a detailed process for decommissioning the injection and recovery wells but has not described how the freeze wells will be decommissioned. BNDN notes that the freeze well holes may serve as preferential pathways for contaminated groundwater movement. Given the proximity of freeze wells to the orebody and the number of freeze wells proposed to be drilled, proper closure of freeze wells is also important for protection water quality long term.</p>	<p>a) BNDN request that Denison clarify the process by which they will decommission the freeze wells.</p> <p>b) BNDN requests that Denison decommission the freeze wells using the same process as is proposed for the decommissioning of the injection and recovery wells.</p>
29.	Draft EIS Section 2.3.3.1.3	<p>In Section 2.3.3.1.3 of the draft EIS Denison describes the thawing of the freeze wall as part of the decommissioning of the mine. BNDN notes that water expands when frozen</p>	<p>BNDN request that Denison provide evidence from academic literature or other mine sites employing freeze wall technology to determine the extent the freeze wall could expands joints and fractures within the</p>

		and could potentially be capable of expanding pre-existing joints and fractures within the host rock. BNDN is concerned that the thawing of the freeze wall could lead to expanded joints and fractures which would allow for far more rapid contaminant transport away from the ore body and restoration solution than is modelled in the post-decommissioning groundwater model.	rock once thawed, including at unconformities or other pre-existing structural weaknesses within the host rock.
30.	Draft EIS Figure 2.2-15 and Section 2.2.3	<p>In Section 2.2.3 of the draft EIS, Denison notes that they have made the conservative assumption that no water would be recycled as mining solution as part of their water balance calculations. BNDN agrees that this conservative assumption is appropriate for assessment of potential impacts of the Project.</p> <p>While this assumption is appropriate for the environmental assessment, BNDN wishes to understand the proportion of industrial wastewater that may be recycled on site and any commitments Denison is willing to make regarding continual refinement of the water treatment process to increase the proportion of water that is recycled.</p>	<p>a) BNDN requests that Denison commit to continual refinement of the Industrial Waste Water Treatment Plant (IWWTP) treatment process to maximize the amount of water that is recycled to the deposit.</p> <p>b) BNDN recommends that the Crown include a condition of approval for the project regarding continual improvement of water treatment to maximize recycling.</p> <p>c) BNDN requests that Denison share available information on the proportion of water that they currently anticipate being able to recycle.</p>
31.	Draft EIS Figure 2.2-15 and Section 2.2.3.2	In Section 2.2.3.2 and Figure 2.2-15 of the draft EIS, Denison describes their water balance for the project and anticipated water needs to operate the ISR wellfield. BNDN notes that the EIS does not describe how Denison derived their estimate for the quantity of water required to operate the ISR wellfield. BNDN is concerned that the	a) To demonstrate that Denison has not significantly underestimated the volume of water required to operate the wellfield, BNDN requests that Denison provide evidence that the volume of water required to operate the wellfield is accurate. This should include an assessment of their level of confidence

		<p>volume of water required to operate the wellfield may be substantially greater than is estimated in the draft EIS. Utilizing greater volumes of water in the wellfield would have cascading effects throughout the water balance, including greater demand on the IWWTP, greater storage volumes required in the process water storage pond, greater UBS holding pond capacity and greater volumes of effluent discharge to Whitefish Lake. BNDN is concerned with the potential cascading risks associated with an inaccurate assessment of the volume of water required to operate the ISR wellfield.</p> <p>BNDN also wishes to understand whether it is possible that Denison will be required to operate the wellfields at a higher pressure, even if only temporarily. BNDN notes that operating wells at higher pressure come with additional workplace and environmental hazards, especially when dealing with a strongly acidic lixiviant.</p>	<p>they have in their estimated water consumption.</p> <ul style="list-style-type: none"> b) BNDN requests that Denison provide BNDN with information on potential contingency measures (such as constructing additional process water pond capacity) should their estimated water consumption c) Denison must commit to updating their mixing zone assessment should they find it necessary to discharge greater quantities of effluent to Whitefish Lake than is estimated in the draft EIS. d) Denison must document the implications of operating the wellfield at a substantially higher pressure than currently expected.
32.	Draft EIS Table 2.3-3	<p>Table 2.3-3 of the draft EIS shows Denison’s proposed mining area decommissioning objectives, which are the groundwater quality objectives for the residual water in the ore zone following the flushing of the system during mine decommissioning. BNDN is surprised to see that relatively high concentrations of metals are expected to remain in the restoration solution as a final objective, such as 100 mg/l uranium</p>	<ul style="list-style-type: none"> a) BNDN requests that Denison provide documentation that estimates the time, efforts and costs associated with reducing concentrations of metals in the restoration solution by 1 order of magnitude and 2 orders of magnitude. Note that these calculations should include costs that could be recovered by processing subeconomic UBS. b) BNDN requests that Denison work with BNDN through terms defined in a BNDN project agreement to establish

		<p>and 2 mg/l cobalt, amongst many other metals.</p> <p>BNDN notes that potential risks to groundwater and surface water could be dramatically reduced through more stringent mining area decommissioning objectives. It is also feasible that processing efficiencies and high uranium prices may allow for substantially lower concentrations of uranium to be mined economically. The long-term contamination of groundwater from the high concentration of metals in the restoration solution is one of BNDN's primary concerns with the Wheeler River Project, and BNDN would strongly prefer that Denison strive to minimize the residual contamination remaining in groundwater following decommissioning to the greatest extent possible.</p>	<p>achievable decommissioning objectives that would be satisfactory to BNDN.</p> <p>c) BNDN requests that the Crown place a condition of approval upon the Wheeler River Project that Denison is required to work with BNDN to establish mutually agreeable mining area decommissioning objectives.</p> <p>d) BNDN requests that Denison undertake a study of ISR operations elsewhere in the world to determine the lowest concentrations of UBS that could be processed economically utilizing industry best practices and commit to exceeding global standards.</p>
<p>33.</p>	<p>Draft EIS Section 2.2.2.2.2 and Figure 2.2-18</p>	<p>In Figure 2.2-18 of the draft EIS, Denison shows the proposed design of the double composite liner system for the ponds on site and the UBS holding area. BNDN notes that the risks associated with temporary storage of UBS is much greater than other contact water on site which is proposed to be stored in a similar means. As such, BNDN is concerned that the proposed UBS holding area does not have adequate leak detection given the additional risk associated with the UBS relative to contact water on site. BNDN also notes that open air storage of UBS presents the risk of incidental interactions with wildlife near to the</p>	<p>a) BNDN requests that Denison commit to storing UBS in appropriate tanks as opposed to open air storage.</p> <p>b) BNDN requests that Denison include a leak detection pipe in the prepared subgrade below the secondary containment as well as between the primary and secondary containment layers. BNDN also requests that the prepared subgrade be engineered to facilitate maximum utility of the leak detection below the secondary containment.</p>

		<p>project (such as birds), which would potentially be acutely toxic.</p> <p>BNDN is also concerned that there is no leak detection system below the secondary HDPE geomembrane and geosynthetic clay liner. Should the secondary containment layers also become compromised, Denison does not have a system planned to detect this.</p>	
<p>34.</p>	<p>Draft EIS Figure 2.3-1</p>	<p>In draft EIS Figure 2.3-1, Denison shows an additional ore body to the Southwest of Phase 5. Denison has not included this additional ore body in the mine plan in the draft EIS and has not discussed whether they have intentions to mine this ore body or undertaking a project change at a later date to include this additional ore body.</p> <p>It is unclear whether this additional ore body has any implications for the long term groundwater quality modelling either through the additional orebody altering anticipated groundwater chemistry, or the restoration solution dissolving metals in the additional orebody increasing overall metal loading. Given the probable difference in groundwater and mineral geochemistry in the additional orebody relative to the overlying sandstone and underlying basement rock, there is likely to be interaction between the restored solution and the additional orebody post-closure.</p>	<ul style="list-style-type: none"> a) BNDN requests that Denison clarify whether they are considering adding the additional orebody to the southwest of Phase 5 into the mine plan, including clarifying whether the additional ore body is amenable to ISR mining. b) BNDN requests that Denison clarify what the anticipated permitting associated with the additional ore body would be. c) BNDN requests that the post-decommissioning groundwater modelling for the Project include interactions between the additional ore body and the restoration solution to understand if the ore body poses a risk of additional metal loading to groundwater.

<p>35.</p>	<p>Draft EIS Section 2.2.1.3 and 7.6.2.1</p>	<p>Denison intends to use a freeze wall as tertiary containment for the operation of the wellfield during operations. In general BNDN is supportive of this containment measure but requires further information to have confidence that the freeze walls will operate as designed. In particular, BNDN notes that while the freeze wall will be continuous from the ground surface all the way into the basement rocks underlying the orebody, the freeze wall is by far the most consequential immediately around the ore body itself. The orebody is approximately 400 m below the ground surface (where the earth would be significantly warmer) and the lixiviant is expected to be at least 10 degrees warmer than the surrounding groundwater would be. Considering that the cold brine will need to be injected nearly half a kilometer into the earth where warm lixiviant will be injected into the wellfield, BNDN is concerned that the freeze wall may be ineffective in and around the ore body where it is required. Furthermore BNDN is concerned that the monitoring system for assessing the stability of the freeze wall may not adequately detect the continuity of the freeze wall at depth. As such, BNDN is concerned that the freeze wall may be ineffective and in fact obscure our ability to recognize contamination of the surrounding groundwater from the freeze wall operating ineffectively.</p>	<ul style="list-style-type: none"> a) BNDN requests that Denison provide information to demonstrate that the freeze wall will in fact be frozen in and around the ore body. If there is any doubt that the freeze wall will indeed be frozen around the ore body, Denison should describe further measures they can undertake to ensure that the freeze wall is frozen as intended around the ore body. b) Denison must provide BNDN with further information on how they will monitor the performance and continuity of the freeze wall. c) BNDN requests further information on the proposed groundwater monitoring program around the wellfield. d) BNDN requests the opportunity to review the groundwater monitoring plan and to review groundwater monitoring data as part of a BNDN-Denison environmental committee developed through a BNDN-Denison project agreement.
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36.	Draft EIS Section 2.9.1.3.1	<p>In draft EIS Section 2.9.1.3.1 Denison documents their conceptual level environmental protection program, including several proposed management and monitoring plans which they will develop to manage operations on site.</p> <p>The environmental protection measures which Denison undertakes at the Project site are highly consequential to BNDN, and BNDN requires the opportunity to provide our knowledge and input into environmental protection measures developed for activities within our Ancestral Lands.</p>	<p>a) BNDN requests that Denison commit to involving BNDN in the development, review and approval of all environmental monitoring plans developed for the Project. Details of BNDN involvement in the development of environmental monitoring plans should be undertaken within an Environmental Committee, with specific terms defined within a BNDN-Denison Project Agreement for the Wheeler River Project</p> <p>b) BNDN requests that the CNSC impose a condition of approval on the project which states the requirement for Denison to consult with BNDN on all environmental management and monitoring plans for the project.</p>
37.	Draft EIS Section 7.6.2.3	<p>In Section 7.6.2.3 of the draft EIS and the geology and groundwater summary table in Appendix 16A, Denison states that they expect no residual effects to groundwater quality during the operations, decommissioning or future centuries period of the Project. Denison has also not placed a significance determination on the impacts to groundwater quality based on the findings of the draft EIS due to groundwater being considered an intermediate VC.</p> <p>BNDN disagrees with both the residual effects assessment and the fact that groundwater quality has been assessed solely as an intermediate VC. The protection of groundwater resources is highly important to BNDN. Our members place immense value on clean spring water and the</p>	<p>a) Denison must apply a significant determination to groundwater quality and quantity for all projects phases, <u>including the future centuries period.</u> The significance determination must be developed following consultation and engagement with BNDN.</p> <p>b) Denison must re-evaluate the residual effects of the project on groundwater quality <u>including the future centuries period.</u> This re-evaluation must be following consultation and engagement with BNDN.</p> <p>c) BNDN requests that the CNSC work with our Nation to understand the significant impacts that the permanent contamination of groundwater caused by the project will have on our Treaty and Aboriginal rights.</p>

		<p>protection of groundwater more generally. The advancement of the Wheeler River Project will <u>permanently</u> impair groundwater resources in and around the Wheeler River Project. The contamination of groundwater at the Project will have a significant impact on our members' connection to the land and ability to exercise our Treaty and Aboriginal rights. We see the limited interpretation of residual effects and the lack of inclusion of groundwater quality as a receptor VC as a significant oversight in the assessment of impacts of the Project on the environment and BNDN Treaty and Aboriginal rights. This must be corrected to properly assess the Project and thus ensure that project impacts are appropriately mitigated and accommodated.</p>	
<p>38.</p>	<p>Draft EIS Section 7.8.2</p>	<p>Section 7.8.2 of the draft EIS documents the groundwater monitoring proposed for the surface facilities and the ISR recovery area. It also describes a conceptual excursion contingency plan wherein Denison has proposed their plans to manage situations where groundwater contamination occurs beyond what is predicted in the EIS. BNDN notes that Section 7.8.2 lacks information on the involvement of Indigenous Nations related to groundwater monitoring.</p> <p>As stated previously, BNDN is highly concerned with the level of impact the Project will have on groundwater resources. As such BNDN requires Denison to communicate excursions of</p>	<p>a) BNDN requests that Denison revise Section 7.8.2 to include Indigenous engagement and input for groundwater monitoring results and the management of observed groundwater excursions. The manner in which Denison engages BNDN on groundwater monitoring and management will likely occur through an Environmental Committee, which should be defined in a BNDN-Denison Project Agreement.</p> <p>b) BNDN requests that the CNSC impose a condition of approval on the Project that clarifies that Denison is required to engage with impacted Indigenous Nations such as BNDN on groundwater monitoring and management.</p>

		groundwater and the consequent management of excursions to our Nation.	
39.	Draft EIS Appendix 8d	In Appendix 8d, Denison documents their baseline aquatics studies undertaken for the Wheeler River EIS. Denison has included some lakes and rivers upstream of the Project as background sites for understanding project impacts to the aquatic environment. BNDN notes that there are many additional sites throughout our Ancestral Lands which would benefit from ongoing aquatic monitoring and would be potentially suitable for the Project as background sampling sites.	BNDN requests that Denison work with our Nation to identify potential additional background sampling sites within our Ancestral Lands for aquatic monitoring for the life of Project. The details of such should be defined in the BNDN-Denison project agreement.
40.	Draft EIS Section 2.2.1.4.2	<p>In Section 2.2.1.4.2 of the Draft EIS Denison discusses the operation of the wellfield during the operations phase of the mine. BNDN notes that many of the details in this section are conceptual in nature and thus could require significant refinements in design to achieve the desired recovery consistently throughout the life of mine.</p> <p>Amongst other concerns related to operations of the ISR wellfield, BNDN is concerned that Denison may alter the chemical composition of the lixiviant used in the ISR wellfield which could cause inadequately understood changes in potential effects of the Project to the environment. These effects could include significant changes to the final restorative solution at the end of mine life or significant changes in the treatment</p>	<p>a) BNDN requests that Denison provide information on</p> <ul style="list-style-type: none"> • The likelihood of the chemical composition of the lixiviant changing throughout the life of project • Potential changes to the lixiviant composition • The implications for long term groundwater quality and effluent treatment from changes in lixiviant chemistry <p>b) BNDN requests that Denison commit to ongoing communications and engagement with BNDN regarding changes to the wellfield operation throughout the life of mine. The terms of engagement should be defined in a BNDN-Denison project Agreement.</p>

		requirements for the IWWTP that impact the ability of Denison to achieve effluent quality criteria for significant periods of time.	
41.	Draft EIS Appendix 8e Table 4	<p>Table 4 of Appendix 8e of the draft EIS shows the predicted site discharge concentrations of the contaminants of potential concern (COPCs). BNDN notes that the concentrations of a number of COPCs do not achieve water quality objectives that is the best available technology economically achievable (BATEA). Example COPCs include copper, molybdenum, selenium, uranium, vanadium, zinc and ammonia.</p> <p>BNDN requires proponents operating on our Ancestral Lands to, at a minimum, achieve BATEA standards for effluent treatment and discharge. This takes reasonable and appropriate precaution without imposing unreasonable costs on the operation.</p>	<ul style="list-style-type: none"> a) BNDN requests that Denison commit to achieving BATEA criteria for all COPCs in their effluent. b) Denison must work with BNDN to identify mutually agreeable and appropriate effluent discharge criteria for their effluent. BNDN expects that identifying suitable effluent discharge criteria will be undertaken through an Environmental Committee with a terms of reference defined in a BNDN-Denison project agreement c) BNDN requests that the CNSC impose a condition of approval on the Project that BNDN
42.	Draft EIS Appendix 8e Table 7	<p>Table 7 of draft EIS Appendix 8e shows the anticipated size of the mixing zone under 3 different flow conditions, including the calculated 7Q10 flow. While BNDN understands that Denison expects to discharge relatively small volumes of effluent to Whitefish Lake compared to a conventional open pit or underground mining operation, BNDN is concerned that the mixing zone assessment underestimates the magnitude of impact that the project will have on Whitefish Lake.</p>	<p>BNDN requests that Denison undertake a plume delineation study and provide BNDN the opportunity to review the findings of the study through the BNDN-Denison Environmental Committee for the Wheeler River Project.</p>

<p>43.</p>	<p>Draft EIS Appendix 10a</p>	<p>BNDN notes that the environmental risk assessment (draft EIS Appendix 10a) makes no mention of potential impacts the project may have on mercury biogeochemical cycling and the consequent risks to the environment and human health. This is unsurprising given the lack of baseline sampling of mercury in sediments and soils, especially wetland soils.</p> <p>The lack of baseline mercury sampling is a significant oversight given the significant impact that mining operations can have on mercury biogeochemistry, including mercury methylation, and mobility of mercury species within the environment.</p> <p>BNDN is very concerned with the complete lack of assessment of this important consideration for the project and the consequent inability for our members to adequately understand the potential risks to our Treaty and Aboriginal rights from these risks. Note that the absence of baseline information gathered can be reasonably considered an impact on our Treaty and Aboriginal rights as our members will avoid exercising our rights if we lack the information to have confidence that it is safe to do so.</p>	<p>Denison must revise Appendix 10a of the draft EIS to incorporate findings from the mercury baseline studies in wetland soils and sediments requested by BNDN.</p>
<p>44.</p>	<p>Draft EIS Table 2.2-4</p>	<p>In Table 2.2-4 of the Draft EIS, Denison documents their planned chemical used for the project. BNDN notes that Denison intends to use zero-valent iron (ZVI) in the IWWTP, but not as part of the remediation solution for</p>	<p>BNDN requests that Denison investigate the suitability of using zero-valent iron to remediate the groundwater within the wellfield as part of the decommissioning process.</p>

		<p>the mine. BNDN notes that ZVI is used to treat contaminants in groundwater around the world. Denison has not discussed whether they have investigated the possibility of utilizing ZVI to remediate the wellfield during decommissioning.</p> <p>Protection of groundwater is of exceptional importance to BNDN. BNDN is concerned that Denison has not made a complete or comprehensive effort to understand how to minimize negative impacts to groundwater from the project using proven technologies that may be suitable for remediating the restoration solution in the wellfield during the decommissioning phase of the mine.</p>	
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4.4 Aquatic Wildlife

BNDN has undertaken a review of the interactions between the Project and aquatic resources and the way that these resources may interact with BNDN's rights, values, and interests. This has included an investigation of how information has been collected, analyzed, and interpreted by the Proponent. Valued Components (VCs) considered as part of this section include:

- Surface water quantity
- Surface water quality
- Sediment quality
- Benthic invertebrates
- Fish and fish habitat
- Fish health

Information gaps, issues, and additional mitigation measures or accommodations related to aquatic resources are described in the comments in Table 4 below. A brief summary of relevant information is included below to support interpretation of these comments.

The proposed Wheeler River Mine occurs in the Icelander River watershed that drains into Russell Lake (Figure 8). Baseline water quality of lakes and streams within the RSA are generally below applicable guidelines for protection of aquatic life. However, concentrations of aluminum, lead, iron, and cadmium all showed some exceedances over guidelines. Sampling of benthic invertebrates in baseline studies of McGowan Lake, and Whitefish Lake found communities that are typical of depositional environments with species of chironomids, midges, water fleas, and worms. Sediments in these lakes are also typical of depositional environments, with primarily small particles such as clay dominating and lesser amounts of silt and sand in areas of higher water velocity. Background concentrations of metals and other contaminants in sediment are at or below applicable guidelines in most instances. Fish identified in the study area inhabit rivers, streams and lakes within the RSA. This includes lake trout, lake whitefish, northern pike, walleye, burbot, yellow perch, arctic grayling, and several suckers and small-bodied species (e.g. lake chub, spottail shiner, and ninespine stickleback).

Environmental management throughout the life of mine will occur to collect water that has been affected by the Project, minimize mobilization of sediment/soils, and reduce contaminants from effluent discharge or groundwater from entering surface water. Freshwater for all project requirements, including potable water, process water, wash water, fire suppression, drilling and batch plant will be sourced from Whitefish Lake or shallow groundwater.

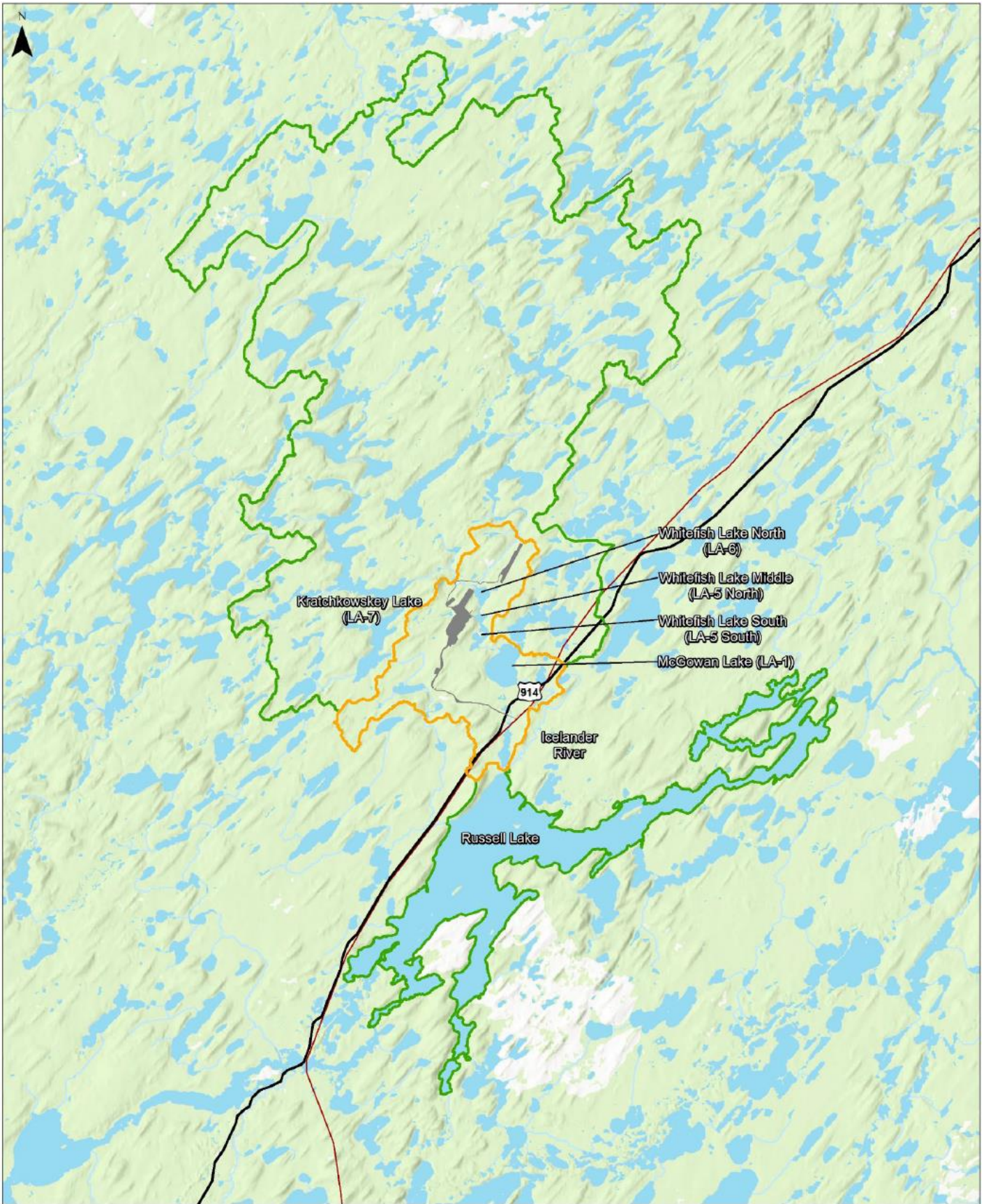
Domestic wastewater, from sinks, showers, toilets, washing machines, and kitchens, will be treated on-site in the domestic wastewater treatment plant (DWWTP) and discharged to the process water pond. From there it will undergo additional treatment in the Industrial Wastewater Treatment Plant (IWWTP) before being recycled in the process plant or discharged to Whitefish Lake. Denison is planning to

maximize use of treated wastewater as make-up water for the processing plant, diminishing the volume of freshwater required and wastewater discharged.

Mine contact water and process water will be collected and treated. Denison proposes to direct treated wastewater from the IWWTP to three effluent monitoring and release ponds before being discharged to Whitefish Lake during operations (years 3-18) and decommissioning (years 18-23). Water will be held in these retention ponds until water quality meets regulatory discharge criteria.

Key Issues:

- Lack of storage capacity in Effluent Monitoring and Release Ponds may limit operational flexibility. In the event of poor water quality, the Proponent will have very limited ability to retain water for additional treatment prior to discharging to Whitefish Lake.
- The sampling effort for identifying the species diversity and relative abundance of the fish community is low. BNDN recommends that Denison undertake an additional round of spring and fall fish sampling.
- It is unclear how BNDN will be involved in ongoing environmental oversight for the Project and how results of environmental monitoring (e.g. surface water and fish tissue data) will be shared. BNDN requests that Denison discuss the development of an Environmental Committee (or similar mechanism) and communication strategies for sharing results with BNDN.



<p>Legend</p> <ul style="list-style-type: none"> Project Area Local Study Area Regional Study Area Waterbody Watercourse Hwy 914 Transmission Line Northern Saskatchewan Administrative District 	<p>Wheeler River Wheeler River Project EIS - Spatial Boundaries</p>				
	<p>DENISON MINES</p>				
	<p><small>Data Sources</small></p> <ul style="list-style-type: none"> • Waterbody, Watercourse, Topographic Data of Canada - CanVec Series, Government of Canada, Transmission line, SaskPower; • First Nation boundaries and point locations, Denison Mines, 2021 • Regional Study Area/Watersheds delineated by NewFields, February 2022 • National Geographic World Map; National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp. • World Topo Base Sources: Esri, HERE, DeLorme, Intermap, P Corp., NPS, NRCAN, Ordnance Survey, O OpenStreetMap contributors, USGS, NGA, NASA, CIGAR, N, Robison, NCEAS, NLS, OS, NMA, Geodatasystem, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community. <p><small>Disclaimer</small></p> <p><small>Data has been derived from a variety of digital sources and, as such, the accuracy, completeness, or reliability of this map or its data is not guaranteed. All mapped features are approximate and should be used for discussion purposes only.</small></p> <p style="text-align: center;"> <small>0 0.5 1 1.5 2</small> <small>Kilometres</small> <small>Map Scale 1:150,000 (printed on 11 x 17)</small> <small>Map Projection: NAD 1983 UTM Zone 13N</small> </p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; font-size: 8px;">Drawn: B. Kielstra</td> <td style="width: 33%; font-size: 8px;">Checked: J. Dietrich</td> <td style="width: 33%; font-size: 8px;">Date: 2022-10-17</td> </tr> </table>	Drawn: B. Kielstra	Checked: J. Dietrich	Date: 2022-10-17
Drawn: B. Kielstra	Checked: J. Dietrich	Date: 2022-10-17			
		<p>Denison Mines Ecometrix</p>			

Figure 8. Study Area Boundaries for Fish and Fish Habitat of the Wheeler River Project (Denison, 2022)

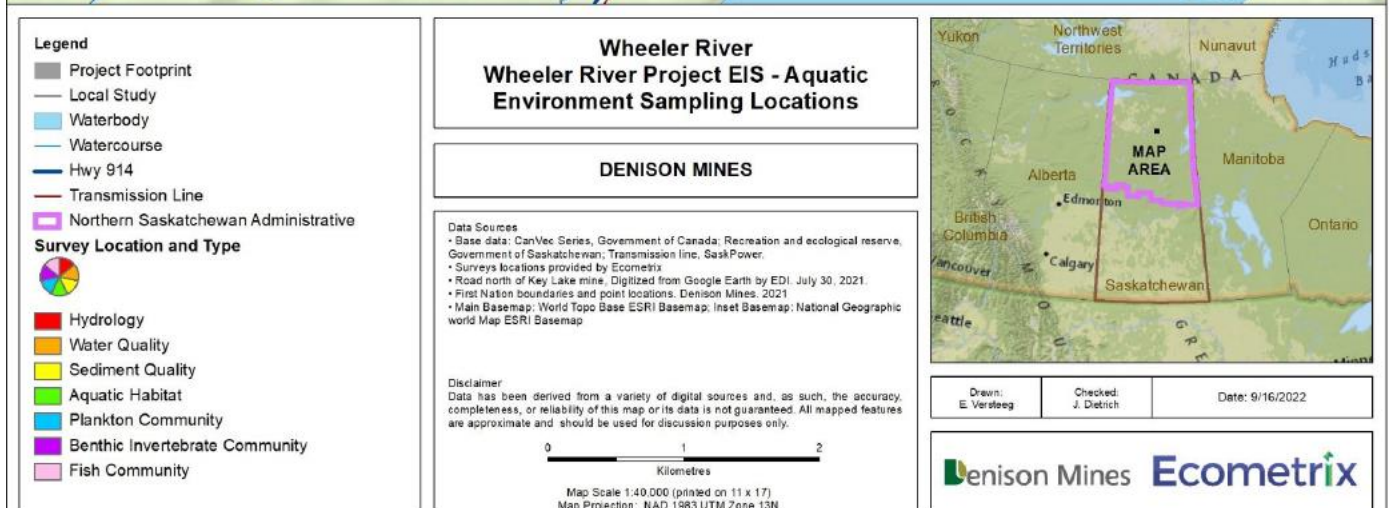
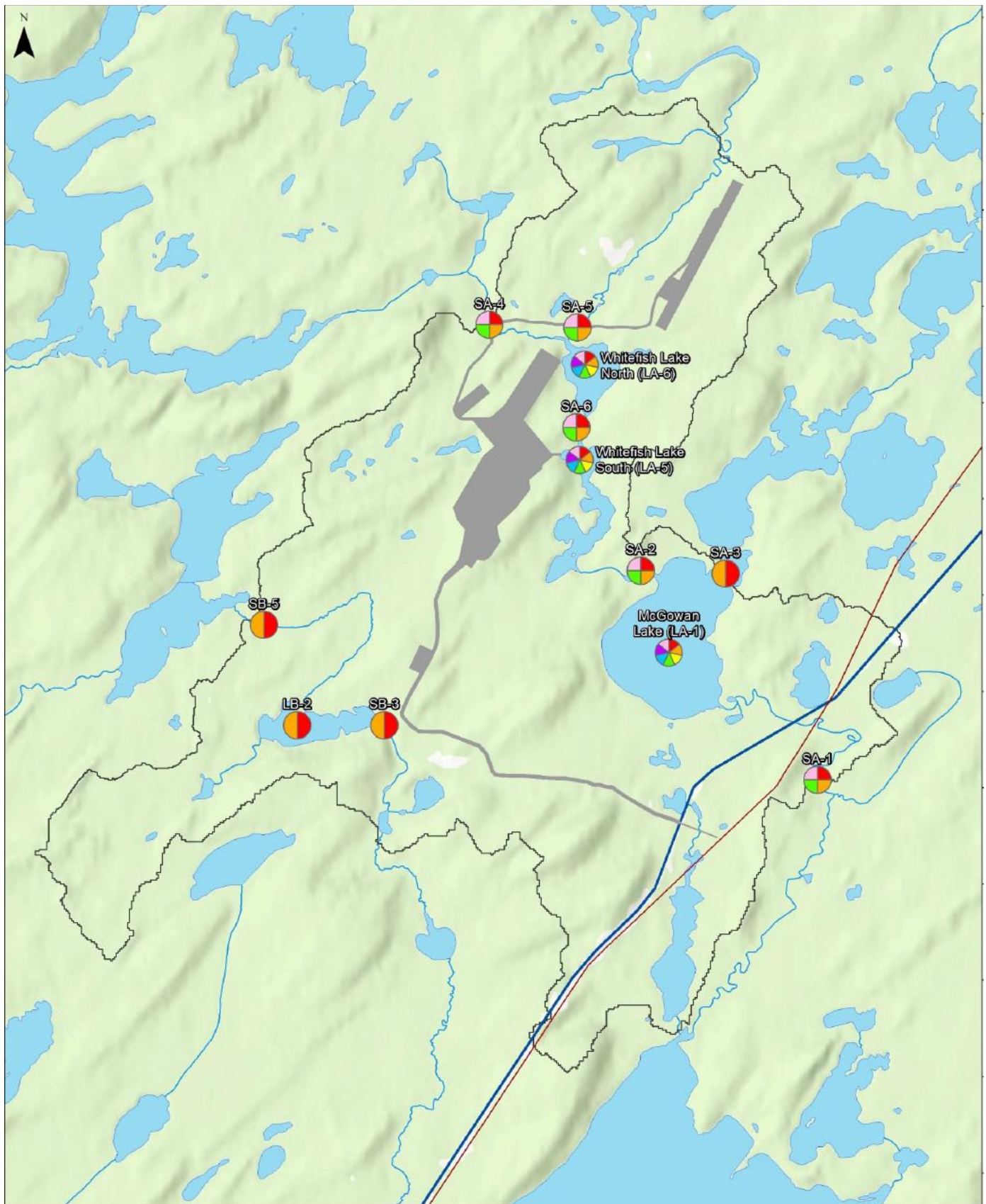


Figure 9. Aquatic Environment Sampling Locations for Wheeler River (Denison, 2022)

Table 4. Comments and recommendations for the Wheeler River EIS related to aquatic resources

#	Document Reference	Comment	Request/Recommendation
45.	8.2.4.1.1 Site Water Management	<p>BNDN is concerned that the small volume of Effluent Monitoring and Release Ponds may create a lack of operational flexibility. For example, in the EIS, it is state that:</p> <p><i>“Treated water from the IWWTP will be pumped to the three Effluent Monitoring and Release Ponds (each 3,300 m³). These ponds will be designed to hold effluent for 72 hours for testing before discharge to the environment.”</i> – EIS, pp 723</p> <p>If water quality in these ponds exceeds discharge criteria then there may be a need to store water so that additional treatment and monitoring can occur prior to discharge. However, only having capacity for three days of storage means it is unlikely the Proponent would be able to adequately treat water prior to reaching storage capacity, resulting in a need for emergency release of poor-quality water.</p>	<p>a) BNDN requests that additional storage capacity be included as part of the design for water management system. This must include adequate storage capacity to ensure Denison has the ability to retain water for sufficient time to allow treatment, in the event that exceedances of water quality discharge criteria occur.</p> <p>Alternatively, Denison can commit to halting discharge (and operations if required) should water quality exceed discharge criteria. Discharge into Whitefish Lake would resume once water quality in the Effluent Monitoring and Release Ponds has been returned to below discharge criteria.</p> <p>b) BNDN requests that the CNSC impose a condition of approval for the Project that requires Denison to must meet effluent discharge criteria prior to discharge and must halt operations if treated effluent in the monitoring and release ponds does not meet effluent discharge criteria.</p>
46.	Appendix 8-D Aquatic Environment Baseline Study	<p>Fish community sampling is an important component of baseline studies for many reasons, including identifying species present (including any species at risk) and evaluating relative abundance (e.g. CPUE). A robust program should include multi-season and multi-year approach. This allows improved characterization of</p>	<p>a) BNDN requests that the Proponent build on the existing data for fish community sampling by collecting an additional round of spring and fall sampling.</p> <p>b) BNDN requests that an assessment of total effort, total catch, and CPUE be provided for each capture</p>

		<p>seasonal habitat use and accounts for natural variability.</p> <p>In the baseline aquatic assessments, the Proponent has focused fish community sampling in fall 2016, with some limited additional sampling in spring 2017. This low level of effort will make it difficult to draw meaningful comparisons with monitoring work that will occur during the life of mine.</p> <p>Furthermore, CPUE has only been reported for electrofishing effort. As a result, there is very limited information available for relative abundance of fish in important waterbodies, including Whitefish Lake, McGowan Lake, and Russell Lake.</p> <p>**BNDN notes that a raw representation of total effort is provided in table A-13 of Appendix 8D but requests that an assessment of total effort, total catch, and CPUE be presented in the EIS for each capture method/location**</p>	<p>method/location where fish sampling has occurred.</p>
<p>47.</p>	<p>8.2.5 Mitigation Measures</p>	<p>The Proponent has identified one mitigation measure that includes sharing of monitoring results to assess performance of water management system (EIS, pp 8-90, 8.2.5 Mitigation Measures). BNDN is supportive of this type of information sharing and believes that it can be an important component of transparency and trust-building between the Proponent and other parties. However, it is important that information sharing be done in a</p>	<p>BNDN requests involvement in discussions with Denison about sharing of information related to water quality monitoring (and environmental monitoring more broadly). Some methods of communication that may support accessibility of data include:</p> <ul style="list-style-type: none"> • Public-facing summary reports on a regular schedule (e.g. quarterly or annually) • Real-time access to environmental monitoring data through online database portals.

		<p>way that is accessible to community members.</p>	<ul style="list-style-type: none"> • Semi-regular community meetings hosted in Turnor Lake (e.g. every 12-18 months, as decided in conjunction with BNDN leadership within a Project Agreement with BNDN). • Presentations to BNDN staff, leadership, and/or community members by BNDN Environmental Monitors. <p>The specific methods used for information sharing and appropriate levels of support from Denison can be determined through consultation with BNDN.</p>
48.	8.5 Fish Health	<p>The Proponent has completed predictive modelling for concentrations of contaminants in fish tissue. For example, results of modeling for selenium indicate that concentrations will fluctuate throughout operations but remain below the recommended criterion of 2.83 mg/kg wet weight (from the US EPA). Should the Project proceed, information on contaminants in fish tissues will be highly relevant for BNDN and land users who eat fish from the area.</p>	<p>BNDN requests that results of fish tissue monitoring (e.g. EEM studies) be shared in a publicly available and accessible way. This must include comparisons with guidelines and information on other contaminants of importance (e.g. mercury). Discussions regarding how this information can be shared with BNDN should occur alongside the discussions related to water quality monitoring results (see comment above).</p>
49.	8.3 Fish and Fish Habitat	<p>Increased fishing pressure in Whitefish Lake from employees working at the Project site and increased ability for visitors due to improved access could negatively impact fish populations. Preferred species, large-bodied fish, and older individuals are most likely to be targeted. This may have negative consequences on the population structure of fish in the lake as well as the ability of BNDN members to exercise fishing rights.</p>	<p>BNDN recommends that the policies Denison sets related to staff and contractors fishing while on site are determined collaboratively with BNDN through the Environmental Committee defined in a BNDN-Denison project agreement.</p>

50.	8.3.4 Assessment of Project-related Effects	The EIS provides very few details regarding how spills, leaks, and other accidents and malfunctions will be managed to mitigate the impacts on fish and fish habitat. Over the life of the mine there will inevitably be accidents and malfunctions. One of the most common environmental issues that will be encountered is leaks and spills. These can typically be managed through good monitoring and preparedness, though if they occur near water, the ability to clean them quickly is difficult and can result in harm to aquatic communities.	BNDN request additional information regarding the development of spill prevention programs, emergency management procedures, and monitoring and remediation programs for accidents and malfunctions. Representatives from BNDN need to be included in the planning and execution of monitoring and remediation activities to provide community perspectives in Project activities. One method through which BNDN can be involved in these discussions is through the development of an Environmental Committee (see comment below).
51.	8.3.8 Monitoring and Follow-up	There is no discussion on how Indigenous communities, such as BNDN, will be included in environmental management, emergency management, monitoring, and remediation. This includes issues related to ongoing permitting or specific remediation such as in the case of an accident or malfunction.	To support BNDN’s ongoing participation in monitoring and oversight of the Project, we request the establishment of an Environmental Committee or similar oversight mechanism. The purpose of the committee will be to review monitoring data and monitoring reports produced during the life-of-mine to ensure that environmental protection is sufficient for all VCs. The committee can also participate in permitting throughout the life-of-mine for all relevant applications (e.g. Fisheries Act authorizations, water permits, Closure Plan updates etc.) and provide input to management plans (e.g. EPPs, Surface Water Management Plan, Environmental Monitoring Plans, etc.). The specific details of such a committee can be developed through consultation with BNDN and must be formalized through a BNDN-Denison project agreement.
52.	8.3.5 Mitigation Measures	Mitigation measures are an important component of Project management which are critical for environmental protection. Upon review of the	BNDN request that the following standard mitigation measures be included as part of the list described in Section 8.3.5:

		<p>suggested mitigation measures, BNDN has identified some opportunities for additional mitigation.</p>	<ul style="list-style-type: none"> • Maintain vegetated buffers of at least 100m with all waterbodies wherever practical; • All equipment must be inspected prior to use on-site to ensure that they are clean and free of soil or other contaminants; • Maintain spill kits on all vehicles used on-site; • All machinery will be kept in good working order and inspected regularly for drips, leaks, and spills; • In the event of a spill, Denison will take all necessary actions, where it is safe to do so, to immediately stop the spill, contain contaminants, clean up and dispose of contaminated materials; • Denison will maintain a record of all spills and report upon each spill within 48 hours, including information on spill response, cleanup, and remediation; • Vehicle refueling will occur at a distance of at least 100m; • Fuel tanks will be located in areas that are lined and contained; • Fuel tanks will be located at least 500m from known waterbodies.
<p>53.</p>	<p>8.3 Fish and Fish Habitat</p>	<p>Unfortunately, due to the nature of planning and licensing for complex projects such as the Wheeler River mine, there are many documents, plans, licenses and approvals which may not be available for review during the environmental assessment process or which will take place subsequent to completion of the assessment. For example, Denison will be preparing important</p>	<p>BNDN requests that Denison consult with our staff members and advisors on important environmental documentation/plans/licenses that are not available as part of the EA process. This list includes, but is not limited to,</p> <ul style="list-style-type: none"> • Surface Water Management Program • Erosion and Sediment Control Plan

		<p>documentation governing environmental management of the Project following the Environmental Assessment. While these are not currently available, there is a need to engage with BNDN to obtain input on these documents as planning progresses.</p>	<ul style="list-style-type: none"> • Fish Salvage Plan • Spill Response Plan • MDMER approvals and EEM plans • Saskatchewan Water Security Agency permits for <ul style="list-style-type: none"> ○ Aquatic habitat protection ○ Operating a waterworks ○ Operating a sewage works • Effluent Monitoring Plan • Environmental Monitoring Plan(s) • Decommissioning and Reclamation Plan <p>Engagement with BNDN on these plans should occur through an Environmental Committee or similar oversight mechanism (see above). The specific details of such a committee can be developed through consultation with BNDN and must be formalized through aa BNDN-Denison project agreement for the Wheeler River Project.</p>
54.	8.4.3.1 Methodology and Metrics	<p>The collection of sediment samples was completed using cores and grab petit Ponar in three upstream reference locations (LA-7A, LA-8, and LA-9), Whitefish Lake (LA-5 and LA-6), McGowan Lake (LA-1), and Russell Lake (LAB-1 and LAB-2). Sediment quality testing was conducted to characterize COPC including nutrients, metals, and radionuclides.</p> <p>Only the top 2 cm of cores of grab samples were analyzed in the lab. It is not clear in the methodology why</p>	<p>BNDN requests additional information on the rational for only analyzing COPC within the top 2 cm of sediment samples. This should include information on whether this limited data will negatively affect the ability to evaluate potential impacts of groundwater contamination entering Whitefish Lake from below during operations, decommissioning, and future centuries.</p>

		laboratory analysis was limited to the top 2 cm.	
55.	8.4.3.2.3 Metals	Despite significant concerns regarding the presence of mercury in water and sediment, the Proponent has elected not to test sediments for it. BNDN acknowledges that the mining process does not use mercury and it is present in low levels in the background environment. However, for the purposes of good stewardship, communications, and trust, having an assessment of the background levels of mercury is important to BNDN.	BNDN requests that the proponent sample sediments for mercury to establish background levels. This is information that is culturally important given the potential harm and the psychological toll of mercury in aquatic ecosystems. Background levels can then be compared with ongoing monitoring throughout the life of mine.
56.	Table 8.5-2: Baseline Fish Tissue Chemistry Summary	In Section 8.5 Fish Health, the Proponent has included a summary table with information on contaminants in fish tissue and bone tissue. The information provided does not include total number of samples.	BNDN requests table 8.5-2 be updated with information on total number of fish (n) samples for each location.

4.5 Wildlife and Terrestrial Ecology

Section 9 of the EIS focuses on the Terrestrial Environment, and is divided into the following 4 subsections outlining 12 Valued Components:

1. **Section 9.1 - Terrain, Soil, and Organic Matter/Peat**
2. **Section 9.2 - Vegetation and ecosystems, Listed Plant Species and Wetlands**
3. **Section 9.3 - Ungulates, Furbearers, and Woodland Caribou**
4. **Section 9.4 - Raptors, Migratory Breeding Birds, and Bird Species at Risk**

Key activities with the potential for adverse effects on *Terrain, Soil, and Organic Matter/Peat* include surface land clearing, major earthworks, surface/grading preparations and associated use of equipment. Potential impacts of these key activities on *Terrain, Soil, and Organic Matter/Peat* include:

- altered topography and surface drainage patterns resulting in increased surface erosion and potentially destabilized landscape features,
- change in soil quantity and quality,
- degradation and/or loss of peat/organic matter,
- and alteration of wetland hydrologic functions that support the viability of peat/organic matter.

Key activities with the potential for adverse effects on *Vegetation and ecosystems, Listed Plant Species and Wetlands* include site preparation (e.g., clearing, grading and construction of roads, airstrip, and surface infrastructure), water management (e.g., withdrawal/use of surface and/or groundwater and release of effluent), and reclamation of disturbed areas. Potential impacts of these key activities on *Vegetation and ecosystems, Listed Plant Species and Wetlands* include:

- change in areal extent of habitat types,
- change in the level of constituent of potential concern (COPC) in plant tissue,
- change in the number of listed plants, and
- change in the areal extent of wetlands.

Key activities with the potential for adverse effects on *Ungulates, Furbearers, and Woodland Caribou and Raptors, Migratory Breeding Birds, and Bird Species at Risk* include site preparation (e.g., clearing, grading and construction of roads, airstrip, and surface infrastructure), operation (i.e., vehicle movement, material handling), water management (e.g., withdrawal/use of surface and/or groundwater and release of effluent), waste management (e.g., temporary storage, handling, and off-site transportation), and reclamation of disturbed areas.

Potential impacts of these key activities on *Ungulates, Furbearers, and Woodland Caribou and Raptors, Migratory Breeding Birds, and Bird Species at Risk* include:

- habitat loss (due to vegetation clearing),
- habitat alteration (due to sensory disturbances, habitat fragmentation, and edge effects),
- direct mortality (due to incidental take, collisions with equipment, buildings, aircraft and power lines), and

- indirect mortality (due to increased harvest and/or predation, nest failure or abandonment, changes in predator-prey dynamics, or increased public access).

The EIS provides mitigation measures designed to avoid or minimize all potential impacts of the Project. The Proponent predicted that the residual effects of the Project on the Terrestrial Environment would be low to moderate in magnitude, occur within a local to regional geographic extent, occur continuously over the life of the Project, and be reversible to some extent. Considering the mitigation and follow-up measures proposed, the Proponent has predicted with a high level of confidence that residual environmental effects from the Project on the Terrestrial environment are unlikely to be significant.

The following section describes issues identified in our scoped review of the EIS that pertain Section 9, Terrestrial Ecology. Table 5 provides a summary of comments identified using professional expertise and judgement, and recommendations for addressing them.

Key Issues:

- A 500 m buffer surrounding the Project Area is used to measure the areal extent of indirect habitat alteration for moose and woodland caribou. However, scientific research states that anthropogenic disturbance can affect ungulate habitat selection, resulting in habitat avoidance up to 1 km from the disturbance. Without considering a larger avoidance buffer around proposed anthropogenic disturbances, we believe that the EIS underestimates the areal extent of potential habitat alteration.
- Two bird species at risk (SAR), Barn Swallow and Horned Grebe, were observed during baseline studies. These species were not included as key indicators for SAR birds. Instead, the SAR were represented by other bird SAR that use different habitat and exhibit distinct breeding behaviours. This is problematic because these species will have unique levels of habitat alteration/loss and mortality levels than the representative species.
- Two bat species, Little Brown Bat (*Myotis lucifugus*) and Northern Myotis (*Myotis septentrionalis*) were detected during baseline studies. These species are listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and in the Species at Risk Act (SARA) schedule. Despite being present, bats were excluded from the EIS. Areas that will be cleared for mine development and operations could contain maternity roost trees. Based on Appendix 9-b, this habitat was not adequately evaluated through field surveys.

Table 5. Comments and recommendations for the Wheeler River EIS related to terrestrial environment

#	Document Reference	Comment	Request/Recommendation
57.	9.2.5.2 Additional Vegetation- specific	The Proponent has committed to using seed that is certified weed-free, with a valid “Certificate of Seed Analysis” for the revegetation process.	BNDN recommends that, in addition to using weed-free certified seeds, consultation occur with Indigenous communities, including BNDN, to select an appropriate

	Mitigation Measures		seed mix that closely mimics the pre-construction plant community and includes plants of medicinal and traditional importance. This could be done by either sourcing seed mix from a local seed distributor, or using wild seed propagated from plants collected from the Project Area. In addition, the seed mix should contain native plant species only.
58.	<p>9.3.4.2.1 Alteration and/or Loss of Habitat</p> <p>Figure 9.3-9 Available Habitat for Moose</p>	<p>The EIS uses a 500 m buffer around the Project Area to define indirect habitat alteration for moose (Figure 9.3-9). This includes habitat alteration from sensory disturbance such as anthropogenic noises, vehicle traffic, aircraft traffic, and increased predator access. However, the EIS references scientific research that states that roads and vehicle traffic can affect moose habitat selection, resulting in habitat avoidance up to 1 km from roads (Shanley and Pyare 2011).</p> <p>Furthermore, the EIS acknowledges uncertainty concerning the available background and baseline information used to identify available moose habitat in this assessment.</p> <p>Without considering a larger avoidance buffer (as demonstrated in various research) around proposed anthropogenic disturbances, we believe that the EIS underestimates the potential extent of moose habitat alteration. To be more conservative, a 1000 m buffer should be used surrounding the Project area.</p>	BNDN recommends using a 1000 m buffer surrounding the Project Area to measure the extent of moose habitat alteration. We believe this analysis will provide a more accurate and conservative outcome with respect to potential project impacts to moose.

59.	9.3.5.2.7 Mitigation Measures	<p>One of the mitigation measures implemented to protect ungulates, furbearers, and Woodland Caribou includes de-icing the Project roads for winter traction, which will result in fewer wildlife collisions.</p> <p>Salt used for de-icing is likely to attract ungulates, including moose, to roadways to satisfy their mineral requirements (Rea et al 2021).</p>	<p>BNDN requests that the Proponent revise this mitigation measure to explicitly state that salt will not be used for de-icing Project roads to avoid attracting ungulates to the Project Area. This mitigation measure can be found in section 9.3.5.2.7 Road and Traffic Management.</p>
60.	9.3.6.4.1 Alteration and/or Loss of Habitat Figure 9.3-14	<p>The EIS uses a 500 m buffer around the Project Area to define Woodland Caribou habitat alteration from sensory disturbance. However, scientific research expects up to 5 km (or greater) of Caribou avoidance around mining Projects, and that related semi-permeable barriers, such as roads, likely exacerbate this effective habitat loss [(Smith et al. 2000; Dyer et al. 2001; Courtois et al. 2008; Vistnes and Nellemann 2008; Nagy 2011; Polfus et al. 2011; Leblond et al. 2011, 2013; CPAWS Wildlands League 2013; Johnson et al. 2015)].</p> <p>Without considering a larger avoidance buffer (as demonstrated in various research) around proposed anthropogenic disturbances, we believe that the EIS underestimates the potential extent of Caribou habitat alteration.</p>	<p>BNDN requests that the Proponent present the extent of caribou habitat alteration/loss from the proposed Project within a range of uncertainty informed by scientific research.</p> <p>Specifically, the percent alteration of habitats must be presented using a 500 m (low end) up to a 5,000 m (high end) buffer. We believe this analysis will provide a more accurate range of outcomes with respect to potential project impacts to caribou.</p>
61.	9.4.3.3 Bird Species at Risk	<p>Incidental observations of Barn Swallow (<i>Hirundo rustica</i>) occurred during baseline studies (Appendix 9-B). This bird SAR was not included as a Key Indicator for this Valued</p>	<p>a. BNDN requests that the Barn Swallow is included as its own key indicator for the VC Bird SAR within the EIS.</p>

	Appendix 9-B	<p>Component. Instead, the EIS represents the Barn Swallow using two other SAR birds including the Olive-sided Flycatcher (<i>Contopus cooperi</i>), and Common Nighthawk (<i>Chordeiles minor</i>). This does not make ecological sense because Barn Swallows use distinct habitat and exhibit distinct breeding behaviour from these other SAR. Therefore, the barn swallow should be its own key indicator because it will have unique levels of habitat alteration/loss and levels of mortality than the other species.</p> <p>In addition, Barn Swallows have a higher likelihood of being impacted by project activities than the other representative SAR, because they nest directly on artificial structures. The EIS states that species that nest on buildings are more susceptible to entrapment in Project components. This species is listed as Threatened on SARA Schedule 1. In Canada, the Migratory Birds Convention Act, 1994 protects Barn Swallow, its nests, and eggs.</p>	<ul style="list-style-type: none"> b. Additional surveys should be conducted to confirm the presence of any Barn Swallow nests on all buildings in the Project Area prior to commencement of construction. c. If Barn Swallow nests are located, contact the SK MOE for regulatory advice on the appropriate actions given the specific situation. d. The Proponent should monitor all barn swallow nests found within the Project Area to confirm their continued usage throughout the lifecycle of the mine. If avoidance of nests is observed near Project activities, the Proponent should adopt an adaptive management approach and provide additional nesting sites elsewhere. Specifically, the Proponent could consider installing nesting structures in suitable areas to provide alternative nesting options for Barn Swallows. e. Staff should be trained to identify and report barn swallows and their nests. f. Future monitoring programs during the life of the project must include the barn swallow.
62.	<p>9.4.3.3 Bird Species at Risk</p> <p>Appendix 9-B</p>	<p>Incidental observations of Horned Grebe (<i>Podiceps auratus</i>) occurred during baseline studies (Appendix 9-B). This species is listed as Special Concern on SARA Schedule 1. The Horned Grebe was not included as a Key Indicator for this Valued Component. Instead, the EIS represents this species with two other bird SAR, Yellow Rail (<i>Coturnicops noveboracensis</i>), and Rusty Blackbird</p>	<ul style="list-style-type: none"> a. BNDN requests that the Horned Grebe is included as its own Key Indicator for the VC Bird SAR within the EIS. b. Future monitoring programs during the life of the Project must include the Horned Grebe.

		<p>(<i>Euphagus carolinus</i>). The Horned Grebe uses distinct habitat from these other species. Therefore, the Horned Grebe should be its own key indicator because it will have different levels of habitat alteration/loss and levels of mortality.</p>	
63.	9.4.3.3 Bird Species at Risk	<p>The Bank Swallow (<i>Riparia riparia</i>), a bird SAR may be present within the terrestrial RSA. This species was not included in the EIS as a key indicator for bird SAR. This species is listed as Threatened on SARA Schedule 1.</p> <p>The breeding range of the Bank Swallow (<i>Riparia riparia</i>) overlaps with the terrestrial RSA. Bank swallows breed in varying natural and artificial habitat with sand-silt substrates including vertical banks, riverbanks, bluffs, stockpiles, aggregate pits, and roadcuts (COSEWIC 2013). Suitable habitat may be present because soil surface textures across the RSA are predominantly sand textured (sand, loam sand/sandy loam and silty sand). The creation of soil stockpiles during construction may create suitable breeding habitat for this species.</p>	<ol style="list-style-type: none"> a. BNDN requests a justification for excluding the Bank Swallow from the EIS. b. If a valid justification does not exist, BNDN requests this species be added as a Key Indicator for bird SAR unless it can be proven not present in the RSA. c. All soil stockpiles should be monitored for Bank Swallow nesting activity before the stockpiles are disturbed when needed for site reclamation. d. If Bank Swallow nests are located, contact the SK MOE for regulatory advice on the appropriate actions given the specific situation.
64.	9.4.3.3.2 Information from Indigenous Knowledge, Local Knowledge, and Engagement	<p>The EIS states that knowledge providers reported that multiple Whooping Cranes (<i>Grus americana</i>) have been observed along the Wheeler River, Moore River, and along the Cree River (outside of the terrestrial RSA) (19-LK-ERFNTrip-134.169) (19-LK-ERFNTrip-134.170). Whooping Cranes are listed as Endangered on SARA Schedule 1.</p>	<ol style="list-style-type: none"> a. BNDN requests an explanation for excluding this species despite being reported by a Trapper from English River First Nation. If a valid justification does not exist, the species Whooping Crane (<i>Grus americana</i>), should be included as a key indicator for SAR birds. b. Future monitoring programs during the life of the Project must include surveys for the Whooping Crane.

		The EIS does not include this species as a key indicator for SAR birds, nor does it include an explanation why this species was omitted despite being reported by a knowledge provider from English River First Nation.	
65.	9.4.3.3.3 Baseline Studies	Short-eared Owls (<i>Asio flammeus</i>) were not observed during the baseline surveys (Appendix 9-B). This is likely because targeted surveys for this species were not conducted. The detection probability of Short-eared Owls is very low at sunrise when the breeding songbird point count surveys were conducted. Short-eared Owls are most detectable from one hour before sunset to half an hour after sunset.	<ul style="list-style-type: none"> a. BNDN requests that short-eared Owls continue to be assumed present within suitable habitat, unless proven otherwise by a qualified biologist using the Short-Eared Owl Survey Protocol (Saskatchewan Ministry of Environment 2015). b. Future monitoring programs should utilize the protocol developed by the Saskatchewan Ministry of Environment to better (2015) understand whether this species is present.
66.	9.4.3.3.3 Baseline Studies	Yellow Rail (<i>Coturnicops noveboracensis</i>) were not observed during the baseline surveys (Appendix 9-B). This is likely because targeted surveys for this species were not conducted. The Yellow Rail is nocturnal; therefore, survey effort must take place between 23:00-3:00. Therefore, this species would not have been observed when the breeding songbird point count surveys were conducted.	<ul style="list-style-type: none"> a. BNDN requests that Yellow Rail should continue to be assumed present within suitable habitat, unless proven otherwise by a qualified biologist using the Yellow Rail Survey Protocol (Saskatchewan Ministry of Environment 2014). b. Future monitoring programs should utilize the protocol developed by the Saskatchewan Ministry of Environment (2014) to better understand whether this species is present.
67.	Appendix 9-b	Two bat species, Little Brown Bat (<i>Myotis lucifugus</i>) and Northern Myotis (<i>Myotis septentrionalis</i>) were detected during passive acoustic surveys in 2019 (Appendix 9-b). These species are listed as Endangered by COSEWIC and SARA schedule. Despite being present, bats were completely	<ul style="list-style-type: none"> a. BNDN requests justification for excluding bat species from the EIS despite two Endangered species confirmed present. b. BNDN also request the Proponent put protocols in place to identify and assess bat maternity roost trees prior to

		<p>excluded from the EIS. Areas that will be cleared for mine development and operations could contain maternity roost trees. Based on Appendix 9-b, this habitat was not adequately evaluated through field surveys.</p>	<p>clearing and employ mitigation measures such as retaining maternity roost trees, modifying the timing of clearing, and offsetting for the destruction of habitat for endangered species.</p>
68.	<p>9 Terrestrial Ecology</p> <p>9.1.8 Monitoring and Follow-up</p> <p>9.2.8 Monitoring and Follow-up</p> <p>9.3.8 Monitoring and Follow-up</p> <p>9.4.8 Monitoring and Follow-up</p>	<p>Denison’s proposed terrestrial ecology mitigations described are generalized and conceptual in the EIS.</p> <p>With the level of detail provided in the EIS, it is not possible for BNDN to comment on the adequacy or effectiveness of the proposed mitigation measures or whether proposed mitigations will meaningfully diminish Project impacts on BNDN rights and interests.</p>	<p>BNDN holds invaluable indigenous knowledge related to terrestrial ecology topics including traditional and medicinal plants, ungulates, furbearers, game birds etc. within the RSA. BNDN must be meaningfully involved in the development and implementation of the various management and monitoring plans mentioned throughout Chapter 9 of the EIS to ensure that proposed impacts are sufficiently reduced. These plans include but are not limited to the wildlife monitoring plan, avian monitoring, and Woodland Caribou Management Plan. The role that BNDN will have in developing management and monitoring plans should be defined within a project agreement between BNDN and Denison</p>

4.6 Atmospheric Environment

Section 6.0 of the Wheeler River Project EIS discusses the impact of the Project on the atmospheric environment. The EIS provides a detailed description of baseline air quality conditions, predicted project-related impacts and proposed mitigation measures. A review was completed in collaboration with BNDN to comment, identify potential concerns/deficiencies, and provide recommendations to minimize the impact of the Project on BNDN rights and interests, and the atmospheric environment.

Air Quality was selected as a VC because the Project will emit contaminants and change air quality. Air Quality was raised as a concern by BNDN during preliminary engagement with Denison as it connected to human and ecological health. The atmospheric environment acts as a pathway that can impact other ecosystem components which impacts BNDN rights, interests, and health, including:

- First Nation land and resource use including but not limited to hunting, fishing, trapping, gathering and cultural sites
- Human health
- Surface water quality and sediment quality
- Fish and fish habitat
- Terrain and soils
- Vegetation including medicinal, spiritual, edible, or culturally significant plants
- Wildlife and wildlife habitat

The Wheeler River Project will introduce new emissions sources and air contaminants into the region creating higher concentrations of pollutants and exceedance conditions. Denison assessed the following constituents of potential concern (COPC), also known as air contaminants or pollutants:

- total suspended particulate matter (TSP)
- inhalable particulate matter (PM10)
- respirable (fine) particulate matter (PM2.5)
- carbon monoxide (CO)
- sulphur dioxide (SO₂)
- nitrogen dioxide (NO₂)
- uranium
- arsenic
- cadmium
- chromium
- cobalt
- copper
- lead
- molybdenum
- nickel
- selenium
- vanadium
- zinc
- radon gas

The Project’s predicted air emissions from various sources (e.g., generators, process plant emissions, vehicle emissions, etc.) were combined with exiting air quality data (baseline conditions) in a model to understand the change in air emissions caused by the Project. Emissions for each COPC were estimated and modeled to predict changes in COPC concentrations and deposition rates.

Denison anticipates that unpaved surfaces such as site roads will be the main source of dust emissions and trace metals from the Project, with contributions also coming from processing emissions during operations. Denison expects fuel combustion from mobile and stationary equipment to be the main source of combustion and greenhouse gases from the Project. The main sources of uranium and radon occur in operations and include the ISR processing plant and operation of the ISR wellfield.

The following table outlines the project activities that impact air quality during each phase of the Project:

Project Phase	Project Activity Resulting in Changes to Air Quality
Construction	Development of access roads and air strip
	Site preparation and earthworks; clearing, levelling, and grading of the Project Area
	Power generation – generators
	Installation of main substation and distribution of power around site
	Wellfield and freeze hole drilling; ground freezing
	Batch plant operation (concrete); crusher at borrow area
	Development of surface infrastructure (camp, operations centre, plants, ponds, pads, and support facilities)
	Waste management (composting, domestic and industrial landfill operation, recycling)
	On-site and off-site operation of vehicles and transport of materials
	Air transportation for workers
Operations	Operation of the ISR wellfield
	Wellfield and freeze wall drilling
	Batch plant operation (grout and cement); crusher in borrow area

	Expansion of pond and pads
	Operation of the processing plant and production of uranium concentrate
	Waste management (composting, domestic and industrial landfill operation, recycling)
	Hazardous waste management (temporary storage, handling, and off-site transportation)
	Storage and disposal of drill waste rock, process precipitates, and industrial wastewater treatment plant precipitates
	On-site and off-site operation of vehicles and transport of materials
	Power supply – generators and backup generators
	Package and transport of nuclear substances
	Fuel management (e.g., propane for comfort heating; vehicle and aircraft fuel)
	Air transportation for workers
	Progressive decommissioning and reclamation
Decommissioning	Reclamation of disturbed areas
	Closure of ISR and freeze wells and related infrastructure ☒
	Decontamination of surface facilities and injection, recovery, and monitoring wells
	Asset removal (including site power transmission lines and electrical infrastructure)
	Demolition and disposal of non-salvageable surface infrastructure and materials
	Remediation of contaminated areas
	Generators
	Waste management (composting and landfill operation)
	Decommissioning of landfills; hazardous materials management

	On-site and off-site operation of vehicles and transport of materials
	Mining horizon remediation and thawing of freeze wall

Air quality is regulated by the Saskatchewan Ministry of Environment (MOE) through the Saskatchewan Ambient Air Quality Standards (SAAQS). For certain contaminants which do not have provincial regulatory standards, the Canadian Council of Ministers of the Environment (CCME) have agreed to implement a national Air Quality Management System. The framework resulted in the development of the Canadian Ambient Air Quality Standards (CAAQS) for particulate matter less than 2.5 microns (PM2.5), ozone, nitrogen dioxide, and sulphur dioxide. For COPCs without a SAAQS or CAAQS, Denison used standard from other jurisdictions including Ontario.

For the majority of COPCs, Denison’s modeling results predicted that the Project would be in compliance with provincial and federal air quality standards. However, Denison modeling results showed that the Project will cause exceedance conditions (pollutant concentrations above the regulatory limit) for the following air contaminants:

- **24-hour Total Suspended Particulate Exceedances**
 - Concentrations of 24-hour TSP were predicted to exceed the criterion of 100 µg/m³ during Construction, Operation, and Decommissioning, up to a maximum of 313% of the criterion during Construction.
 - 24-hour TSP concentrations exceed the criterion 28% of the time during Construction, 21% of the time during Operation, and 0.5% of the time during Decommissioning
- **24-hour Particulate Matter (PM10) Exceedances**
 - Concentrations of 24-hour PM10 were predicted to exceed the criterion of 50 µg/m³ at off-property receptors during Construction and Operation, up to a maximum of 232% of the criterion during Construction.
 - 24-hour PM10 concentrations exceed the criterion 17% of the time during Construction and 12% of the time during Operations.
- **1-hour Nitrogen Dioxide Exceedances**
 - Concentrations of 1-hour NO₂ were predicted to exceed the criterion of 79 µg/m³ at off-property receptors during Construction, Operation, and Decommissioning, up to a maximum of 225% of the criterion during Operation and Decommissioning.
 - Exceedances showed that 1-hour NO₂ concentrations exceed the criterion less than 1% of the time during any of the modelled Project phases at the maximum off-property receptor, which occurs on the Property Boundary.
- **24-hour Uranium Exceedances**

- Concentrations of 24-hour uranium were predicted to exceed the criterion of 0.15 µg/m³ at off-property receptors during Operation only, up to a maximum of 148% of the criterion.
- 24-hour uranium concentrations exceed the criterion less than 0.5% of the time at the maximum off-property receptor, which occurs on the Property Boundary.

(Denison, 2022)

Key Issues:

- The Project will produce exceedance conditions for TSP, PM 10 and Uranium, this may be exacerbated during wildfire events or cumulative effects from other local uranium mining operations (e.g., Key Lake, McArthur River, etc.)
- The EIS air dispersion model does not include air contaminant emissions from the Cameco McArthur River Mine and Key Lake Mill. Those two projects were in care and maintenance while the EIS was drafted but have recently resumed operations. As such, the EIS does not adequately capture the cumulative effects on the atmospheric environment. Fugitive dust and uranium emissions (and potentially other contaminants) have increased potential for exceedances with the resumption of Cameco’s operations.

Table 6. Comments and recommendations for the Wheeler River Project related to air quality and emissions

#	Document Reference	Comment	Request/Recommendation
69	EIS Section 6.0	Denison’s air dispersion model does not include any receptor locations related to BNDN traditional land and resources use (TLRU) and Indigenous Knowledge (IK) sites. BNDN members use the lands and waters in the Project area for TLRU and ceremonial purposes.	BNDN TLRU and IK sites should be considered in Denison’s air quality assessment. The geographic locations for TLRU and IK should be inputted into the air dispersion model as special receptors. This will provide site specific data for BNDN land users who use the LSA so they can effectively assess the Project’s impact on land use and rights.
70	EIS Section 6.0	Denison states in the EIS “the Cameco McArthur River Operation and Key Lake sites are currently in Care and Maintenance mode; therefore, there is	Denison must redo air dispersion modeling to account for the Cameco McArthur River Uranium

		<p>currently no truck traffic between the sites on Highway 914. When these sites are to become operational again, there is potential for a cumulative effect at sensitive locations near the highway.” On November 28th, 2022, operations resumed at Cameco's McArthur River Uranium Mine and Key Lake Mill.</p> <p>Denison did not model Cameco related air emissions in their air dispersion model. The EIS model does not account for any of Cameco’s air emissions from the mill, mine, and associated truck traffic between sites. Without this data included in the model, the EIS does not adequately account for the cumulative effects of Cameco’s McArthur River Mine and Key Lake Mill on the atmospheric environment.</p>	<p>Mine and Key Lake Mill which have resumed operations since the EIS was released.</p> <p>Without this data included in the model the EIS does not accurately capture baseline conditions or cumulative effects on the atmospheric environment.</p> <p>Fugitive dust and uranium emissions (and potentially other contaminants) have increased potential for exceedances with the resumption of Cameco’s operations, as exceedances are already predicted with the Wheeler River Project alone.</p>
71	EIS Section 6.0	<p>The Project is predicted to produce exceedances for TSP of 313% over the regulatory limit. 24-hour TSP concentrations exceed the criterion 28% of the time during Construction, 21% of the time during Operations.</p> <p>These exceedance conditions do not include TSP emissions from Cameco’s McArthur River Mine and Key Lake Mill which have now resumed operations.</p> <p>There is also the potential for wildfire smoke to further exacerbate dust emissions.</p> <p>TSP exceedances represent a potential health risk for land users and workers near the Project site. Especially for at-risk groups such as elders, youth, and people with existing respiratory conditions.</p>	<ol style="list-style-type: none"> a. Denison must employ additional mitigation measures to reduce TSP emissions on site including enhanced dust suppression efforts. b. Denison must remodel TSP to include emissions from Cameco’s McArthur River Mine and Key Lake Mill. c. Please provide information on how TSP will be monitored during the Project and how Denison will know when exceedance conditions are occurring. d. Please provide information on how adaptive management will be used when a TSP exceedance is discovered. Including

			<p>discussion on how the Project will be managed during poor air quality events caused by wildfire smoke.</p> <p>e. Please provide information on how exceedances conditions near the Project site will be communicated to the public.</p>
72	EIS Section 6.0	<p>The Project is predicted to produce exceedances for PM10 of 232% over the regulatory limit. 24-hour PM10 concentrations exceed the criterion 17% of the time during Construction, 12% of the time during Operations.</p> <p>These exceedance conditions do not include PM10 emissions from Cameco’s McArthur River Mine and Key Lake Mill which have now resumed operations.</p> <p>There is also the potential for wildfire smoke to further exacerbate dust emissions.</p> <p>PM10 exceedances represent a potential health risk for land users and workers near the Project site. Especially for at-risk groups such as elders, youth, and people with existing respiratory conditions.</p>	<p>a. Denison must employ additional mitigation measures to reduce PM10 emissions on site including enhanced dust suppression efforts.</p> <p>b. Denison must remodel PM10 to include emissions from Cameco’s McArthur River Mine and Key Lake Mill.</p> <p>c. Please provide information on how PM10 will be monitored during the Project and how Denison will know when exceedance conditions are occurring.</p> <p>d. Please provide information on how adaptive management will be used when a PM10 exceedance is discovered. Including discussion on how the Project will be managed during poor air quality events caused by wildfire smoke.</p> <p>e. Please provide information on how exceedances conditions near the Project</p>

			site will be communicated to the public.
73	EIS Section 6.0	<p>The Project is predicted to produce exceedances for uranium of 148% over of the regulatory limit.</p> <p>These exceedance conditions do not include uranium emissions from Cameco’s McArthur River Mine and Key Lake Mill which have now resumed operations.</p> <p>Uranium exceedances represent a potential health risk for land users and workers near the Project site. Additionally, uranium deposition in the aquatic and terrestrial environment can cause effect pathways to humans through the food chain through the consumption of edible/medicinal plants, berries, fish, and wildlife.</p>	<ul style="list-style-type: none"> a. Denison must employ additional mitigation measures to reduce uranium emissions on site including enhanced scrubber systems and containment measures. b. Denison must remodel uranium to include emissions from Cameco’s McArthur River Mine and Key Lake Mill. c. Please provide information on how uranium emissions will be monitored during the Project and how Denison will know when exceedance conditions are occurring. d. Please provide information on how adaptive management will be used when a uranium exceedance is discovered. e. Please provide information on how exceedance conditions near the Project site will be communicated to the public.
74	EIS Section 6.0	The Saskatchewan MOE Air Quality Modelling Guidelines specifies that the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) should be used for assessments in Saskatchewan. Denison opted to use the CLAMET/CALPUFF dispersion model for the EIS.	Please provide additional rationale for the selection of the CALPUFF model over the provincially recommended AERMOD.
75	Appendix 6-C	Carbon dioxide emissions related to air travel for Project personnel were not included in the GHG emissions calculations. Project related emissions	Denison must include emissions from air travel for project personnel in the GHG emissions

	Climate Baseline and Greenhouse Gas Emissions Report	from air travel would be significant source due to the remote nature of the site. The GHG emission estimate included in EIS Appendix 6-C does not provide a fulsome representation of Project related GHG emissions.	calculations. This will provide a more accurate representation of project-related GHG emissions.
76	EIS Section 6.0	Denison acknowledges the Project's contribution to climate change through GHG emissions but does not outline a plan to offset GHG emissions. Other mines in Canada, including the Canadian Malartic Mine in Quebec have GHG offset plans in which carbon emissions are tracked and offsetting activities are developed in collaboration with local First Nations (Canadian Malartic, 2014).	Denison must develop a GHG/Carbon offsetting plan to mitigate potential impacts of the Project to climate change. Denison could work with BNDN and other local First Nations on initiatives that help to offset the Project's GHG emissions (e.g. tree planting, wetland restoration, carbon offsets). This would demonstrate a commitment to corporate social responsibility, climate stewardship and reconciliation on Denison's behalf.
77	EIS Section 6.0	The Project is reliant on burning diesel for construction, supplementary power generation, mine processing activities, and mine equipment. The GHG intensive nature of the Project's construction and operation phases are a concern for BNDN and not consistent with federal or provincial directives to reduce GHGs. Cleaner technology and fuel sources are available to reduce the Project's GHG emissions. For a project based around supplying fuel for the energy transition, a more progressive approach that utilizes Best Available Technology is required in order to reduce GHG emissions.	Where feasible Denison must implement the use of low carbon technology and fuels in the final Project design to reduce GHG emissions. Specifically, Denison should redesign the Project to: <ul style="list-style-type: none"> • Replace all diesel electricity generation with LNG/CNG generators (and add in renewables where feasible) for construction phase • Replace all diesel powered mine equipment and vehicles with electric or LNG/CNG models • Use renewable energy sources for electricity

			generation (e.g. wind, solar) as early in the project lifecycle as possible
78	EIS Section 6.0	Denison does not specify how it will monitor air contaminant concentrations during all phases of the Project. Continuous on-site ambient air monitoring for all COPCs (including particulates, metals, and radon) is the only way to truly assess the Project’s impact on air quality and compliance with government standards.	Denison must conduct continuous on-site monitoring for all contaminants of concern (including particulates, metals, and radon) in order to assure regulatory compliance and verify the accuracy of air dispersion models and EIS predictions.
79	EIS Section 6.0	Denison does not specify how BNDN will be involved in air quality monitoring during construction, operations and decommissioning phases of the Project.	<ul style="list-style-type: none"> a. BNDN requests the implementation of robust and long-term environmental monitoring to verify protection of the environment, including community-led monitoring during Construction and Operations of the Project. b. Denison must develop specific roles and responsibilities to BNDN members in relation to air quality monitoring and site wide environmental monitoring. This should include, at a minimum, one environmental monitor position for BNDN. This would provide increased transparency and confidence to Denison’s environmental management practices and performance.

4.7 Mine Infrastructure and Engineering

The EIS includes a technical section (2.0) describing the components and activities of the project and their relevance to environmental and community concerns.

BNDN recognizes the relative advantages of the ISR method compared to other mining methods in terms of land footprint, noise, mobile equipment emissions, and surface disturbance.

The preparation, mixing, transportation via surface-run pipe, injection/recovery, and storage of acidic mining solution and uranium-bearing solution represent the most significant unique risks associated with the project.

The planned process plant and ancillary site facilities are similar to those constructed on other remote mine site projects in Northern Saskatchewan. Construction must follow best practices and lessons learned from other sites for implementing and adhering to environmental protections and respecting local communities interests.

Operation of the ISR wellfield, freeze walls, process plant, ponds, and site facilities should incorporate practices that minimize the risks of spills and other environmental impacts, and in addition have the necessary procedures in place to contain and clean up incidents in a timely manner should they happen.

Key Issues:

- The Proponent must implement protocols and technologies to minimize the likelihood and magnitude of contamination of the local environment. The project should use automated control systems where possible to reduce the chances of minor incidents causing significant emissions or spills.
- The Proponent is responsible to protect the health and safety of employees, contractors, and visitors to the site. The frequency and depth of training programs for operations, maintenance, repairs, emergency response, spill clean-up, and risk mitigation measures must be appropriate.

Table 7. Comments and recommendations for the Wheeler River mine infrastructure and engineering

#	Document Reference	Comment	Request/Recommendation
80.	Draft EIS 2.2.2.2.2 Uranium Bearing Solution Holding Area	The Proponent states that the UBS holding area will have leak detection (Figure 2.2-18). The system is shown as a pipe running under the pond.	<p>a. BNDN requests more details on the leak detection system used for all ponds shown in Figure 2.2-18.</p> <p>b. BNDN requests that Denison respond to all the following questions in writing:</p>

	Page 2-28		<ul style="list-style-type: none"> • Is the pipe connected to an automated sensing system? • If not, how frequently is the system monitored? • What chemical or physical indicator(s) are used to detect a leak? • What are the detection limits/thresholds for each indicator? • What is the precision of each indicator? • Who is notified, and how quickly would a response be mobilized?
81.	<p>Draft EIS 2.2.2.2.2 Uranium Bearing Solution Holding Area</p> <p>Page 2-28</p> <p>& 2.2.4.5 Process Precipitate Pond</p> <p>Page 2-57</p>	The Proponent states that the UBS holding area will have leak detection (Figure 2.2-18). The system is shown as a pipe running under the pond.	BNDN requests to know what specific containment/restoration methods will be used in the event that a leak is detected, and how quickly they would be implemented. This applies to both the UBS holding area and process precipitate pond.
82.	<p>Draft EIS 2.2.2.2.2 Uranium Bearing Solution Holding Area</p> <p>Page 2-28</p>	The Proponent states that the UBS holding area will be designed as a pond contained by a double composite liner system (Figure 2.2-18), and that options to use tanks instead of holding area will be evaluated as engineering advances.	BNDN requests that Denison undertake a risk assessment for the design of the UBS holding area. BNDN recommends the safer, less environmentally risky option be selected and that BNDN can review and provide input into the decision that Denison makes.
83.	<p>Draft EIS 2.2.1.4.5</p> <p>Page 2-24</p>	The Proponent states that the wellfield pipelines will be designed to have secondary containment or	BNDN requests more details on the leak detection system used for wellfield lines. Specifically, BNDN requests that Denison respond to the following questions:

		catchment and have leak detection systems in place at key locations.	<ul style="list-style-type: none"> • Is an automated sensing system used? • Will automated controls shut off pressure in the event of a significant leak? • If no automation is used, how frequently is the system monitored? • What chemical or physical indicator(s) are used to detect a leak? • What are the detection limits/thresholds for each indicator? • What is the precision of each indicator? • Who is notified, and how quickly would a response be mobilized?
84.	Draft EIS 2.2.1.4.5 Primary Containment of Mining Solution – Wells Page 2-19	The Proponent states that the well designs and operational monitoring of the wellfield will mitigate accidental release of mining solution or UBS in the sandstone above the mining area	BNDN requests to know how Denison will monitor the integrity of wells once in production. Will tests be conducted at regular intervals?
85.	Draft EIS 2.2.1.4.5 Fuel Storage and Dispensing Facility Page 2-66	The Proponent states that fuels will be stored in approved, above-ground, 25,000 L double-walled storage tank(s) equipped with secondary containment in accordance with provincial regulations and standards.	BNDN requests to confirm when the permanent fuel storage facility will be constructed. If temporary fuel storage for construction is required, indicate how much, how it will be stored and dispensed, and show on a sketch where it will be located. Construction fuel requirements for site development may be significant.
86.	Draft EIS 2.2.4.5 Process Precipitate Pond	The Proponent states that process precipitates may be stored in totes inside the process precipitate pond.	BNDN requests details on the procedures for placement and handling of precipitate totes within the pond. Care should be taken to ensure that equipment and totes do not compromise the pond lining. Totes should be

	Page 2-57		sealed and transport of totes from the plant to the pond should be carefully planned to minimize the risk of a spill, and in the event of a spill ensure that runoff is captured on the site.
87.	Draft EIS 2.8 Project Design Features Page 2-95	Denison states that they will maintain an up-to-date record of the various hazardous substances on site and will maintain Safety Data Sheets and appropriate procedures for spill management, handling, and clean up in an accessible location	BNDN requests a description of the safety and spill response training programs that employees will undergo. What is the duration of each training program and how often will retraining be conducted?
88.	Draft EIS 2.8 Project Design Features Page 2-95	Denison states that they will maintain an up-to-date record of the various hazardous substances on site and will maintain Safety Data Sheets and appropriate procedures for spill management, handling, and clean up in an accessible location	BNDN requests to know what resources will be kept on site for management and clean-up of spills, for example spill kits, absorbents, neutralization agents, vacuum trucks, PPE, hand tools, etc.
89.	Draft EIS 2.2.2.2.4 Yellowcake drying and packaging Page 2-29	The Proponent describes various measures used to mitigate yellowcake dust emissions: the yellowcake drying and packaging area will be outfitted with hygiene systems to capture dust generated during the material handling of the yellowcake product and sent to either the dryer or calciner venturi scrubbers. All equipment located after the dewatering of the yellowcake will be selected to provide minimal dust generation and outfitted with dust collection systems where required. The ventilation system in this area of the processing plant will also be adequately designed to provide safety of workers and control fugitive dust emissions.	BNDN recommends redundant hygiene systems be installed (n+1 units) to ensure continuity of air filtration in the event of equipment failure.

<p>90.</p>	<p>Draft EIS 9.3.5.1 Project Design Measures Page 9-219</p>	<p>The Proponent states that all contaminated areas will be fenced to avoid contact with workers and wildlife. Fences will be monitored and maintained.</p>	<p>BNDN requests to know the size and type of fence considered for each project area. Confirm if the wellfields will be fenced. Show all fences on a site layout drawing like Figure 2.2-1.</p>
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5.0 Conclusion

Birch Narrows Dene Nation looks forward to responses from Denison on all the comments above. We expect that identified issues will be resolved through ongoing engagement with the CNSC, SMOE and Denison throughout the Environmental Assessment and permitting for the Project.

6.0 References

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