



OSISKO DEVELOPMENT

CARIBOO GOLD PROJECT

CHAPTER 11.0: LHTAKO DENÉ NATION

October 2022



OSISKO DEVELOPMENT

Cariboo Gold Project

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ABBREVIATIONS

Terminology used in this document has been defined where it is first used, while the following list has been presented to assist readers that choose to review only portions of the document.

Abbreviation	Description
%	percent
AIR	Application Information Requirements
BAFs	bioaccumulation factors
BC	British Columbia
BMP	Best Management Practice
CCTC	Carrier Chilcotin Tribal Council
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COPC	Constituent of Potential Concerns
CRD	Cariboo Regional District
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office (BC)
EMS	Environmental Management System
FNHA	First Nations Health Authority
FSTSF	Filtered Stack Tailings Storage Facility
GBA+	Gender-Based Analysis Plus
ha	hectare
HHERA	human health and ecological risk assessment
km	kilometre
LAA	Local Assessment Area
Ltd	Limited
MZP	Main Zone Pit
NSCP	North Seepage Collection Pond
Project	Cariboo Gold Project (proposed)
Proponent	Osisko Development Corp. (ODV)
QR Mill	Quesnel River Mill
RAA	Regional Assessment Area
ROW	right-of-way
SARA	<i>Species at Risk Act</i>
SSCP	South Seepage Collection Pond
TEK	Traditional Ecological Knowledge
TLUOS	Traditional Land Use and Occupancy Study
TSS	total suspended solids

Abbreviation	Description
TSF	tailings storage facility
VC	Valued component

11.0 LHTAKO DENÉ NATION

11.1 Overview

This chapter presents an assessment of the effects of the Cariboo Gold Project (the Project) on Lhtako Dené Nation. Effects characterized for Valued Components (VCs) in Chapter 7.0 were used to inform effects to Lhtako Dené Nation Indigenous interests presented in the following sections. This assessment was also informed by ongoing engagement activities between Lhtako Dené Nation and Osisko Development Corp. (ODV) since 2016.

Lhtako Dené Nation, known as the Quesnel Indian Band prior to 1988, and as the Red Bluff Indian Band from 1988 to 2010, is located near the City of Quesnel. The Lhtako Dené people speak the Dakelh language and are referred to as the “Carrier,” “Southern Carrier,” or “Southern Dakelh” people in historical documents (DCMS, 2019).

In general, the Dakelh people have occupied the vast area encompassing Barkerville, Wells, and the Bowron Lakes region since time immemorial. There is strong evidence demonstrating pre-contact patterns of use and occupation, which continue to the present.

11.2 Lhtako Dené Nation Context

11.2.1 Understanding of Indigenous Interests and Current Context

Lhtako Dené Nation culture, including Southern Dakelh traditional territory and language, is discussed in Section 7.16. The following sections provide information on topics that provide the required context for assessing the Project's potential effects on Lhtako Dené Nation, including ethnography, language, governance, economy, population, communities, Reserves, Indigenous land use plans, health and social conditions.

11.2.2 Community Information

11.2.2.1 Traditional Territory

Lhtako Dené Nation, along with Lhoosk'uz Dené Nation, Nazko First Nation (Chapter 14.0) and Ulkatcho Nation are part of the Southern Dakelh Nation Alliance which was established in 2016. The Southern Dakelh Nation Alliance traditional territory extends throughout the Northern Interior of British Columbia (BC). The specific traditional territory of Lhtako Dené Nation is shown in Figure 11.2-1.

11.2.2.2 Treaty

Lhtako Dené Nation is not in the BC Treaty Process. Government representatives are working to build relationships with Carrier Chilcotin Tribal Council member Nations, including Lhtako Dené Nation outside the BC treaty process (Province of British Columbia, 2021).

11.2.2.3 Reserves and Communities

Lhtako Dené Nation has four reserves located within its traditional territory totalling 682.7 hectares (ha) (Table 11.2-1; Figure 11.2-1). The primary Lhtako Dené Nation community is on the Quesnel 1 reserve just outside of Quesnel.

Table 11.2-1 Lhtako Dené Nation Reserves

Number	Name	Location	Area (ha)
8273	Dragon Lake 3	Cariboo District, at north end of Dragon Lake, 3 miles east of Quesnel	14.8
8270	Quesnel 1	Cariboo District, on left bank of the Fraser River, 1 mile south of Quesnel	552.7
8274	Rich Bar 4	Cariboo District, on left bank of the Fraser River, 3 miles south of Quesnel	96.4
8272	Sinnce-Tah-Lah 2	Cariboo District, on right bank of Fraser River, 2 miles south of Quesnel, west of Quesnel I.R. No. 1	18.8

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Reserves

11.2.2.4 Population

11.2.2.4.1 Overview

The registered population of Lhtako Dené Nation as of June 2021, along with residency, is shown in Table 11.2-2. Of note is the difference in numbers between males and females with 39% of the population being male and 61% female.

Table 11.2-2 Lhtako Dené Nation Registered Population as of June 2021

Residency	Males	Females	Total ¹
On Own Reserve	35	51	85
On Other Reserves	2	4	6
On Own, Other Band, No Band Crown Land	0	0	0
Off Reserve	35	59	94
Total	72	114	186

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Registered Population. ¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

Population has generally remained stable on-reserve. Off-reserve members live in Quesnel, southern BC or Alberta.

Census information collected in 2016 indicated that 100 people were living on reserve (Table 11.2-3). A total of 85% were Registered Indians, and there were slightly more females than males. Those living on-reserve who were not Registered Indians were both female and male.

Table 11.2-3 Lhtako Dené Nation Population, 2016

Category	Total ¹	Male	Female
Total All persons	100	50	55
Registered Indian	85	40	45
Not a registered Indian	15	15	10

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Population.

¹Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

Approximately 25% of the on-reserve population at the time of the 2016 Census was under the age of 20, 65% was between the ages of 20 and 64, and 10% of the population was over the age of 65 (Table 11.2-4). The gender split in the age groups was almost the same in the under 20 age group, but there were more males than females in the 20 to 64 age group and more females than males in the 65 and over age group. The median age is significantly lower than that of the province, where the median age for the population, males and females is 43, 41.9 and 44 years old, respectively. The median age of females is 5.1 years older than that of males. This gap is larger than that in the province, where the median age of females is 2.1 years older than that of males.

Table 11.2-4 Lhtako Dené Nation Age Characteristics, 2016

Age Characteristics	Total ¹	Male	Female
Total All persons	100	50	55
Age 0-19	25	10	15
Age 20-64	65	35	25
Age 65 and over	10	0	10
Median Age	33.9	32.8	37.9

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Population.

¹Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

11.2.2.4.2 Family, Marital and Household Characteristics

Tables 11.2-5 and 11.2-6 provide information relative to marital status and household characteristics at the time of the 2016 Census for the on-reserve population. As shown, there are more people who have never been married than there are who have been married or are living common law. There are the same number of males and females who are married or living common law, while there are more males than females who have never been married.

Table 11.2-5 Lhtako Dené Nation Marital Status, 2016

Marital Status	Total ¹	Male	Female
Total Population 15 years and over	85	40	40
Married (incl. common-law)	30	15	15
Separated	0	0	0
Divorced	0	0	0
Widowed	0	0	0
Never married	45	25	15

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Marital.

¹Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

As shown in Table 11.2-6, approximately one-third of households were one family, one-third multi-family and one-third non-family. Of the family households, all were couple households. There were no lone parent households identified.

Table 11.2-6 Lhtako Dené Nation Household Characteristics, 2016

Household Characteristics	Total ¹
Total - All private households	30
One family households	15
• Couple family households	10
• Female lone parent households	0
Male lone parent households	0
Multi-family households	10
Non-family households	10

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Household.

¹Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

11.2.2.4.3 Mobility

As Table 11.2-7 shows, approximately 20 to 30% of those living on the Lhtako Dené Nation reserve moved in the year prior to the 2016 Census while 40 to 50% moved in the five years prior to the Census. In the one year prior to the Census, movers came from the same Census Division, another Census Division and a different province/territory or country while in the five years prior to the Census, most movers came from within the same Census Division while some came from another Census Division or a different province/territory or country.

Table 11.2-7 Lhtako Dené Nation Mobility, 2016

Mobility Characteristics		Total ¹	Male	Female
Mobility Status - Place of Residence 1 Year Ago				
Total population 1 year and over		100	50	50
Non-movers: Lived at the same address 1 year ago		80	35	40
Movers	Lived within the same prov./terr. 1 year ago, but changed address within the same census division	10	10	0
	Lived within the same prov./terr. 1 year ago, but changed address from another census division.	10	0	0
	Lived in a different prov./terr./country 1 year ago	10	10	0
Mobility Status - Place of residence 5 years ago				
Total population 5 year and over		100	50	50
Non-movers: Lived at the same address 5 years ago		60	35	25
Movers	Lived within the same prov./terr. 5 years ago, but changed address within the same census division	30	15	20
	Lived within the same prov./terr. 5 years ago, but changed address from another census division.	10	0	0
	Lived in a different prov./terr./country 5 years ago	10	0	10

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Mobility.

¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

11.2.2.5 Health Services

The First Nations Health Authority (FNHA) plans, designs, manages and funds the delivery of Indigenous nations health programs and services in BC. The FNHA provides community-based services with a focus on health promotion and disease prevention, including:

- Chronic disease prevention and management;
- Mental wellness and substance use;
- Health information governance;
- Environmental health; and
- Traditional healing.

The FNHA does not replace the role or services of the Ministry of Health or regional health authorities (i.e., Northern Health or Interior Health); rather, it collaborates, co-ordinates, and integrates health programs and services from the Ministry of Health and regional health authorities to achieve better outcomes for Indigenous individuals (Government of BC).

11.2.2.5.1 Community Health and Wellness

Most community members visit Quesnel for health appointments and use the services there (see Socio-Economic Existing Conditions Report, Appendix 7.10-1). Lhtako Dené Nation has a registered nurse in the community who is able to do health visits to community members at their homes.

Lhtako Dené Nation provides support for young mothers in the community and this is run by the Lhtako Dené Nation Health department. They help the mother get ready to bring the baby home and supply items such as a crib and diapers.

11.2.2.6 Emergency Services

Lhtako Dené Nation is within the service area of the Quesnel RCMP Municipal and Provincial detachments. Officers assigned to the Indigenous Police Service as well as other officers serve the community. Information on the detachments is provided in the Socio-Economic Existing Conditions Report (Appendix 7.10-1).

Fire emergency services is provided by the Quesnel Fire Department. The closest fire hall is located in Red Bluff and has two fire emergency vehicles. Lhtako Dené Nation has its own local fire crew who is receiving training to support emergencies on reserve.

BC Emergency Health Services provides ambulance service to Lhtako Dené Nation. Information on the ambulance service is provided in the Socio-Economic Existing Conditions Report (Appendix 7.10-1).

11.2.2.7 Housing

Lhtako Dené Nation recognizes the importance of having high quality, suitable, and affordable housing for its members. In 2016, there were 30 occupied dwellings on Lhtako Dené Nation reserves (Table 11.2-8). Approximately two-thirds of the dwellings were more than 10 years old, and about two-thirds of homes needed major repairs. Since 2019, two six-plexes and two tri-plexes have been constructed in the community that supply housing for community members. Two additional duplexes are scheduled for construction in 2021 (Longe, pers. comm).

Table 11.2-8 Selected Occupied Private Dwelling Characteristics Lhtako Dené Nation, 2016

Household Characteristics	Total ¹
Total number of Dwellings	30
Dwellings constructed more than 10 years ago	20
Dwellings constructed within the past 10 years	10
Dwellings requiring minor repairs only	10
Dwellings requiring major repairs	20

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Household.

¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

11.2.2.8 Education

Three schools are near the Quesnel 1 reserve and are attended by children in the community. These include Lakeview Elementary, Red Bluff Lhtako Elementary and Quesnel Junior School. These schools are part of School District 28.

For high school, students attend Correlieu Secondary School in West Quesnel.

Lhtako Dené Nation currently does not have daycare services but plans on bringing this service to the community.

11.2.2.9 Community Infrastructure

The Quesnel 1 reserve is supported by the City of Quesnel municipal services, including water and sewer. Lhtako Dené Nation provides funding for municipal waste management services. Electrical utilities are through BC Hydro.

11.2.2.10 Employment and Income

11.2.2.10.1 Labour Market Characteristics

Workforce characteristics from the 2016 Census are available for Lhtako Dené Nation. As shown in Table 11.2-9, participation and employment rates were lower than those for the province, while the unemployment rates were higher. In contrast to the province, Lhtako Dené Nation females had a higher employment rate than Lhtako Dené Nation males.

Table 11.2-9 Lhtako Dené Nation Labour Force Indicators, 2016

Labour Force Indicators	Lhtako Dené Nation			BC		
	Total	Male	Female	Total	Male	Female
Participation rate	56.2	62.5	50	63.9	68.3	59.7
Employment rate	37.5	25	37.5	59.6	63.4	55.9
Unemployment rate	33.3	60	50	6.7	7.1	6.3

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Education

11.2.2.10.2 Employment by Industry and Occupation

As shown in Table 11.2-10, at the time of the 2016 Census, there were more males than females in the labour force. In terms of industry, the largest portion of the labour force was employed in “other services. This was followed by agriculture and resource-based industries, and manufacturing.

Table 11.2-10 Lhtako Dené Nation Employment by Industry, 2016

Industry	Total ¹	Male	Female
Population 15 years and over in the labour force	45	25	20
Agriculture, resource based	10	0	0
Manufacturing, construction	10	10	0
Wholesale, retail	0	0	0
Finance, real estate	0	0	0
Health, education	0	0	10
Business services	0	0	0
Transportation, warehousing	0	0	0
Other services	15	0	15

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Employment and Aboriginal Population Profile, 2016 Census - Lhtako Dené Nation [First Nation/Indian band or Tribal Council area], British Columbia.

¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data. (statcan.gc.ca)

Table 11.2-11 shows the labour force by occupation and shows that the labour force was fairly evenly spread across a number of occupations.

Table 11.2-11 Lhtako Dené Nation Employment by Occupation, 2016

Industry	Total ¹	Male	Female
Population 15 years and over in the labour force	40	25	20
Management	10	10	0
Natural sciences, health	0	0	0
Social sciences, gov't	10	0	10
Sales and service	10	10	10
Trades and related	10	0	0
Primary industry	10	10	0
Other Occupations	10	0	10

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Employment and Aboriginal Population Profile, 2016 Census - Lhtako Dené Nation [First Nation/Indian band or Tribal Council area], British Columbia.
¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data. (statcan.gc.ca).

11.2.2.10.3 Labour Force Skill Levels

As shown in Table 11.2-12, approximately 62.5% of the population over the age of 15 in 2016 did not have a degree, certificate or diploma; 19% had a high school diploma as their highest level of education, while 19% had a trades/apprenticeship or other non-university certificate and 12.5% a university certificate below the bachelor level.

Table 11.2-12 Lhtako Dené Nation Education Characteristics, 2016

Education Characteristics	Total ¹	Male	Female
Population 15 years and over	80	40	40
No degree, certificate or diploma	50	25	25
High school diploma or equivalent only	15	15	0
Trades/apprenticeship or other non-university certificate	15	10	0
University certificate below bachelor level	10	10	0
University degree (bachelor level or higher)	0	0	0

Source: Government of Canada- Indigenous and Northern Affairs Canada, First Nation Detail, Lhtako Dené Nation, Education.
¹ Data presented includes “rounding” of values where data in smaller communities (e.g., age range) are rounded to the nearest five or ten. As a result, individual values may not add up to the total value as total values are not rounded. This applies to all Government of Canada census data.

11.2.2.10.4 Income

Income information for Lhtako Dené Nation individuals is suppressed in the 2016 Census.

11.2.2.10.5 *Employment Services*

Lhtako Dené Nation supports employment and job training for community members. This includes providing support to members in training programs, such as driver training. Lhtako Dené Nation also assists members in obtaining employment at ODV's current operations and activities, as well as employment and jobs training.

11.2.2.11 *Economic Development*

Lhtako Dené Nation members are involved in a variety of industries, including services, agriculture, resource-based industries and manufacturing. Lhtako Dené Nation members have occupations including management, social sciences, government, sales and service, trades, and primary industry (First Nation Profiles).

Through an agreement with the Provincial Government, Lhtako Dené Nation also began construction of a Biomass Energy Pellet plant. It also has a Clean Energy Business Fund Revenue Sharing Agreement with the Province regarding the Castle Mountain Hydro Project.

Economic Development is generally the responsibility of the Lhtako Dené Nation Chief and Council.

11.2.3 **Governance**

The sections below outline Lhtako Dené Nation governance and administration. Governance structure and land use practices prior to the establishment of the current government structure are described in Chapter 7.16 Culture.

11.2.3.1 *Lhtako Dené Nation Government and Administration*

Lhtako Dené Nation is an *Indian Act* band that is governed by an elected Chief and Council. Chief and Council are elected in accordance with a custom electoral system pursuant to the *Indian Act*. Elections are held every two years. Lhtako Dené Nation elected officials as of April 2021 include a Chief and three Councillors (Table 11.2-13).

Table 11.2-13 Lhtako Dené Nation Officials as of April 2021

Title	Name	Appointment Date	Expiry Date
Chief	Cliff Lebrun	March 23, 2020	March 22, 2022
Councillor	Wanda Aldred	March 23, 2020	March 22, 2022
Councillor	Ray Aldred	March 23, 2020	March 22, 2022
Councillor	Tim Michell	March 23, 2020	March 22, 2022

Source: BC Assembly of First Nations, 2021

Lhtako Dené Nation offers its members a variety of services through several government departments or activities, including Administration, Education, Health, Housing, Finance, Social Development, Wastewater/Maintenance, Lands and Natural Resources, and Employment Assistance (Table 11.2-14). Services are also provided by other service providers, and Lhtako Dené Nation members also access a variety of services in the City of Quesnel.

Table 11.2-14 Lhtako Dené Nation Administration

Administration	
<ul style="list-style-type: none"> • Band Manager • Finance Clerk • Finance Administration • Education • Health Director • Social Development • Housing • Family Support Worker 	<ul style="list-style-type: none"> • Lands and Natural Resources Manager • Natural Resources Clerk • Employment Assistant Services • Band Registration / Water Testing • Receptionist • Waste Water / Maintenance • Janitor • National Native Alcohol and Drug Abuse Program Worker

Source: Lhtako Dené Nation Website, 2021

11.2.3.2 Plans and Agreements

Lhtako Dené Nation has agreements with ODV related to their activities in the Nation’s traditional territory and agreements with the provincial government related to their traditional territory and resources.

11.2.3.2.1 Osisko Development Corporation

Lhtako Dené Nation and ODV entered into a Project Agreement to facilitate the development of the Cariboo Gold Project in October 2020. The Project Agreement achieves the common goal of providing Project-related opportunities and benefits for current and future generations of the Lhtako Dené Nation people and reflects ODV’s ongoing commitment to continually strengthen and expand the relationship. Specific terms of the Project Agreement remain confidential; however, it puts in place a framework for ODV and Lhtako Dené Nation to work together during all stages of the Project, including the terms under which the Project is being developed with the consent and support of Lhtako Dené Nation.

The Project Agreement builds on an initial Engagement Protocol (2016), Relationship Agreement (2016) and subsequent capacity funding agreements (2019), which have provided Lhtako Dené Nation with capacity funding to cover the costs of their participation in the regulatory review processes in connection with the Project, including the completion of a Project-specific traditional land use and occupancy study on behalf of the Lhtako Dené Nation and the retention of independent consulting firms to provide technical review of Project-related materials and ODV submissions.

11.2.3.2.2 Provincial Government

Lhtako Dené Nation has agreements with the Provincial government under the Southern Dakelh Nation Alliance and directly between both governments (Table 11.2-15).

Table 11.2-15 Provincial Government Agreements

Government	Agreement Title	Details
Southern Dakelh Nation Alliance (SDNA)	Hubulhsooninats’uhoot’alh Foundation Framework Agreement	Signed in 2018 to provide a structure for and facilitate the development of a government-to-government relationship that will provide the foundation for comprehensive reconciliation.
	Pathways Agreement	In 2019 a Southern Dakelh Nation Alliance Pathways Agreement that identifies the priorities that would serve as a basis for negotiations of an eventual Nation-to-Nation incremental reconciliation agreement was signed. Priorities include acknowledgement and reconciliation; nation building; stewardship; culture and wellness; economic development; infrastructure and implementation (Newswire, 2019).
Lhtako Dené Nation	First Nations Clean Energy Business Fund Revenue Sharing Agreements	The purpose of this agreement, which was signed in 2016, is to share revenue received by the provincial government from the Castle Mountain Hydro Project with Lhtako Dené Nation.
	Forestry Agreements	Lhtako Dené Nation and the Provincial government have the following agreements related to consultation and revenue sharing as it relates to forestry and range activities on Lhtako Dené Nation traditional territory: <ul style="list-style-type: none"> • Lhtako Dené FCRSA Amendment Agreement #1 - 2019 • Lhtako Dené Forest Consultation and Revenue Sharing Agreement - 2018 • Lhtako Dené Nation Interim Measures Agreement - 2006

Source: Government of British Columbia, First Nations, Negotiations, Lhtako Dené Nation

11.2.3.3 Councils and Alliances

Lhtako Dené Nation, along with Lhoosk’uz Dené Nation, the Tl’esqox of the Tsilhqot’in and the Uikatcho First Nation, comprises the Carrier Chilcotin Tribal Council (CCTC). Like other CCTC members, Lhtako Dené Nation works to build capacity in their communities and contribute to economic growth and the continuation of their cultural traditions in the region (DCMS, 2019).

In 2016, Lhtako Dené Nation, Nazko First Nation, Lhoosk’uz Dené Nation, and Uikatcho Nation formed the Southern Dakelh Nation Alliance in opposition to the Nenqay Deni Accord between the BC Government and the Tsilhqot’in National Government.

11.2.4 Indigenous Interests

ODV respects the rights, cultures and interests of Indigenous nations (“Indigenous interests”) and is committed to meaningful consultation and engagement with Indigenous nations and their involvement in informing the Project and development of the Application.

As part of the Process Planning phase and as documented in the Application Information Requirements (AIR) (EAO, 2021), Lhtako Dené Nation identified their Indigenous interests that may be impacted by the Project under four main categories: traditional land use and practices, water, caribou and community wellbeing (Table 11.2-16).

Table 11.2-16 Lhtako Dené Nation’s Indigenous interests

Indigenous Interests	Topics to be Captured
Traditional land use and practices	Effects to: <ul style="list-style-type: none"> • Water sources, waterway access and use, water-based traditional practices; fish harvesting and use; hunting (e.g., moose hunting and future hunting of Woodland caribou); trapping; plant and berry gathering, harvesting and use; non-consumptive materials gathering and use; trading; wildlife interactions; and access to spiritual and culturally sensitive areas • Vegetation, including valued species, locations, and timing that are of particular value to Lhtako Dené Nation • Wildlife, including valued species, locations, and timing that are of particular value to Lhtako Dené Nation • Freshwater fish, including fisheries locations and timing that are of particular value to Lhtako Dené Nation. This includes the desire for aquatic habitat restoration from historic impacts
Water	<ul style="list-style-type: none"> • Changes in water quality (both groundwater and surface water), hydrology, surface water quantity and aquatic ecosystems
Caribou	<ul style="list-style-type: none"> • Conservation and recovery of the Woodland caribou herd
Community wellbeing	Effects to: <ul style="list-style-type: none"> • Integration of Lhtako Ecological Knowledge; Dakelh language and teaching; community and cultural cohesion; intergenerational knowledge transfer; and Lhtako Dené Nation governance and stewardship systems, customs, beliefs and values • Employment opportunities and resource availability and use for future generations

Source: EAO, 2021

11.2.4.1 Traditional Land Use and Practices

Lhtako Dené Nation is concerned about ongoing development in their territory that may affect existing habitation sites, spiritual sites, access to traditional use areas, commercial use and harvesting locales, water and air quality, subsistence and medicinal plant gathering areas, as well as effects to animal health and habitat. All these elements contribute to traditional land use and practices that are continued today. Lhtako Dené Nation does not currently have or use an Indigenous land use plan.

Information provided in the Traditional Land Use and Occupancy Study (TLUOS, cited as DCMS, 2019) documented Lhtako Dené Nation’s use of the land in and around the Mine Site. Lhtako Dené Nation utilizes plants and animals from across a wide variety of ecozones, including subalpine zones, meadows, and along major waterways such as the Fraser River. Activities include fishing, freshwater resource harvesting, trapping, hunting, berry picking, trading, and plant gathering, which have taken place over generations. Harvesting activities follow a seasonal round, and the Project should consider not just the location of the harvest areas but also the seasonal timing. In discussion with Lhtako Dené Nation (2022), they stated that there was no difference between genders in traditional use activities and both men and women participated in all activities as a family unit.

The TLUOS (DCMS, 2019) identified numerous traditional land use sites as either fully or partially within the Project study area and/or buffer used for the study, with a concentration of sites near the Mine Site and the District of Wells. During engagement activities and as described in the TLUOS (DCMS, 2019), the importance of harvesting areas along 500 Nyland Lake Road were also identified. This is an important area to harvest cranberries, huckleberries, Saskatoon berries, and soapberries, and it is visited first as part of the seasonal round. 500 Nyland Lake Road is also used by Lhtako Dené Nation to access areas to hunt both moose and deer. Fishing was identified as a past activity in Jack of Clubs Lake, but the lake is no longer used due to contamination from past-producing industry.

Cumulative effects in the region from development have impacted the ability of Lhtako Dené Nation to access traditional land use areas. There is concern further development in the TLUOS study area will cause cumulative negative effects on their hunting, fishing, trapping, and plant gathering abilities and that the younger generations will have nowhere to hunt in the future (DCMS, 2019).

Additional information on Traditional Land Use activities was provided in community interviews conducted in 2021 (Lhtako Dené Nation Community Liaison Interviews, 2021). Concerns were identified regarding ground disturbance activities disturbing burial sites along Highway 26 and traplines located near Wingdam and along the 500 Nyland Lake Road. Concerns were also identified regarding disturbance of wildlife and vegetation and limiting harvesting of resources to only what is required.

Traditional land use activities are also dependent on surface water quality and quantity, which is discussed in Section 11.2.4.2.

11.2.4.2 Water

The expectation of Lhtako Dené Nation has been that the traditional use and traditional knowledge research would lead to a better understanding of potential Project effects on the uses of water and the potential effects to water to develop appropriate mitigation measures. Lhtako Dené Nation understands that this information will assist in managing future use of Project waters in an ecologically sensitive manner. The health of the water has been raised as an important issue for Lhtako Dené Nation as it directly relates to water-based traditional practices. Concern is centred around effects to water quality, quantity, groundwater and aquatic ecosystems and the subsequent effects to plant and animal species. Water-based traditional activities include fishing, harvesting of freshwater species and waterfowl, and use of waterways for transportation. The community is interested in the reclamation of Jack of Clubs Lake from contamination due to past activities. Lhtako Dené Nation also wants the Project to implement suitable water management practices to improve and maintain the health of water bodies.

11.2.4.3 Caribou

Caribou are a key Indigenous interest for Lhtako Dene Nation. Along with being a key species from a cultural perspective, they are also a species of conservation concern both provincially and federally. Caribou in the area have been heavily impacted by past activities and habitat loss and cumulative impacts to caribou is a critical concern.

Lhtako Dené Nation members hunted caribou as part of fall hunting and gathering activities. Caribou was the main food source, and the meat was dried and preserved by canning. When there were more caribou, they were the main game animal for Lhtako Dené Nation.

Caribou was harvested throughout their range, with areas noted in the TLUOS north of Highway 26 along the Willow River, Island Mountain, and at Wells and Jack of Club Lake (DCMS, 2019). These areas include the Transmission Line route and the Mine Site Complex.

11.2.4.4 *Community Wellbeing*

The Lhtako Dené Nation noted how cumulative effects from many cultural losses over time affect both social and environmental resilience. As each new negative impact is introduced, the trends in terms of ecosystem and community wellness are less likely to continue in a positive and healthy trajectory. This informs the approach to community wellbeing for Lhtako Dené Nation. Interests around community wellbeing were described as the integration of Lhtako Ecological Knowledge, Dakelh language and teaching, community and cultural cohesion, intergenerational knowledge transfer, and governance and stewardship systems, customs, beliefs and values. Community wellbeing also includes consideration of community safety, employment opportunities, and resource availability for future generations.

11.3 **Summary of Engagement**

11.3.1 **Introduction**

ODV has been engaging with Lhtako Dené Nation regarding the Project and activities in the Project area since 2016. Engagement activities included meetings, presentations, site tours, phone calls, and submission of Project documents for review. Information provided to ODV from Lhtako Dené Nation through these activities and comments on various submissions through the EAO have been incorporated into Project planning and design.

11.3.2 **Methods**

11.3.2.1 *Engagement Principles and Objectives*

ODV strives to engage with Lhtako Dené Nation in a respectful and appropriate manner. The engagement activities for the Project are framed by the following principles:

Shared Process – ODV’s engagement program was developed based on a shared process that seeks out and considers input from potentially affected parties.

Respect – ODV commits to establishing positive, productive, and lasting relationships based on mutual respect and understanding and supported by appropriate engagement opportunities. Specifically related to Indigenous nations, ODV recognizes their unique cultural, legal and historical identity and will work with each Indigenous nation to engage with their communities in a respectful and appropriate manner.

Timeliness – ODV commits to undertaking early engagement with Indigenous nations and to providing the timely and accurate exchange of information about the Project and about opportunities to participate in engagement activities.

Relationships – ODV commits to establishing and maintaining long-term relationships with those with an interest in the proposed Project, with an understanding that these relationships will evolve through ongoing engagement.

Inclusiveness – ODV is inclusive in its engagement activities and pro-actively works to identify those potentially affected by the Project in a manner consistent with the principles of Gender-Based Analysis Plus (GBA+). ODV works with Indigenous nations to identify means through which they feel comfortable being engaged and having their input reflected.

Responsiveness – ODV is open and transparent in its operations. ODV considers and responds to input from Indigenous nations, the public and stakeholders and demonstrates how input had been considered in Project designs, including management and mitigation plans.

Open communication – ODV openly listens to feedback and works with the public and stakeholders to address Project-related concerns. Input received is transparently reported.

Building on the engagement principles identified above, ODV's objectives specific to Indigenous nation engagement are to:

- Identify Indigenous nations who may be impacted by the Project and, through ongoing engagement, determine how they wish to be consulted;
- Provide timely and reasonable levels of capacity resources, in addition to potential BC EAO funding, in order to assist potentially impacted Indigenous nations to participate in Project consultation;
- Provide timely and relevant Project information and seek feedback from Indigenous nations on Project-related impacts, interests and concerns;
- Understand Indigenous nations' governance, community interests, and priorities;
- Determine what practices, traditions or customs have been or are currently being engaged in by Indigenous nations near the proposed Project and determine how these practices, traditions or customs may potentially be impacted by the Project;
- Collaboratively explore appropriate measures to avoid, mitigate or otherwise address potential Project impacts on rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*;
- Ensure that issues raised by Indigenous nations related to the proposed Project are considered in the development and implementation of the Project and that such issues are addressed to the extent that they are not resolved or otherwise accommodated, as appropriate; and
- Develop positive, long-term relationships with Indigenous nations.

ODV has engaged and will continue to engage with Lhtako Dené Nation based on their preferences and as directed by Chief and Council.

11.3.3 Materials and Activities

ODV employed a variety of methods to engage with Lhtako Dené Nation. Communication regarding the Project has been primarily through regular on-going meetings with Lhtako Dené Nation Chief and Council, Administration staff and community members.

ODV provided draft copies of Project documents to Lhtako Dené Nation for comment, including the Initial Project Description, Engagement Plan and Detailed Project Description. Comments from Lhtako Dené Nation were recorded in comment tracking tables, and responses were provided to Lhtako Dené Nation for discussion.

ODV hosted community members at the Project site for site tours. An Elder's tour was completed in 2019 at the Mine Site.

Project site figures and digital files were provided to Lhtako Dené Nation. This includes the Project components and updates to planned components such as the Transmission Line. Technical workshops have been held to provide detailed information on QR Mill and the transmission line to Lhtako Dené Nation staff and their third-party consultant.

11.3.4 Lhtako Dené Nation Engagement Activities

Engagement activities with Lhtako Dené Nation have been ongoing since 2016 (Table 11.3-1). Engagement activities in 2016 and 2017 consisted of discussions regarding ODV's activities in the area including current operations at Bonanza Ledge and QR Mill, along with preliminary discussions on the Cariboo Gold Project.

ODV invited representatives from Lhtako Dené Nation to participate in Project-specific baseline studies from 2016 to 2021 for wildlife, vegetation, water quality and aquatic health, fish habitat, terrain and soils, hydrology, heritage, human health and ecology risk assessment, and hydrogeology.

In 2018, the focus of the discussions turned to the development of the Project Description. A site tour was also held in 2018 for Lhtako Dené Nation members.

Engagement activities in 2019 included submission of the draft Project Description and revisions to Lhtako Dené Nation for review and comment. ODV prepared comment response tables to track comments and responses to the draft Project Description. In 2019, ODV held a community meeting at the Lhtako Dené Nation Community Hall to discuss the Project and its components with Lhtako Dené Nation members. In July 2019, an Elder's tour was organized where Elders visited Wells and took a tour of the proposed Mine Site. A round table discussion was held on VCs along with land use in the Project area.

In 2020, ODV provided Lhtako Dené Nation with the Early Engagement Plan and the Detailed Project Description for review and comment. Comments were compiled and tracked using tables and responses were provided to Lhtako Dené Nation, including the incorporation of Lhtako Dené Nation comments into the appropriate documents. Preliminary information on VCs and assessment areas were also provided to Lhtako Dené Nation for review comment prior to the start of the Process Planning Phase.

Community meetings planned for 2020 were cancelled due to COVID-19 restrictions. ODV provided Lhtako Dené Nation with presentation material and maps for the Project components, and in particular, the Transmission Line for review with community members. Due to increasing COVID-19 restrictions, community interviews were not held in 2020. ODV held a virtual meeting in October 2020 to provide a technical workshop on water management and tailings.

In 2021, Lhtako Dené Nation provided comments on the Existing Conditions reports as part of the Reviews of Information. Discussions between ODV and Lhtako Dené Nation focussed on the AIR and the Reviews of Information comments provided by Lhtako Dené Nation. The Lhtako Dené Nation Community Liaison conducted interviews with Elders regarding the transmission line and land use in the Project area, and the information was provided to ODV for incorporation into the Application.

Table 11.3-1 Summary of Engagement with Lhtako Dené Nation

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
General	2016	Phone calls, in-person meetings, email	Ongoing discussions regarding ODV's current operational activities. Topics specific to the Project included: <ul style="list-style-type: none"> • Engagement Protocol Agreement between Lhtako Dené Nation and ODV (signed 2016) • Relationship Agreement between Lhtako Dené Nation and ODV (signed 2016) • Employment opportunities • Participation in baseline studies programs
General	2017	Phone calls, in-person meetings, email	Ongoing discussions regarding ODV's current operational activities. Topics specific to the Project included: <ul style="list-style-type: none"> • Employment opportunities • Education and training support • Environmental Assessment • Project components • Traditional Land Use Study
Project Description	April 10, 2018	Meeting	Discussion regarding the Cariboo Gold Preliminary Economic Assessment.
Project Description	April 16, 2018	Email	Email exchange between ODV and Lhtako Dené Nation regarding meeting to discuss Project Description.
Engagement Letter	May 7, 2018	Letter and Registered Mail	ODV wrote to Lhtako Dené Nation to share initial information about ODV and the proposed Project.
Site Tour	May 23, 2018	In-person	Lhtako Dené Nation took a tour of the Project site.
Site Tour	June 22, 2018	Email	ODV emailed Lhtako Dené Nation regarding the planned site tour for June 27, 2018.
Baseline studies	July 31, 2018	Email	ODV inquired about hiring seven field assistants to support field programs.
Meeting	November 29, 2018	In-person	ODV discussed formalizing its engagement and consultation with Indigenous nations surrounding the Project. Reviewed consultation process.
Project Description	December 21, 2018	Email	ODV shared the draft Project Description with Lhtako Dené Nation for comment and review.
Engagement Preference	April 2, 2019	In-person	ODV and Lhtako Dené Nation met to discuss how Lhtako Dené Nation would like to be engaged.
Agreements	April 8, 2019	In-person	ODV and Lhtako Dené Nation entered into a capacity funding agreement to cover Lhtako Dené Nation's costs of participating in the Environmental Assessment for the Project (EA Funding Agreement).

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Project Description	April 18, 2019	Email	ODV sent Lhtako Dené Nation an email with a letter, a Project Description link, and the ODV comment tracking spreadsheet.
Project Description	May 8, 2019	In-person	ODV met with Lhtako Dené Nation to discuss the Project Description. Planned for Project presentation on June 12.
Project Description	May 16, 2019	Email	Lhtako Dené Nation returned the completed comment tracking spreadsheet to ODV.
Community Meeting	May 23, 2019	Email	ODV wrote Lhtako Dené Nation to confirm the date and time of the upcoming community presentation by ODV.
Baseline Studies	May 30, 2019	Email	Inquiry about field assistants for baseline studies.
Community Meeting	June 9, 2019	Email	Lhtako Dené Nation responded to the meeting request and asked for possible dates.
Baseline Studies	June 13, 2019	Email	Inquiry about field assistants for baseline studies.
Community Meeting	June 25, 2019	In-person	ODV presented an overview of the Project and its components to community members.
Site Tour	July 2, 2019	Phone	Communications between ODV and Lhtako Dené Nation confirming participation in site tour.
Site Tour	July 10, 2019	In-person	Lhtako Dené Nation Elders participated in a site tour of the Mine Site. Discussions were also held regarding Valued Components selection and land use in the Project area.
Project Description	July 26, 2019	Registered Mail	ODV sent Lhtako Dené Nation a mail package with a letter and a hard copy of the Project Description.
Project Description	August 30, 2019	Email	ODV sent Lhtako Dené Nation an email with the Project Description PDF.
Hydrogeology Study	September 3, 2019	Email	ODV sent an email and letter to Lhtako Dené Nation requesting endorsement of the hydrogeology study.
Project Description	September 5, 2019	Registered Mail	ODV sent Lhtako Dené Nation a mail package with a letter and a hard copy of the Project Description.
Community meetings	September 13, 2019	Email	ODV sent Lhtako Dené Nation an invitation for Community Meetings on September 17 in Barlow and September 18 in Wells.
Project Description	October 24, 2019	Email	ODV sent Lhtako Dené Nation an email with a letter and a PDF of the Project Description.
Engagement Plan	March 30, 2020	Email	ODV sent Lhtako Dené Nation an electronic copy of the Draft Engagement Plan.
Meeting	April 15, 2020	Email	Lhtako Dené Nation wrote ODV to change the date of the call with Chief and Council.
Engagement Plan	April 21, 2020	Email	Lhtako Dené Nation returned comments to ODV regarding the Draft Engagement Plan.
Meeting Request	May 1, 2020	Email	ODV wrote to Lhtako Dené Nation's consultant requesting a phone call.
Engagement Plan	May 3, 2020	Email	ODV sent a PDF of the revised Engagement Plan submitted to EAO to Lhtako Dené Nation.
Baseline Study Summary	May 8, 2020	Email	ODV provided a baseline summary of studies conducted to date and work planned for 2020.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Early Engagement Phase	May 11, 2020	Email	ODV wrote to Lhtako Dené Nation to arrange a call to discuss the best method for communicating with and presenting to Lhtako Dené Nation during the Early Engagement Phase of the EA process.
Site Tour	May 26, 2020	Text Message	ODV contacted Lhtako Dené Nation's Chief regarding their availability for an on-site tour.
Engagement Plan	May 29, 2020	Registered Mail	ODV sent Lhtako Dené Nation a hard-copy of the finalized Engagement Plan.
Project Description	June 12, 2020	Email	ODV emailed Lhtako Dené Nation a PDF of the Supplemental to the Initial Project Description.
EAO Open House	June 16, 2020	Email	ODV emailed the ad for the EAO-led virtual open house to Lhtako Dené Nation for reference and posting.
Early Engagement Phase	June 23, 2020	Phone call	ODV called Lhtako Dené Nation to discuss various topics, including the approach to involvement in the EA, ODV's learnings from Lhtako Dené Nation, the Cariboo Gold Project Overview, Lhtako Dené Nation's input into the project moving forward, Early Engagement, and Scheduling.
Early Engagement Phase	June 24, 2020	In-person	ODV met with Lhtako Dené Nation staff about presentation materials for community members.
Meeting	July 6, 2020	Email	ODV emailed Lhtako Dené Nation requesting an in-person meeting regarding the Project and presentation materials.
Community Meeting	July 13, 2020	Email	ODV sent Lhtako Dené Nation the ad for the virtual Community Workshop and Discussion for reference and posting.
Meeting Request	July 14, 2020	Email	ODV wrote Lhtako Dené Nation to confirm the meeting for July 15, 2020.
Community Interviews	July 15, 2020	In-person	ODV met Lhtako Dené Nation to discuss the EA project and materials to assist the Community Liaison in receiving input from the community.
Community Interviews	July 28, 2020	Email	ODV sent the presentation and interview guide to Lhtako Dené Nation. Requested availability for call.
Principles of Engagement	July 29, 2020	Email	ODV emailed Lhtako Dené Nation the draft Principles of Engagement with an invitation to review and confirm.
Early Engagement Phase	July 30, 2020	Phone	ODV met with Lhtako Dené Nation to discuss transmission line routing and community engagement.
Early Engagement Phase	August 21, 2020	Phone	ODV met with Lhtako Dené Nation to discuss transmission line routing and community engagement.
Early Engagement Phase	August 24, 2020	Email	Lhtako Dené Nation sent the Preliminary Issues Report to inform EAO's Summary of Engagement and ongoing discussions with ODV and EAO.
Community Interviews	August 26, 2020	In Person	ODV met with Lhtako Dené Nation to discuss presentation materials, maps and questions.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Community Interviews	August 27, 2020	Email	ODV wrote to Lhtako Dené Nation summarizing the meeting the previous day and to arrange a discussion of the northern transmission line, as well as GBA+ for the EA application.
Project Description	September 15, 2020	Email	ODV sent Lhtako Dené Nation the Detailed Project Description PDF and supporting files for review and comment. Comments were requested back for October 7, 2020.
Project Description	September 22, 2020	Phone	Discussion regarding the request to move upcoming meeting. Agreed to move meeting to discuss community interviews, transmission line, and DPD between October 7 and October 16.
Community Meeting	September 22, 2020	In Person and Virtually (Zoom)	ODV sent Lhtako Dené Nation an invitation to the virtual community meeting in Wells.
Project Description	October 1, 2020	Virtual Meeting (Microsoft Teams)	ODV met with Lhtako Dené Nation to discuss the results of the community interviews, review the northern transmission line, and initial comments on the Draft Detailed Project Description.
Transmission Line	October 6, 2020	Email	ODV sent Lhtako Dené Nation the Transmission Line routing KMZ files for review and reference.
Project Description	October 14, 2020	Emails	Lhtako Dené Nation sent ODV comments on the Detailed Project Description for discussion.
Project Description	October 14, 2020	Virtual Meeting	ODV met with Lhtako Dené Nation to review the Detailed Project Description comments.
Application Information Requirements (AIR)	October 19, 2020	Email	ODV sent a memo to Lhtako Dené Nation regarding the Application Information Requirements, including a description of proposed high-level changes, candidate Valued Components, and proposed assessment areas for the environmental assessment.
Liaison Position	October 22, 2020	Email	ODV wrote to Lhtako Dené Nation with the Draft Community Liaison position job description requesting comments or revisions.
Water Management	October 26, 2020	Virtual Meeting	ODV met with Lhtako Dené Nation to review water management at the Mine Site and QR Mill, construction of the mine site at a historic mine area, and tailings.
Project Description	October 29, 2020	Email	ODV sent the revised Detailed Project Description to Lhtako Dené Nation
Project Description	October 30, 2020	Email	ODV wrote to Lhtako Dené Nation to confirm the revised Detailed Project Description was received.
Project Description	October 30, 2020	Registered Mail	ODV sent Lhtako Dené Nation a hard-copy of the Detailed Project Description
Environmental Assessment	November 4, 2020	In-person	ODV met with Lhtako Dené Nation regarding the agreement, environmental assessment, and trucking.
Community Meeting	November 16, 2020	Email	Lhtako Dené Nation wrote to ODV requesting a change of date for the community meeting.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Community Meeting	November 25, 2020	Email	ODV emailed Lhtako Dené Nation regarding the previously planned meetings which had to be cancelled due to COVID-19. ODV proposed having a virtual meeting regarding EA Readiness Decision.
Environmental Assessment	November 26, 2020	Virtual Meeting	ODV and Lhtako Dené Nation held a meeting to discuss Project updates.
Liaison Position	November 30, 2020	Email	Lhtako Dené Nation provided ODV with a resume for the Community Liaison position.
Environmental Assessment	November 30, 2020	Email	ODV sent a meeting request to Lhtako Dené Nation regarding the next steps, schedules, and a regularly occurring meeting.
Environmental Assessment	January 8, 2021	Email	ODV sent the agenda for the upcoming meeting to Lhtako Dené Nation, including document review and scheduling, immediate inputs, and Lhtako Dené Nation EA Chapter.
Transmission Line	January 15, 2021	In-person	ODV and Lhtako Dené Nation met to share and discuss maps of the transmission line. Maps were to be shared with elders for consultation.
Transmission Line	January 18, 2021	Virtual Meeting	Meeting for ODV's presentation on the proposed Northern Transmission Line route for Lhtako Dené Nation Knowledge Holders and review team. The meeting was cancelled just prior to meeting start.
Baseline Studies	January 18, 2021	Email	Lhtako Dené Nation's consultant wrote to ODV requesting the Air Dispersion Modelling Plan. The plan was provided.
Transmission Line	January 26, 2021	Phone	ODV spoke with Lhtako Dené Nation offering to assist in setting up discussions with Chief and Council elders and community members. Requested plans for future meetings.
Transmission Line	February 2, 2021	Email	ODV wrote Lhtako Dené Nation regarding the potential for meetings on the transmission line routing and requesting information to answer questions from Human Health and Ecological Risk Assessment Team.
Process Planning Documents	February 4, 2021	Email	Lhtako Dené Nation's consultant wrote ODV that a preliminary review of the AIR, Project Overview, Regulatory Coordination Plan, and Assessment Plan were completed. The consultant provided comments and changes.
Community Engagement Summary	February 9, 2021	Email	Lhtako Dené Nation's consultant wrote ODV regarding areas of focus for community engagement.
EAO Presentation	February 10, 2021	Email	Lhtako Dené Nation's consultant invited ODV to join the EAO to present to Chief and Council on February 24.
Community Interviews	February 17, 2021	Email	ODV sent the Lhtako Dené Nation Community Liaison a checklist and detailed questionnaire for discussions with community members.
Transmission Line	February 19, 2021	Email	ODV discussed with the Lhtako Dené Nation Community Liaison updates following discussions with Lhtako Dené Nation Elders on the Transmission line.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Environmental Assessment	February 22, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment and project updates.
Baseline Studies	February 23, 2021	Email	Lhtako Dené Nation's consultant wrote ODV regarding the baseline studies and providing water-related comments altogether in one table by March 5.
EAO Meeting	February 24, 2021	Virtual Meeting	ODV presented a project update to Chief and Council outlining project components and work completed to date.
Baseline Comments	March 5, 2021	Email	Lhtako Dené Nation's consultant provided ODV with Lhtako's baseline comments.
AIR	March 8, 2021	Virtual Meeting	Reviewed Lhtako Dené Nation comments on the AIR.
Environmental Assessment	March 15, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment and project updates.
AIR	March 22, 2021	Virtual Meeting	Reviewed Lhtako Dené Nation comments on the AIR.
AIR	March 22, 2021	Email	Reviewed Lhtako Dené Nation comments on the AIR.
AIR	March 23, 2021	Email	ODV provided PGL with comment responses to Lhtako Dené Nation comments on Application Information Requirements with invitation to discuss.
Environmental Assessment	April 5, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment and project updates.
AIR	April 19, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment and project updates. Reviewed Lhtako Dené Nation comments on the AIR.
Application Development	May 3, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment Application review schedule and community engagement.
Assessment Data	May 11, 2021	Email	Inquiry about data used for the Human Health Assessment.
Baseline Studies	May 12, 2021	Email	Inquiry about field assistants for baseline studies
Baseline Comments	May 13, 2021	Virtual Meeting	Reviewed Lhtako Dené Nation comments on existing conditions reports for Culture and HHERA.
Baseline Comments	May 19, 2021	Email	Received Lhtako Dené Nation comments on Culture existing conditions.
Application Development	May 31, 2021	Virtual Meeting	Bi-weekly meeting to discuss Environmental Assessment and project updates. ODV requested use of the Lhtako Dené Nation traditional territory map provided in the TLUOS (DCMS, 2019).
Application Development	May 31, 2021	Email	Inquiry to use Lhtako Dené Nation traditional territory map provided in the TLUOS (DCMS, 2019). ODV requested comment and input on the linked VCs as they relate to Indigenous Interests.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Indigenous Engagement and Coordination Plan	June 18, 2021	Email	ODV sent the Draft Indigenous Engagement and Coordination Plan to Lhtako Dené Nation for review and comment.
Indigenous Engagement and Coordination Plan	July 16, 2021	Virtual Meeting	ODV and Lhtako Dené Nation met to discuss the Indigenous Engagement and Coordination Plan and resolve outstanding questions. Lhtako Dené Nation provided confirmation that no edits were required.
Environmental Assessment	July 29, 2021	Email	Correspondence regarding Environmental Assessment Application being completed and submitted to the EAO. Documents uploaded to Teams for review and comment.
Project Updates	August 9, 2021	Email	Bi-weekly meeting invites to discuss Project and Progress updates. On-going meeting invites through Application Review.
Environmental Assessment	August 11, 2021	Email	Lhtako Dené Nation's consultant inquired about the invite to the Teams page.
Project Updates	September 13, 2021	Email	Bi-weekly meeting invites to discuss project and progress updates. Meeting moved to the following week.
Environmental Assessment	September 20, 2021	Virtual Meeting	Environmental Assessment meeting to discuss finalizing of comments to EAO, arranging future date to discuss with discipline leads and members of Lhtako Dené Nation.
Environmental Assessment	October 5, 2021	Email	ODV provided a list of comments to discuss with Lhtako Dené Nation in advance of the meeting.
Environmental Assessment	October 14, 2021	Virtual Meeting	Meeting with Lhtako Dené Nation to discuss comments on the Application.
Transmission Line	October 20, 2021	Email	ODV provided <i>Lands Act</i> advertisement to Lhtako Dené Nation for the Cariboo Gold Project Transmission Line License of Occupation.
Project Updates	November 1, 2021	Virtual Meeting	Bi-Weekly meeting to discuss comment/responses with Lhtako Dené Nation, technical memos, and visit to Wells area for community meeting.
Project Updates	November 4, 2021	Email	Correspondence regarding an in-person meeting with ODV and Lhtako Dené Nation.
Project Updates	November 15, 2021	Virtual Meeting	Bi-weekly meeting to discuss Lhtako Dené Nation open comments, technical memos, and future in-person visit.
Project Updates	November 29, 2021	Virtual Meeting	Bi-weekly meeting to discuss water quality memo, open/closed comments on the Application, and future site visit.
Environmental Assessment	November 29, 2021	Email	Correspondence between ODV and Lhtako Dené Nation to arrange a Water Quality meeting.
Environmental Assessment	December 8, 2021	Email	Correspondence with Lhtako Dené Nation regarding EAO comments on Environmental Assessment and ODV's response.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Environmental Assessment	December 13, 2021	Virtual Meeting	Bi-weekly meeting to discuss comments from Lhtako Dené Nation on Application.
Environmental Assessment	December 13, 2021	Email	Correspondence from ODV for two meetings with Lhtako Dené Nation to discuss comments related to fisheries and aquatics restoration plan for Jack of Clubs Lake.
Environmental Assessment	January 10, 2022	Email	Correspondence from ODV for meetings to discuss comments related to water quality, water treatment, fisheries and vegetation.
Environmental Assessment	January 10, 2022	Virtual Meeting	Bi-weekly meetings to discuss project updates, comments on the Application and upcoming meetings.
Environmental Assessment	January 19, 2022	Virtual Meeting	Meeting between ODV (including technical consultants) and Lhtako Dené Nation to discuss water quality comments for the Application.
Environmental Assessment	January 20, 2022	Virtual Meeting	Meeting between ODV (including technical consultants) and Lhtako Dené Nation to discuss water treatment comments for the Application.
Environmental Assessment	January 24, 2022	Virtual Meeting	Bi-weekly meeting to discuss EA-related timelines and permitting.
Environmental Assessment	January 24, 2022	Virtual Meeting	Meeting between ODV (including technical consultants) and Lhtako Dené Nation to discuss freshwater fish comments for the Application.
Environmental Assessment	January 25, 2022	Email	Correspondence from ODV to Lhtako Dené Nation regarding comment response.
Environmental Assessment	February 2, 2022	Email	ODV provided Lhtako Dené Nation with the ITT spreadsheet with open comments, as of January 31, 2022, to be reviewed and closed with the option to discuss with the technical team.
Environmental Assessment	February 7, 2022	Virtual Meeting	Bi-weekly meeting between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Project Updates	February 9, 2022	Email	ODV provided Lhtako Dené Nation with a list of potential contracting opportunities related to the Cariboo Gold Project.
Environmental Assessment	February 23, 2022	Virtual Meeting	Bi-weekly meeting between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Environmental Assessment	March 28, 2022	Virtual Meeting	Bi-weekly meeting between ODV and Lhtako Dené Nation to discuss open comments, technical memo status, revised application, and Lhtako Dené Nation community meeting in April 2022.
Project Updates	April 14, 2022	In-Person meeting	ODV presented an update on the Project and the Environmental Assessment to Lhtako Dené Community members. The presentation included a question and answer session.

Topic or Subject	Initial Contact Date	Method of Communications	Engagement Summary
Project Updates	April 19, 2022	Virtual Meeting	ODV met with Lhtako Dené Nation Chief and Council to discuss the community presentation, and the stewardship society initiative.
Environmental Assessment	April 25, 2022	Virtual Meeting	Bi-weekly meeting between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Environmental Assessment	May 9, 2022	Virtual Meeting	Bi-weekly meetings between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Project Updates	May 24, 2022	Email	ODV provided Lhtako Dené Nation with the news release regarding the 2022 Preliminary Economic Assessment for the Cariboo Gold Project.
Environmental Assessment	June 22, 2022	Virtual Meeting	Bi-weekly meetings between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Environmental Assessment	July 5, 2022	Virtual Meeting	Bi-weekly meetings between ODV and Lhtako Dené Nation to discuss open comments and technical memo status.
Environmental Assessment	July 7, 2022	Email	ODV correspondence with Lhtako Dené Nation regarding submission of Technical Memo's, including WSP Technical Memo 28B, which included responses to comments on Chapter 11 Lhtako Dené Nation.
Environmental Assessment	July 18, 2022	Virtual Meeting	Bi-weekly meetings between ODV and Lhtako Dené Nation to discuss open comments, technical memo status and revised Application timeline.

In 2021, Lhtako Dené Nation community members participated in Archaeological surveys for the Transmission Line. Specific traditional use sites have not been identified by Lhtako Dené Nation along the Transmission Line route; however, ODV will support a TLU study, if requested, and incorporate the results as necessary.

Lhtako Dené Nation Elders were identified as a key group for engagement. As described in the paragraphs above, ODV held an Elders tour in 2019, and the Lhtako Dené Nation Community Liaison conducted interviews with Elders in 2021. Further engagement with additional groups within the community was limited by COVID restrictions and availability.

Engagement protocols were discussed with Lhtako Dené Nation. Lhtako Dené Nation were also given the opportunity to review and comment on the Early Engagement Plan and Indigenous Nation Engagement and Collaboration Plan. The Life of Project agreement between Lhtako Dené Nation and ODV includes details on how issues will be resolved.

11.3.5 Integration of Engagement

11.3.5.1 Overview

ODV sought input from Lhtako Dené Nation both on the Project and on engagement methods to ensure that the methods being employed facilitated participation in Project planning and review. Input from Lhtako Dené Nation was documented in several ways, including meeting notes, phone/e-mail records and tracking tables. ODV maintains the records of Project-related engagement activities, concerns raised and responses provided to ensure that the engagement process is accurately reflected and that the interests and concerns and the means through which they were responded to are recorded and addressed.

ODV recognizes that it is important that Lhtako Dené Nation understand how their input has influenced the Project planning and the engagement process. Feedback to questions and comments was provided through direct response to those raising questions and comments during meetings and through communications materials such as comment tables. This allows for comments and responses to be tracked and agreement reached on if the comment has been resolved.

11.3.5.2 Engagement Feedback

ODV approached Project planning with the intent of reducing potential effects on Lhtako Dené Nation Indigenous interests through Project design. Table 11.3-2 describes how engagement activities to date influenced key changes to the Project or how comments were addressed/incorporated up to the submission of the Application.

11.3.5.2.1 Business, Employment, and Formal Agreements

As part of ongoing engagement for the Project, Lhtako Dené Nation identified an interest in training and employment for community members to provide longer term benefits and opportunities. Lhtako Dené Nation wished to discuss the types of jobs which could be made available, education, training and apprenticeship opportunities, and ODV's plans or policies regarding the hiring of Indigenous persons. Likewise, there is interest in forming partnerships with the local governments and industries around land management and the possibility of training and employing Lhtako Dené Nation members. This was linked to business opportunities and the Nation's interest in having band-owned businesses provide services for the Project, whether through contract arrangements or joint-ventures. These interests and others are captured in the formal Project Agreement, which, in part, outlines engagement protocols and employment and business opportunities.

Table 11.3-2 Key Issues Summary and Responses

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Employment and Training Opportunities	<ul style="list-style-type: none"> • Types of jobs available • Support for education and training, on-the-job training • Indigenous hiring practices 	<ul style="list-style-type: none"> • ODV will provide employment and training opportunities for qualified Lhtako Dené Nation members. • ODV has and will continue to arrange meetings with contractors to discuss opportunities. • ODV's intention is to hire as many individuals as are qualified and/or provide training opportunities to interested individuals.
Business Opportunities	<ul style="list-style-type: none"> • Opportunities for Indigenous-owned businesses • Contracting/joint-venture opportunities 	<ul style="list-style-type: none"> • ODV will provide opportunities for qualified Lhtako Dené Nation businesses. • ODV and Lhtako Dené Nation have identified joint venture opportunities.
Community Initiatives	<ul style="list-style-type: none"> • Support for community-based projects, initiatives, and events 	<ul style="list-style-type: none"> • ODV supports community identified projects, initiatives, events and activities and will continue to work with Lhtako Dené Nation representatives to identify opportunities.
Project-related Agreements	<ul style="list-style-type: none"> • Engagement protocols and agreements • Benefit Agreements/Capacity Funding 	<ul style="list-style-type: none"> • The Project Agreement signed by ODV and Lhtako Dené Nation on October 2, 2020 builds upon our initial Engagement Protocol (2016) and subsequent Relationship Agreement (2016). ODV is committed to engaging with Lhtako Dené Nation in accordance with the Project Agreement, including with respect to the provision of capacity funding.
Traditional Use and Knowledge	<ul style="list-style-type: none"> • Must be considered in Project studies • The scope of the existing TLUOS (DCMS, 2019) did not include all areas potentially affected by the Northern Transmission Route • Linkages between environmental effects and use must be considered 	<ul style="list-style-type: none"> • ODV recognizes that the Project-specific TLUOS (DCMS, 2019) funded by ODV in 2019 was completed prior to finalizing routing options for the Northern Transmission Line. ODV is committed to addressing any informational gaps which may exist in accordance with the process set out in the Project Agreement and by continuing to facilitate the participation of Lhtako Dené Nation in baseline studies related to the Northern Transmission Line. Information provided by Lhtako Dené Nation is being considered in Project studies related to the Transmission Line and will be discussed with Lhtako Dené Nation to ensure that it is reflected accurately. • Linkages between environmental effects of the Project and Lhtako Dené Nation use will be considered.

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Current Use	<ul style="list-style-type: none"> Concern regarding the focus on current use – potential future use must be considered Concerns raised regarding dust near current berry harvesting areas Will ODV road use restrict use by Lhtako Dené Nation? 	<ul style="list-style-type: none"> ODV has and will continue to discuss interests with Lhtako Dené Nation to enable them to be reflected in the Application. Potential effects from dust are discussed in the Application. The ability to use the roads will not change.
Project Study and Review	<ul style="list-style-type: none"> Discuss study methodologies prior to assessments being completed Ensure baseline scope and data collection is sufficient to support effects assessment Involvement in VC identification Involvement in developing mitigation/management strategies Provide a variety of participation options - meetings, site tours, one-on-ones 	<ul style="list-style-type: none"> ODV has and will continue to meet regularly with Lhtako Dené Nation to discuss the Project. ODV is funding third-party consultants to support Lhtako Dené Nation review and participation in the EA process. Lhtako Dené Nation members have participated in baseline program field studies. A Community Meeting was held to discuss the Project and Project studies. A VC workshop was held along with a site visit with Lhtako Dené Nation Elders to inform VC selection and studies undertaken; additional discussions regarding VCs will be undertaken with Lhtako Dené Nation. Baseline scope, data collection, findings and effects assessment methodology, including mitigation/management will be discussed with Lhtako Dené Nation. A variety of engagement options are being used.
Cumulative Effects	<ul style="list-style-type: none"> Cumulative effects study areas should be VC focused 	<ul style="list-style-type: none"> The cumulative effects assessment study areas are based on the VC RAA, as appropriate.
Project Description	<ul style="list-style-type: none"> Cumulative effects study areas should be VC focused 	<ul style="list-style-type: none"> The cumulative effects assessment study areas are based on the VC RAA, as appropriate.
Water treatment and management through Project life	<ul style="list-style-type: none"> Concern regarding water treatment at Mine Site and QR Mill Concerns regarding post-closure water management 	<ul style="list-style-type: none"> ODV has developed water treatment methods that would be implemented at each site during operations and following closure.
Caribou	<ul style="list-style-type: none"> Caribou recovery in the area 	<ul style="list-style-type: none"> ODV has developed a caribou Mitigation and Management Plan for current operations and will update the plan to include the Project.

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Minimizing new disturbance	<ul style="list-style-type: none"> Concern regarding opening a new corridor for the transmission line Concern regarding new disturbance for the Project overall 	<ul style="list-style-type: none"> The transmission line has been routed near existing disturbance to the extent possible. Most Project facilities will be located on previously disturbed sites.
Transmission Line	<ul style="list-style-type: none"> Concerns with the social, cultural, and environmental effects of the proposed Northern Transmission Line route and its potential to cause a loss of resource use areas, disturbance and loss of wildlife and wildlife habitat, particularly caribou habitat and disturbance to valuable aquatic and terrestrial ecosystems 	<ul style="list-style-type: none"> ODV will support Lhtako Dené Nation in completing additional baseline data collection and field visits to identify the archeological and traditional use sites that the transmission line route overlaps. ODV will provide updated maps and revisions to the transmission line footprint to Lhtako Dené Nation for review and comment and will meet with Lhtako Dené Nation to discuss potential interactions between the route alignment and Lhtako Dené Nation interests. Information provided by Lhtako Dené Nation through community interviews was incorporated into the Application.
Traditional Use Plants	<ul style="list-style-type: none"> Concerns with the disturbance to berry harvesting sites along the proposed transportation routes, particularly 500 Nyland Lake Road, through physical loss of the resource use area, restricted access to the resource area, and dust emissions rendering traditionally harvested berries inedible 	<ul style="list-style-type: none"> ODV considered berry harvesting sites along 500 Nyland Lake Road in the Human Health and Ecological Risk Assessment (see Section 7.13). Effects of fugitive dust on country food were considered in the assessment. ODV does not anticipate that the Project or Project-related activities will result in restricted access to the resource use area or physical loss of the area as aside from new access or improvements to existing access to Highway 26 (for the Mine Site Surface Infrastructure and Island Mountain Portal), upgrades to the Transportation Route are not required and mitigation measures to manage dust can be utilized.
Tailings	<ul style="list-style-type: none"> Concerns with tailings management, including the desire for more information on dry tailings storage and the potential effects on water quality and aquatic resources in Quesnel River 	<ul style="list-style-type: none"> ODV commits to providing additional information to Lhtako Dené Nation regarding filtered stack tailings, benefits and risks. Information on the tailings storage facility is provided in Section 7.6.3.

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Land Use	<ul style="list-style-type: none"> Concerns with the effects on resource use areas through the reduced access and/or loss of fishing, hunting, trapping, gathering and harvesting sites/areas 	<ul style="list-style-type: none"> ODV commits to continued discussions with Lhtako Dené Nation regarding resource use, including available information on the location and seasonal use patterns where fishing, hunting, trapping, gathering, and harvesting occurs to inform Project planning with a view to mitigating potential effects. ODV will work with Lhtako Dené Nation to identify access to resource use areas and related opportunities for sustained fishing, hunting, trapping, gathering and camping activities and work to mitigate any impacts to these areas. ODV recognizes the importance of the berry picking and hunting area along 500 Nyland Lake Road and will endeavour to minimize any Project effects in that area. ODV will continue engagement to maximize the inclusion of traditional knowledge of the land use in and adjacent to the Project footprint in Project studies.
Archaeology	<ul style="list-style-type: none"> Interest in conducting further archaeological monitoring to address concerns with loss or infringement of archaeological sites/areas from land alerting activities 	<ul style="list-style-type: none"> ODV will support archaeological monitoring by Indigenous nations in areas where new ground disturbance is occurring.
Spiritual and Cultural Areas	<ul style="list-style-type: none"> Concerns with the potential disturbance of spiritual sites and culturally sensitive areas 	<ul style="list-style-type: none"> ODV will continue to work with Lhtako Dené Nation to identify potential spiritual sites and culturally sensitive areas and discuss measures to address any potential impacts of the Project on such Indigenous interests.
Transportation Routes	<ul style="list-style-type: none"> Concern with the loss of both water and land transportation routes that overlap with the Cariboo Gold footprint 	<ul style="list-style-type: none"> Based on information contained in the TLUOS (DCMS, 2019) and discussions with Lhtako Dené Nation, ODV will identify transportation routes and trails that overlap the Project footprint and discuss potential means through which to mitigate potential effects.
Surface Water	<ul style="list-style-type: none"> Concerns regarding effects to water quality and fish and fish habitat from water impairment, seepage of contamination into surface water and groundwater downstream of the Project area, changes to stream hydrology, effects to potable water supply, and loss of riparian ecosystems and wetlands 	<ul style="list-style-type: none"> Each of these items identified will be considered in the effects assessment. Should potential effects to Lhtako Dené Nation interests be identified, ODV will discuss with Lhtako Dené Nation potential mitigation measures. ODV will discuss with Lhtako Dené Nation how water-based traditional practices may be impacted.

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Wildlife	<ul style="list-style-type: none"> Concerns with the effects on terrestrial and aquatic animal species through the disturbance or loss of critical habitat and wildlife corridors from land clearing, disturbance or loss of salmon from water impairment, and terrestrial wildlife mortality from increased traffic 	<ul style="list-style-type: none"> Each of these items identified will be considered in the effects assessment and documented in the EAC Application. Should potential effects to Lhtako Dené Nation's interests be identified, ODV will discuss with Lhtako Dené Nation potential mitigation measures. ODV has a caribou Mitigation and Management Plan for its Bonanza Ledge Mine operations, and it will be updated as required for the Project.
Vegetation	<ul style="list-style-type: none"> Concerns with the effects on plants from the loss of rare and culturally species and the loss of commonly harvested species 	<ul style="list-style-type: none"> Vegetation will be considered in the effects assessment. ODV will continue to engage with the Lhtako Dené Nation to learn about valued plant species and develop mitigation measures based on traditional knowledge.
Air Quality	<ul style="list-style-type: none"> Concerns with the potential for impairment to air quality from pollution (i.e., contaminants and greenhouse gas emissions) and increased dust emissions 	<ul style="list-style-type: none"> Effects on air quality, including greenhouse gas emissions, were considered in the EAC Application.
Water Quality – QR Mill	<ul style="list-style-type: none"> Concerns about water quality from discharge at QR Mill, including previous non-compliances and reporting at this site 	<ul style="list-style-type: none"> Water quality concerns at QR Mill are being addressed through the implementation of a water treatment system. This water treatment system has been designed to address and prevent non-compliance events. Details are provided in Section 7.6.4.
Future Use	<ul style="list-style-type: none"> Concerns with the loss of natural resources for future generations 	<ul style="list-style-type: none"> ODV will continue to discuss the use of Traditional Ecological Knowledge (TEK) and TLUOS (DCMS, 2019) information in the EA with Lhtako Dené Nation to understand the potential impacts of the Project on future generations. A cumulative effects assessment will be completed for the Project. ODV will work with Lhtako Dené Nation to reflect Lhtako Dené Nation's interests in the study.
Traditional Ecological Knowledge	<ul style="list-style-type: none"> Interest in ensuring the appropriate use of Traditional Ecological Knowledge and Traditional Land Use and Occupancy Study information in all phases of the EA 	<ul style="list-style-type: none"> ODV will continue to discuss the use of TK and the TLUOS (DCMS, 2019) information in the EA with Lhtako Dené Nation.

Project Component or Activity	Comment Summary	Project Refinement/Discussions
Caribou	<ul style="list-style-type: none"> Interests in woodland caribou, including impacts of Cariboo Gold on the local Barkerville caribou herd and cumulative impacts in the region from forestry and other industry, as well as the interactions with moose and moose hunting. Recovery of the caribou herd is a priority, and Lhtako has future aspirations to be able to hunt caribou again in the future 	<ul style="list-style-type: none"> ODV recognizes the importance of caribou and moose to Lhtako Dené Nation. Studies related to wildlife and wildlife habitat, including caribou and moose, were completed and the findings provided in the appendices to the EAC Application.
Future Use	<ul style="list-style-type: none"> Interests in future aspirations for use of the land – Lhtako is attempting to revitalize the community and focus on fishing, ethnobotany and medicinal plant gathering in the area 	<ul style="list-style-type: none"> ODV will continue to work with Lhtako Dené Nation to understand their interests and future aspirations for use of the land in the Project area, including with respect to fishing, ethnobotany and medicinal plant gathering. Project studies will address a wide range of environmental topics, and ODV will work with Lhtako Dené Nation to identify ways to avoid or mitigate potential effects to Lhtako Dené Nation interests where possible.
Land Management	<ul style="list-style-type: none"> Interests in becoming partners with local governments and industry in managing the land base and providing Lhtako Dené Nation members with employment opportunities 	<ul style="list-style-type: none"> ODV will continue to work with Lhtako Dené Nation to understand their interests in the Project area, including with respect to potential land management frameworks. ODV will continue to provide employment opportunities for Lhtako Dené Nation members in accordance with the process and commitments contained in the Project Agreement, which was signed on October 2, 2020.

11.3.5.2.2 *Community Investment and Impact*

Further consideration of community impacts was the interest in support from ODV in providing community-based projects, initiatives, events, and overall enrichment. As well, concerns were raised that spiritual sites and culturally sensitive areas might be disturbed during the Project. Lhtako Dené Nation wished to have further archaeological monitoring conducted so that concerns over such sites of importance might be addressed and mitigated. It was of extreme importance to Lhtako Dené Nation that traditional knowledge is considered in all aspects of the Project and that this information is considered along with environmental effects.

11.3.5.2.3 *Project Studies and Assessments*

Lhtako Dené Nation expressed the expectation that study methods would be discussed with them prior to their completion to ensure that the baseline scope and data collection would be sufficient to support an EA. Lhtako Dené Nation requested to be involved in both the identification of VCs and in the development of mitigation strategies when they might be impacted. Lhtako Dené Nation noted that cumulative effects should be focused around identified VCs. They requested that a variety of participation options be provided to facilitate their involvement, including meetings, site tours, and one-on-one discussions. Lhtako Dené Nation members were invited to and participated in baseline field programs for existing conditions data collection between 2016 and 2021.

11.3.5.2.4 *Traditional Land Use*

Regarding the use of land and resources, Lhtako Dené Nation stressed the importance of considering future use and the maintenance of the health of, and access to, significant areas for following generations. Lhtako Dené Nation has aspirations for the long-term use of the land, including the revitalization of the community through traditional practices such as fishing, ethnobotany and medicinal plant gathering. Members expressed concern that roads used by Lhtako Dené Nation might be restricted or controlled by the Project or that areas of importance (fishing, hunting, trapping, gathering, and harvesting sites) might be blocked off. Concerns were also raised around the impacts that new roads and access routes will have on surrounding areas, such as dust and emissions produced near berry harvesting areas. 500 Nyland Lake Road was raised as an area of particular importance for berry harvesting. Issues were raised around the potential effects to plants which are rare or of cultural significance, including those that are commonly harvested. Likewise, there was concern over changes to transportation routes, either overland or by water, which are located within the Project footprint.

Water quality was raised as an aspect of particular importance, both in terms of surface water and groundwater. Focus was placed on impacts downstream of the Project area, including impacts to water quality, fish and fish habitat, changes to stream hydrology, effects to potable water, and impacts or losses of ecosystems and wetlands. Concerns were raised over physical changes to waterways as a result of the Project, as well as degradation and contamination via overland flow, seepage, and effluent.

Similarly, effects to terrestrial and aquatic animal species through the disturbance or loss of critical habitat and wildlife corridors from land clearing, disturbance or loss of salmon from water impairment, and terrestrial wildlife mortality from increased traffic were identified as areas of concern. Of particular importance was the consideration of impacts on Southern Mountain caribou. Lhtako Dené Nation is not only interested in protecting the existing population but in revitalizing and improving its current state. Caribou have been impacted and will continue to be impacted not only by the Project but by forestry and other industries as well as by disturbance from other activities bringing people into the region such as hunting and recreational use such as snowmobiling. Recovery of the caribou herd is a priority, and Lhtako Dené Nation would like to witness a revitalization of the caribou population and improvement of caribou habitat, which would support the cultural values in which caribou are viewed.

Lastly, Lhtako Dené Nation raised issues around the potential for air quality to be impaired from pollution, such as contaminants, greenhouse gas emissions, and increased dust emissions.

11.3.5.2.5 Project Components

Lhtako Dené Nation expressed concern regarding new disturbance as a result of the Project overall, as well as the impacts of the proposed Transmission Line route. In particular, issues around the social, cultural, and environmental effects of the Transmission Line were raised due to its potential to cause a loss of resource use areas, disturbance and loss of wildlife and wildlife habitat, and disturbance and/or loss of fish and fish habitat. The loss of caribou habitat and disturbance to valuable aquatic and terrestrial ecosystems were especially noted.

The management of water at both the Mine Site and QR Mill was raised as a concern, particularly around discharge and treatment and the historical non-compliance associated with past operations. Similarly, Lhtako Dené Nation requested additional information on tailings management and filtered tailings storage, including the potential effects on water quality and aquatic resources in the Quesnel River.

11.3.6 Planned Engagement

Osisko Development Corp. will continue to engage with Lhtako Dené Nation to better understand how the Project may potentially impact their Indigenous interests and what measures can be incorporated into the Project to avoid, mitigate or otherwise address those potential impacts. ODV will continue to work with leadership, staff, community members and third parties as directed by Lhtako Dené Nation to identify appropriate methods of communication and engagement for the community.

Potential engagement methods and communications materials are identified in Table 11.3-3. Details on engagement activities are outlined in the Indigenous Engagement and Collaboration Plan.

As part of the Life-of-Project agreement, Osisko Development and Lhtako Dené Nation have an agreement on a process to resolve issues that may arise.

Table 11.3-3 Potential Engagement and Consultation Methods and Communications Materials

Engagement	Communication Materials
<ul style="list-style-type: none"> • Face-to-face and phone meetings with elected leadership and nation representatives • Workshops on specific topics • Community Meetings • Presentations • Technical meetings • Tours and site visits • Written correspondence • Project website • Community surveys and interviews 	<ul style="list-style-type: none"> • Maps and figures • Poster boards • Newsletters • Letters • Renderings/animations depicting the 3-dimensional layout of Project surface infrastructure • Written, online, or phone surveys

11.4 Information Sources

Information sources used in the preparation of the assessment of effects on Lhtako Dené Nation are provided below. The effects assessment was primarily informed by the TLUOS completed by Lhtako Dené Nation (DCMS, 2019) and ongoing engagement discussions held with Lhtako Dené Nation (see Section 11.3.4). Information in the TLUOS (DCMS, 2019) was supplemented by community interviews completed by the Lhtako Community Liaison in 2021. Additional sources include information from various publicly available websites. Effects were informed by the effects assessment completed in Chapter 7.0. All references for the Application are provided in Chapter 19.0 References.

Information sources for the assessment of Indigenous interests included:

- Lhtako Dené Nation Traditional Land Use and Occupancy Study for Barkerville Gold Mines Ltd. Proposed Cariboo Gold Mine Project (2019). Prepared by DM Cultural Services Ltd. (DCMS);
- Engagement activities as detailed in Section 11.3;
- Lhtako Dené Nation Community Liaison Interviews, 2021. Five elders were interviewed in early 2021 and reviewed information regarding the Transmission Line. Concerns regarding the Transmission Line routing alternative near Highway 26 were provided;
- Lhtako Dené Nation Website: <http://carrierchilcotin.org/lhtako-dene-nation/>;
- BC Assembly of First Nations Website, Lhtako Dené Nation: <https://www.bcafn.ca/first-nations-bc/cariboo/lhtako-dene-nation>;
- Agreements information for Lhtako Dené Nation as provided by the Government of BC: <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/lhtako-dene-nation-red-bluff-indian-band>;
- Lhtako Dené Nation – Indigenous and Northern Affairs Canada: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=715&lang=eng;
- Project effects assessments (Chapter 7.0); and
- Existing conditions reports completed for the Project (see Chapter 7.0 Appendices)

11.4.1.1 Indigenous Knowledge

Lhtako Dené Nation supplied a TLUOS (DCMS, 2019) for use by the Project. The purpose of the TLUOS (DCMS, 2019) was to gather information in order for the Lhtako Dené Nation to meaningfully participate in the development of appropriate mitigation measures for the following:

- Potential effects on the land and water and Lhtako Dené Nation's use of land and water;
- Lhtako Dené Nation's concerns with potential Project effects on social and cultural values, including Section 35 rights; and
- Lhtako Dené Nation's input on the design, development, construction and decommissioning phases of the Project to reduce the unjustified infringement of Lhtako Dené Nation rights and practices within the proposed development area.

The TLUOS (DCMS, 2019) and TEK was intended and used:

- To provide TLUOS and TEK information to ODV for completion of the environmental assessment process;
- To assist in the cultivation of an appreciation of TLUOS/TEK and Indigenous perspectives among non-Indigenous audiences;
- To contribute to the building of TLUOS/TEK capacity within the Lhtako Dené community;
- To ensure that all phases of Project development considers TEK and TLUOS information, while also complying with all applicable laws, regulations and authorizations; and
- To create or supplement existing catalogues of TLUOS/TEK that can assist in managing future use of the Project development lands and waters in an ecologically and culturally sensitive manner.

The TLUOS (DCMS, 2019) was incorporated in the effects assessment (Chapter 7.0), along with specifically informing Section 7.16 Culture and this chapter (Chapter 11.0). Indigenous knowledge was also incorporated in the Project alternatives selection (Section 1.7) and in the identification of VCs (Chapter 5.0).

The information provided in the TLUOS (DCMS, 2019) is the sensitive traditional knowledge and property of Lhtako Dené Nation. Lhtako Dené Nation has given ODV permission to use the information provided in the TLUOS (DCMS, 2019) for the purposes this Application.

ODV has committed to Lhtako Dené Nation to support a future traditional use study on the Transmission Line to provide information to inform Project activities and management plans.

11.5 Assessing Effects on Indigenous Interests

11.5.1 Introduction

Lhtako Dené Nation's Indigenous interests were identified in the Process Planning Phase and were described in the AIR. The Indigenous interests can be summarized in four categories: traditional land use and practices, water, caribou and community wellbeing (see Section 11.2.4). Lhtako Dené Nation identified their Interests after reviewing the information provided by ODV on the Project, including the Detailed Project Description, VC selection and rationale, assessment area boundaries and existing conditions reports.

VCs included in the assessment of Lhtako Dené Nation Indigenous Interests are identified in Table 11.5-1. These VCs and the effects of the Project were carried forward from Chapter 7.0.

Table 11.5-1 Indigenous Interests and Valued Components

Indigenous Interest	Valued Component	Application Location
Traditional Land Use	<ul style="list-style-type: none"> • Air Quality • Surface Water • Groundwater • Soil • Vegetation • Wildlife • Freshwater Fish • Land and Resource Use • Human Health • Culture • Archaeological and Heritage Resources 	<ul style="list-style-type: none"> • Section 7.2 • Section 7.4 • Section 7.5 • Section 7.6 • Section 7.7 • Section 7.8 • Section 7.9 • Section 7.11 • Section 7.13 • Section 7.16 • Section 7.15
Water	<ul style="list-style-type: none"> • Surface Water • Groundwater 	<ul style="list-style-type: none"> • Section 7.4 • Section 7.5
Caribou	<ul style="list-style-type: none"> • Wildlife 	<ul style="list-style-type: none"> • Section 7.8
Community wellbeing	<ul style="list-style-type: none"> • Culture • Employment and Economy • Community Health 	<ul style="list-style-type: none"> • Section 7.16 • Section 7.10 • Section 7.14

11.5.2 Assessment Boundaries

The spatial assessment boundaries for each Indigenous interest were identified based on the Local Assessment Area (LAA) and Regional Assessment Area (RAA) for VCs in Table 11.5-1 and Lhtako Dené Nation Traditional Territory (Table 11.5-2). Where there were multiple VCs, the largest area was selected to incorporate the VC and Lhtako Dené Nation use of the Project area. Rationale for assessment area boundaries for the VCs are described in Chapter 7.0. All Project components are within Lhtako Dené Nation Traditional Territory.

Table 11.5-2 Assessment Boundaries

Indigenous Interest	Boundary	Extent	VC Selected From
Traditional Land Use	Local Assessment Area	Largest overlapping area of the Air Quality, Water Quality and Wildlife LAAs	Human Health
	Regional Assessment Area	Largest overlapping area of the Air Quality, Water Quality and Wildlife RAAs	Human Health
Water	Local Assessment Area	Watersheds of the Willow River and Slough Creek Maud Creek watershed and the local area draining into the Quesnel River	Surface Water
	Regional Assessment Area	Willow River Drainage at the point immediately upstream of its confluence with Stephanie Creek Quesnel River Drainage, upstream of the confluence with Beaver Creek	Surface Water
Caribou	Local Assessment Area	1 km extended from the Surface Footprint	Wildlife
	Regional Assessment Area	Based on Barkerville caribou herd boundary	Wildlife - caribou
Community wellbeing	Local Assessment Area	Lhtako Dené Nation Traditional Territory	Lhtako Dené Nation Traditional Territory
	Regional Assessment Area	Lhtako Dené Nation Traditional Territory	Lhtako Dené Nation Traditional Territory

The temporal boundaries for the assessment on Indigenous interests span the life of the Project. The Construction, Operations, Closure, and Post-Closure Phases of the Project include components and activities that could interact with and potentially affect Indigenous interests:

- Construction: Construction represents the contributions from the Project during the one-year Construction Phase.
- Operations: Operations represent the contributions from the Project during the 16 years of operation.
- Closure: Closure represents the two-year period after mining is completed and decommissioning is in progress.
- Post-Closure: Post-Closure represents the contributions from the Project after the closure plan has been implemented. This phase includes both active and passive care.

No administrative or technical boundaries were identified for the assessment of Indigenous interests.

11.5.3 Existing Conditions

11.5.3.1 Traditional Land Use

The TLUOS (DCMS, 2019) findings regarding Traditional Land Use are described below. Topics addressed in the study are transportation routes, resource use areas, habitation sites, and spiritual and culturally significant areas. All activities have been affected by ongoing activities, with the level of impact varying depending on area of disturbance in relation to area of use.

11.5.3.1.1 Transportation Routes

Transportation routes provide Lhtako Dené Nation members with access to fishing areas, hunting grounds, trap lines, plant and berry collection areas, spiritual sites, and campsites. Transportation routes are connected to traditional land use sites, as fishing, hunting, trapping, food and medicinal plant gathering, and berry picking activities occur along the trails and water routes, while camping occurs at specific campsites along the trails or at trail ends. The TLUOS documented important historic travel routes near Lightning Creek and another heading north from Wells to the Bowron Lakes (DCMS, 2019). Interviews for the TLUOS with Elders and community members also identified five transportation routes in the Project study area for current use (DMCS, 2019). While not specifically shown in the TLUOS (DCMS, 2019), it is generally understood that these routes are located along the north side of Island Mountain, near Eight Mile Lake Creek, and generally along the Cunningham Pass FSR.

11.5.3.1.2 Resource Use Areas

Lhtako Dené Nation members have traditionally relied on big game hunting to provide food for the community, and deer and moose continue to be of particular importance to hunters, with hunters hunting in areas east of Quesnel, among other areas. In interviews, Lhtako Dené Nation members discussed how hunting practices follow the seasonal round and emphasized the importance of maintaining traditional hunting practices. Beaver is harvested in the spring and moose in the fall (Knowledge Holder, July 10, 2019 Ground-Truthing as cited in DCMS, 2019).

An important area for cranberries, huckleberries, Saskatoon berries, and soapberries was identified near 500 Nyland Lake Road; this is the first berry picking area visited during the seasonal round and is used by the community to access moose and deer hunting areas. Sixteen hunting sites and 23 plant and berry harvesting sites were identified during the TLUOS (DCMS, 2019). Food and medicinal plants are also found in the region.

Fishing has been and continues to be an important part of Lhtako Dené Nation life. Sinnce-Tah-Lah (IR No.2), known by the community as its place name “Fish Camp,” depicts the importance of fish for sustenance. Three past and present fishing areas were also identified during interviews which, although not near to the Lhtako Dené Nation reserves, demonstrate the importance of fishing to the community. Community members also expressed concern about being able to continue to fish in these areas. For example, Jack of Clubs Lake was used in the past but can no longer be used due to contamination from past industry. A community member expressed strong interest in the Jack of Clubs Lake being cleaned up, noting several animals consume the water and plants that are affected by the lake’s contamination.

Trapping of small fur-bearing animals is fundamental to Lhtako Dené Nation's traditional mode of life and the transmission of cultural values and traditions. Cultural camps are held specifically to ensure the passing of these skills to younger generations. Two trapping areas have been denoted within the proposed Project area.

Of importance to note is the higher density regions of TLUOS sites that are found central to the proposed Project area, with the highest site densities found northeast of Jack of Clubs Lake (DCMS, 2019). Knowledge Holders are concerned that further development in the study area will cause negative cumulative effects on their hunting, fishing, trapping, and plant gathering abilities and that the younger generations will have nowhere to hunt in the future.

11.5.3.1.3 *Habitation Sites*

Campsites are often indicative of secondary traditional land use and remain a means to access Lhtako Dené Nation's hunting, trapping, and plant gathering areas. In the TLUOS, Elders, community members, and secondary resources spoke of the extensive regions that support current and historic habitation areas which are a key component in resource procurement (DCMS, 2019).

Camping and gathering sites were found at Willow River, Lowhee Creek, and Jack of Clubs Lake. During the ground-truthing survey, a past village site and cabin were identified by a Lhtako Dené Nation Knowledge Holder less than a kilometre northeast of Wells. The high density of habitation sites throughout the proposed Project footprint, together with the secondary uses these sites support, illustrates the extensive current and historical occupation of Lhtako Dené Nation members in and around the proposed Project footprint and wider area.

11.5.3.1.4 *Spiritual and Culturally Significant Areas*

Spiritual and named places retain their cultural importance through oral histories and teachings and community members must be able to access these areas to pass the traditional knowledge on to new generations. The TLUOS (DCMS, 2019) found that there are two sites within the proposed ODV Project footprint that are culturally sensitive and spiritually significant to Lhtako Dené community. Additionally, certain animal and plant species are considered sacred. Bears are one of these species and a black bear was sighted 6 km northeast of Wells, demonstrating the importance of limiting Project impacts to the environment.

Certain regions hold their spiritual or cultural significance in connection to traditional beliefs or passed-on knowledge and education while other spiritual places may be birth or burial sites. A Lhtako Dené Knowledge Holder identified the approximate location of a burial along Highway 26 near Pinegrove during the TLUOS (DCMS, 2019). As traditional knowledge is connected to place, if a place is altered or can no longer be accessed, the knowledge that is tied to that place is also permanently altered or lost.

11.5.3.2 *Water*

Surface water and groundwater quality has been identified as a key concern by Lhtako Dené Nation, as it affects the health and viability of plants and animal species within their traditional territory. Water represents important transportation routes that give access to fishing areas, hunting grounds, trap lines, plant and berry collection areas, spiritual sites, and campsites.

Limited information on the existing conditions of water is available in the TLUOS (DCMS, 2019). Aquatic resource harvesting is a key component of traditional land use by Lhtako Dené Nation and thus effects to surface water quality and groundwater quality will affect fish and other aquatic resources. Both historically and contemporarily, fishing and trapping has been a significant aspect of Lhtako Dené Nation life. Water-based food sources include char (lake trout), bull trout (sometimes referred to as dolly varden), lingcod, chum salmon, pink salmon, sockeye salmon (kokanee), chinook salmon (spring), sturgeon, suckers, northern pike minnow, trout, rainbow trout, whitefish, frog, beaver and muskrat (DMCS, 2019). Salmon are particularly important to Lhtako Dené Nation.

The TLUOS (DMCS, 2019) describes harvesting by Lhtako Dené Nation of salmon from the Fraser River and Quesnel River and fishing activities in Dragon Lake, Jack of Clubs Lake, Ten Mile Lake and Bowron Lake. For Lhtako Dené Nation, fishing is an important year-round activity. Lhtako Dené Nation is concerned about the cumulative effect of natural resource development in their traditional territory and how it may negatively affect their way of life and infringe on their constitutional rights. New developments can contribute to water pollution. During the site visit Lhtako Dené Nation Knowledge Holders expressed concerns over contamination of water and fishing sources. Contamination from mine tailings or other pollutants were also identified as specific concerns. Lhtako Dené Nation would like to see the restoration of aquatic habitat from past historic impacts. Particular interest was voiced regarding the Jack of Clubs Lake and a desire for it to be cleaned, studied, and reclaimed.

Details regarding existing conditions for Surface Water and Groundwater are found in Section 7.4 and Section 7.5, respectively.

11.5.3.3 Caribou

Caribou was one of the primary big game species for Lhtako Dené Nation and were hunted as a food source when they were more numerous. The meat was dried and preserved by canning. As identified in the TLUOS study area, Lhtako Dené Nation hunted for caribou near the District of Wells, Island Mountain and the eastern portion of the Transmission Line (DCMS, 2019).

Currently, there are restrictions on hunting caribou. The southern mountain population of caribou is considered “Endangered” by The Committee on the Status of Endangered Wildlife in Canada (COSEWIC), “Threatened” under Schedule 1 of the *Species at Risk Act* (SARA), and is provincially red-listed and ranked S1 (critically imperilled). Caribou are mainly threatened by forestry operations causing habitat loss and degradation, predation by wolves and hunters, and forest fires reducing caribou habitat.

Caribou are identified as a sub-component VC for Wildlife and are described in further detail in Chapter 7.8.

11.5.3.4 Community Well-being

Community Well-being includes the integration of traditional activities such as hunting, fishing and trapping. These activities are part of the active maintenance and transferal of Lhtako Ecological Knowledge, Dakelh language and teaching, community and cultural cohesion, and intergenerational knowledge transfer. For Lhtako Dené Nation to be healthy, the community must be able to uphold stewardship systems, customs, beliefs and values. Continued access to transportation routes and cultural sites (for fishing, gathering, harvesting etc.) along with protection from encroachment of non-community members will play a significant role in community wellbeing. Benefits may also be gained through training and meaningful employment of community members. Lhtako Dené Nation anticipates economic gains from the current Project while looking to ensure natural resources are maintained so that future generations may benefit.

Community members expressed a lack of certainty about the proposed Project's effects and therefore perceived the associated negative impacts to be high (DMCS, 2019). As such, Lhtako Dené Nation members have expressed the desire for additional information regarding ODV's proposed mining activities to understand the extent to which these perceived negative impacts constitute material concerns for the community. Given the technical nature of large-scale mining operations, the community feels that further discussion and information-sharing is warranted, so that the parties can reach a mutual understanding of the risks, and potential benefits, of mining development in the study area.

11.5.4 Potential Effects

Project components and activities have the potential to interact with and lead to effects on Indigenous interests both directly and through the linked VCs. Pathways were identified through the linked VCs and effects to Indigenous interests were informed by the results of the effects assessment. Project interactions were consolidated by Project Phase.

As required by the AIR, the information is presented first by identifying all potential effects (both positive and negative) for Lhtako Dené Nation Indigenous Interests summarized from the results of Chapter 7.0. For each potential effect, Section 11.5.5 Effects Management presents mitigation measures that ODV has committed to implementing to avoid or minimize potential effects. Negative residual effects to Lhtako Dené Nation Indigenous interests are assessed and characterized in Section 11.5.7. Positive effects are also discussed in Section 11.6.

11.5.4.1 Traditional Land Use

Effects to Traditional Land Use can be characterized through numerous interconnected pathways. Effects to water sources, including surface water and groundwater, along with effects to freshwater fish can affect water-based traditional practices and fish harvesting. Effects to wildlife and vegetation, land and resource use, and human health can affect hunting and trapping along with plant and berry gathering, harvesting and use, and non-consumptive materials gathering. Effects to archaeological and heritage resources along with culture and the other effects listed above can also affect access to spiritually and culturally sensitive areas.

Valued components that are linked to Traditional Land Use were identified by Lhtako Dené Nation and include:

- Surface water;
- Groundwater;
- Vegetation;
- Wildlife;
- Freshwater fish;
- Land and resource use;
- Human health;
- Archaeological and Heritage Resources; and
- Culture.

Potential effects to Traditional Land Use were identified through review of the VC residual effects. These are the effects that will remain after mitigation measures have been applied and thus have the potential to affect Traditional Land Use.

11.5.4.1.1 Surface Water

The effects to Surface Water and proposed mitigation are described in Chapter 7.4.

Project residual effects to Surface Water include:

- Alterations to drainage pathways and drainage areas reporting to receiving environments.
- Increase in surface water quantity and changes to surface water quality.

In regards to Traditional Land Use, surface water quality and quantity can have an effect on fishing and harvesting activities, as Lhtako Dené Nation depend on the health of the aquatic environment for the health of their aquatic-based resources. Fish and fish harvesting are important to Lhtako Dené Nation with salmon harvesting a key activity in their traditional territory. Lhtako Dené Nation has documented past use of Jack of Clubs Lake, but it is no longer used due to contamination from historic mining activities. Traditional land use sites for fishing were identified near Jack of Clubs Lake, Lowhee Creek and the Willow River in the TLUOS (DCMS, 2019).

Along with being a key component of Traditional Land Use, water was also identified as a separate Indigenous interest by Lhtako Dené Nation (see Section 11.5.4.2) and includes changes to Surface Water. ODV acknowledges the importance of Surface Water to Traditional Land Use; however, change in surface water is also considered in the Freshwater Fish effects assessment, and thus for consideration of Traditional Land Use, Freshwater Fish will be used as the primary pathway to capture any effects to Traditional Land Use through linkages to surface water. Changes to surface water from the Project and how that affects Lhtako Dené Nation Indigenous interests will be discussed under the Water Indigenous interest.

11.5.4.1.2 **Groundwater**

Effects to Groundwater are described in Section 7.5. Project residual effects for Groundwater include:

- Alteration to groundwater flow and water level elevation from underground dewatering and operation of a water supply well;
- Alteration to groundwater flow quantity and quality from alteration of seepage from QR TSF/FSTSF and operation of a water supply well; and
- Alteration of groundwater flow quantity and quality from underground flooding.

In regard to Traditional Land Use, groundwater quality and quantity can have an effect on drinking water along with the overall health of the environment. Being a key component of Traditional Land Use, water was also identified as a separate Indigenous interest by Lhtako Dené Nation (see Section 11.5.4.2) and included changes to Groundwater. ODV acknowledges the importance of Groundwater to Traditional Land Use. Changes to Groundwater and effects to Lhtako Dené Nation Indigenous interests will be discussed under the Water Indigenous interest.

11.5.4.1.3 **Vegetation**

Effects to Vegetation and proposed mitigation are described in Chapter 7.7.

Project residual effects to Vegetation due to Project activities include:

- Loss and alteration of plant species of interest;
- Loss and alteration of plant communities of interest;
- Loss and alteration of wetlands and wetland functions; and
- Loss and alteration of ecosystems.

Loss of vegetation is primarily through clearing activities within the Project footprint during construction. Alteration of species may occur due to edge effects related to previously cleared areas, clearing along the Transmission Line during construction and operations (vegetation maintenance) and through dust deposition from the use of gravel-surfaced roads. Project activities can also lead to the introduction of invasive and non-native plant species to the Surface Footprint during all phases of the Project and could also lead to the spread of these species into adjacent areas. Invasive species can affect plant community composition and function and may result in the reduction or loss of biodiversity.

Key effects on traditional use plant species and communities were assessed relative to the Surface Footprint. As most ecosystem units mapped in the Surface Footprint have the potential to support traditionally used plant species, the effect to traditional use plants is closely related to the loss and/or alteration of ecosystems. Traditional use plants will be lost primarily through clearing activities related to the Transmission Line construction activities. With the exception of access roads associated with the Transmission Line, clearing of ecological communities that have the potential for traditional plant species along the Transmission Line will result in the removal of taller tree and shrub species but will not include soil stripping or the removal of lower shrubs or herbaceous species. Therefore, the total amount of traditional use species that will be lost along the Transmission Line cannot be quantified.

Effects on Vegetation have a direct effect on traditional land use. Lhtako Dené Nation harvest areas have been documented throughout the TLUOS study area and described in engagement activities (DCMS, 2019). Particular importance has been placed by Lhtako Dené Nation on berry harvesting sites located within the Project area, and specifically along 500 Nyland Lake Road (Transportation Route).

11.5.4.1.4 Wildlife

Effects to Wildlife and proposed mitigation are described in Chapter 7.8. Project residual effects to Wildlife include:

- Loss of wildlife species and/or alteration of wildlife habitat due to Project activities;
- Sensory disturbance to wildlife species from project activities;
- Disruption to movement patterns or corridors from project activities;
- Loss of wildlife species through direct mortality due to project activities; and
- Loss of wildlife species through indirect mortality and attractants from project activities.

All identified effects will result in residual effects to Wildlife due to Project activities. Construction activities will result in a loss or alteration of wildlife habitat due to clearing at the Mine Site, QR Mill and Transmission Line, which will affect all subcomponent species. Sensory effects during construction will have residual effects on songbirds and caribou. Disruption to movement patterns during construction will affect caribou, large and medium carnivores, and furbearers. Loss due to mortality will affect raptors, caribou, ungulates, and large carnivores during construction. Indirect mortality during construction will affect caribou. Effects during operations will be on all subcomponent species, and closure will affect habitat, as infrastructure will be decommissioned and reclaimed. Post-closure activities will not result in any residual effects to Wildlife.

Habitat alteration refers to the loss or alteration of wildlife habitat from its current state due to Project activities that result in the displacement of some or all wildlife species for a time. This has been identified as a potential effect within the Construction and Closure phases of the Project when areas of the Surface Footprint at the Mine Site, QR Mill and Transmission Line are being altered through vegetation removal or other disturbances. Habitat alteration has the potential to affect all Wildlife subcomponents.

Sensory disturbance is associated with additional or alteration to current levels of light, noise, dust or human presence that invoke a change in wildlife behaviour. Behavioural changes as a result of these disturbances may result in a potential effect to all Wildlife subcomponents during all phases of construction and operation of the Project.

Wildlife establishes regular movement patterns, and the introduction of new development has the potential to impact habitat connectivity and wildlife movement patterns. Anthropogenic noises can alter wildlife behaviour, including foraging patterns. Project components and activities may create physical and/or sensory barriers or filters to movements between daily or seasonal habitats. Disruption to movement patterns is likely to occur during all phases of the Project and can impact terrestrial wildlife, such as ungulates and medium to large carnivores. Birds and bat movements are not anticipated to be impacted in the same manner and therefore are unlikely to experience a measurable effect related to daily or seasonal movement patterns.

Direct mortality relates to the potential direct effects of Project activities and infrastructure on immediate on-site wildlife mortality caused by site preparation, vegetation removal, ground disturbance and collisions with Project-related traffic. Relatively small species with little or slow mobility (e.g., amphibians) may experience direct mortality related to construction activities. All mammals, amphibians, and low-flying birds may experience direct mortality from wildlife-vehicle collisions related to construction-related road traffic. In addition, direct mortality can occur when ground disturbance disrupts or removes a habitat feature (i.e., den) or roosting site during vegetation clearing.

Indirect mortality is the eventual, untimely death of an animal caused by an event or agent that predisposes an animal to death (Pomerantz, 1988). Indirect mortality encompasses potential indirect effects of Project activities and components on wildlife mortality caused by hunting and trapping pressure or poaching and recreational activities from increased access and new travel corridors.

Effects on wildlife have a direct effect on Traditional Land Use. Traditional use sites for wildlife are found throughout the Project area. Hunting is a key cultural activity with the hunting of deer and moose important for the community. Sixteen hunting sites were identified within the TLUOS study area (DCMS, 2019). Bears are not hunted by Lhtako Dené Nation and are sacred in Lhtako Dené Nation culture. Campsites and gathering sites also indicate land use such as hunting, trapping, and gathering. Such sites were found at Willow River, Lowhee Creek, and Jack of Clubs Lake.

Trapping of small fur-bearing animals is still fundamental to the community's way of life and to its transmission of cultural values and traditions. In the winter months, Lhtako Dené Nation practices commercial trapping of marten, lynx, fisher, fox, and squirrel. Two trapping areas have been identified within the proposed Project area.

Caribou was identified as an Indigenous interest by Lhtako Dené Nation, and the effects are described in Section 11.5.4.3.

11.5.4.1.5 *Freshwater Fish*

Effects to Freshwater Fish and proposed mitigation are described in Chapter 7.9.

Project residual effects to Freshwater Fish include:

- Loss or alteration of riparian habitat along the Transmission Line and at the proposed bridge over the Willow River; and
- Change in water quantity at the Mine Site and QR Mill resulting in effects to fish and fish habitat.

Loss of instream habitat and riparian habitat includes the direct loss of these habitats from Project activities. There will be no instream loss of fish habitat along the Transmission Line Route or at the Willow River Bridge. The Transmission Line infrastructure will be placed outside of beds and banks of watercourse. Existing access roads will be used; however, seven watercourse crossings may require upgrades to existing infrastructure. Riparian vegetation clearing will be required during the construction of the Transmission Line at each watercourse crossing within the right-of-way (ROW). Regular riparian vegetation maintenance during operations will be required to ensure that vegetation does not interact or fall onto the Transmission Line. Clearing in riparian areas will be limited to vegetation that is above height requirements and the understory will remain intact.

A bridge will be constructed at the Mine Site to cross the Willow River from Highway 26, downstream from the outflow of Jack of Clubs Lake. A clear span bridge will be constructed, thus limiting the requirements for instream works. Riparian clearing will be required at the bridge crossing; however, disturbance will be limited to the area required for the bridge crossing.

Changes in flow during construction, operations and closure can include alterations to fish habitat. Alteration or destruction of fish habitat may occur if increased flows cause erosion of banks and beds which can cause suspended sediment to infill available spawning and rearing habitat when it settles. Changes in flow can lead to changes in water depth and velocities. These changes have the potential to alter the preferred rearing habitat for juvenile or small bodied fish that prefer lower flow velocities. Alternatively, lower flows can reduce pool areas which adults or large bodied fish use for refuge or overwintering habitat. The availability of suitable overwintering habitat is important for salmonids who use this habitat as refuges from high-velocity water and limit interactions with other fish. Velocity barriers can interrupt critical spawning and overwintering migrations leading to reduced annual recruitment, as well as lower overwintering survival and spawning success for fish.

There was no critical habitat identified in any of the fish-bearing watercourses in any of the watersheds at the Mine Site or at QR Mill. Salmon were not reported at the Mine Site, though there is potential for their presence along the Transmission Line. These fish are more likely to be located downstream rather than at the points of interaction close to the Project site.

Effects on Freshwater Fish have a direct effect on traditional land use. Fishing is an important activity for Lhtako Dené Nation. Traditional use sites for freshwater fish are found downstream of the Mine Site in the Willow River. Watercourses crossed by the Transmission Line also provide habitat for fish that are harvested by Lhtako Dené Nation.

Fishing and trapping is not anticipated to be impacted by the Project, nor is access to fishing and trapping locations. ODV is not restricting access within the Project Footprint except within the Mine Site as required by the *Mines Act* for safety concerns. No fishing or trapping occurs within the Mine Site. Concerns remain for many Indigenous nations regarding the harvest and consumption of fish in the Fraser River due to water quality degradation from industry. It is not anticipated that water contamination or changes to water quality will take place as a result of the Project due to planned water treatment.

11.5.4.1.6 Land and Resource Use

Effects to Land and Resource Use and proposed mitigation are described in Section 7.11. Project effects to Land and Resource Use that are related to Traditional Land Use (i.e., use of Crown land) include:

- Reduced/changed access for Contemporary Land and Resource Use subcomponents;
- Decrease in environmental conditions for Contemporary Land and Resource Use subcomponents;
- Increased pressure on Public Land and Resource Use by Project workforce;
- Decrease in enjoyment/experience for Contemporary Land and Resource Use subcomponents due to a change in landscape/viewshed; and

- Change in visual quality.

There is the potential for effects associated with Project-related traffic and reduced or changed access on adjacent Contemporary Land and Resource Use subcomponents, including public land and resource use. During construction, operations and closure, there is the potential for effects associated with Mine Site related traffic and decreased access to Contemporary Land and Resource Use subcomponents within the Mine Site LAA and Transmission Line.

There is the potential for effects on access to public land and resource areas by Project-related traffic along the Transportation Route and Transmission Line; however, these potential effects are predicted to be short-term and infrequent. Within the QR Mill LAA, potential effects are predicted to be minimal as QR Mill traffic during construction, operations and closure will be similar to historical traffic supporting past QR Mill operations.

Potential effects related to environmental conditions along the Transportation Route during construction, operations and closure on Land and Resource Use valued subcomponents are limited to noise and emissions/dust by Project and workforce traffic.

During Project construction, operations, and closure activities, the Project workforce has the potential to increase recreational use (i.e., hiking, mountain biking and snowmobiling, etc.) and tourism associated with the public land and resource use valued subcomponent.

The activities related to construction and closure phases involving fixed or mobile lighting could temporarily result in the emission of artificial light at night in the sky and at the edge of the work area at the Mine Site. The likely environmental effects are considered insignificant, and no subsequent analysis was performed. With the implementation of a Project specific lighting concept, which considered lighting needs during operations it is anticipated that very little light will be emitted by the Mine Site outside the developed area, at ground level and to the sky.

There is the potential for the Project to impact the visual quality and character of the Mine Site and Transmission Line LAA during construction, operations and closure. Vegetation clearing and maintenance, landform modifications, the presence of surface infrastructure at the Mine site and Transmission Line, will potentially result in visual disturbance and alterations during operations that would be evident within the current character of the LAAs landscape setting. This would occur throughout the Projects operations activity period and represents the period with the largest anticipated effect to visual quality.

As Lhtako Dené Nation has rights to the use of Crown Land, effects to public land will affect Lhtako Dené Nation's ability to use their traditional territory. Direct loss or displacement of public land will affect the availability of public land for traditional land use practices. Construction activities for the Mine Site, QR Mill and Transmission Line will increase traffic and worker presence.

11.5.4.1.7 Human Health

Effects to Human Health are described in Chapter 7.13. Project effects to Human Health that are related to Traditional Land Use include:

- Changes to Air Quality;
- Changes to soil and food quality resulting from changes to Air Quality;
- Potential changes to food quality resulting from changes to Surface Water Quality;
- Changes to sediment quality resulting from changes to Surface Water Quality; and
- Changes to Groundwater Quality.

Major mining projects, such as the Project, have the potential to emit chemical constituents into air (through fugitive dust, vehicle exhaust, and direct facility emissions) and water (through permitted emissions and runoff). These emissions have varying potential to change chemical concentrations in air, waterbodies, watercourses, groundwater, and/or the terrestrial landscape. People and wildlife inhabit the region, and therefore, pathways may exist for humans and wildlife to be exposed to chemical emissions from the Project.

Indigenous land users may be exposed to airborne constituents emitted from the Project via direct inhalation. Air emissions are predicted to be greatest during Construction and Operations and return to existing conditions levels in the Closure and Post-closure phases.

Particulate matter containing Constituent of Potential Concerns (COPCs) from dust generation or from incomplete combustion may deposit directly onto plant surfaces and soil in the area. Some COPCs can accumulate in soil or plants. Wild game can then consume the COPCs in soil and plants. The plants and wild game may be food sources for people. Dust emissions are predicted to be greatest during Construction and Operations and return to Existing Conditions levels in the Closure and Post-closure phases.

Changes in Surface Water Quality may also affect COPC concentrations in fish and/or wild game, which may be consumed by people.

Sediment quality was not predicted to change from existing condition levels as the result of the Project. Potential changes to sediment quality will be monitored and addressed as part of the receiving environment monitoring programs. Existing conditions sediment concentrations were used in the risk assessment. Although it is not a primary pathway, incidental ingestion of and dermal contact with sediment will be included in the Human Health and Ecological Risk Assessment (HHERA) to provide an estimate of the total dose that a person will be exposed to for each COPC.

The quality of traditional foods is important to Lhtako Dené Nation. During engagement activities, Lhtako Dené Nation discussed the importance of their berry harvesting areas along 500 Nyland Lake Road and the impacts from dust deposition.

11.5.4.1.8 *Archaeological and Heritage Resources*

Effects to Archaeological and Heritage Resources are described in Chapter 7.15. The potential effects from Project activities include:

- Damage to the integrity and context of archaeological, historical, or palaeontological sites or deposits, if present; and
- Changes to access to archaeological, historical, or palaeontological sites or deposits, if present.

Archaeological sites are locations that contain physical evidence of past human activities for which scientific methods of inquiry (i.e., survey, excavation, data analysis) provide the main sources of information. Archaeological sites can be associated with pre-contact and post-contact periods (commonly known as pre-historical and historical, respectively) – that is, the time before or after the arrival of Europeans to North America.

Historical sites are any structure, site, or thing that is of historical or architectural significance as defined by the British Columbia Archaeological Impact Assessment Guidelines (BC Archaeology Branch, 1998) and heritage values as identified in interviews with local and regional historical societies, museums, and other organizations, as well as local residents. Historical sites and locations in BC are primarily attributable to post-contact Euro-Canadian settlement and land use but also include habitations and other evidence by Indigenous peoples in that time period.

Palaeontological sites are locations where ancient organisms, or traces of their existence, have been preserved in the geological record as fossils (Fossil Management Review Technical Working Group, 2004). Fossils usually comprise the remnants of more resilient structural elements such as bones, teeth, shells, and woody parts, but can also be expressed as imprints of soft body parts, tracks, and traces of an organism's interaction with the environment.

Ground disturbance resulting from Project activities can damage the integrity and context of any archaeological, historical, or palaeontological sites within the impact zone, if present. This could affect Traditional Land Use through the loss of access to spiritual and culturally sensitive areas.

The existing conditions studies identified one archaeological site, seven historical sites, and one palaeontological site with the Mine Site LAA, all located outside of the Project Footprint as currently designed and, therefore, should not be subject to any Project effects. No sites were identified within the QR Mill LAA. However, existing conditions studies are incomplete, with the Transmission Line options still to be assessed for archaeological, historical, and palaeontological resources, during which as-yet-unidentified sites may be recorded. Additionally, there remains the possibility of chance find encounters where previously unknown heritage resources are discovered during ground disturbing Project activities. Should any new sites be identified during future assessments or during chance find encounters which conflict with Project activities, procedures are described below to best mitigate Project effects.

Project activities may indirectly affect archaeological or heritage resources, if present within the LAA, by hindering or increasing access to such sites. This could affect Traditional Land Use through the loss of access to spiritual and culturally sensitive areas.

As described above, there should not be an effect to any known archaeological and heritage sites located outside the Surface Footprint. Access for Construction is anticipated along the Transmission Line right-of-way from the existing road network, which may increase access to previously undiscovered sites in these areas. However, since the majority of Project access at the Mine Site and QR Mill will utilize existing roads, the accessibility to as-yet-undiscovered sites, if present in these areas, is considered to remain unchanged from the current existing conditions.

11.5.4.1.9 Culture

Effects to Culture are described in Chapter 7.16 and include the following:

- Change to plant species of cultural significance;
- Change to traditional foods; and
- Change to Indigenous language and teaching.

Key effects on plant species of cultural significance were assessed relative to the Surface Footprint and are further described in Chapter 7.7 (Vegetation). As most ecosystem units mapped in the Surface Footprint have the potential to support traditionally used plant species, the effect to plant species of cultural significance is closely related to the loss and/or alteration of ecosystems. Direct habitat alteration or loss to plant species of cultural significance will be primarily through clearing activities related to the Transmission Line construction activities.

Key effects on traditional foods were assessed relative to the impacts on fish and wildlife that are traditionally consumed by Indigenous nations.

Members of Lhtako Dené Nation typically consume several types of fish, including char; bull trout (Dolly Varden); Lingcod; chum salmon; pink salmon; sockeye salmon (Kokanee); Chinook salmon (spring salmon); sturgeon; suckers; northern pike minnow; rainbow trout; and whitefish. Furthermore, Lhtako Dené Nation traditionally consumes wildlife, including deer, moose, beaver, and black bear. Important berry species include cranberries, huckleberries, Saskatoon berries, and soapberries. It is anticipated that any impacts to traditional food sources will be mitigated through the use of mitigation measures, including but not limited to minimizing clearing activities and dust suppression measures. Key effects on Indigenous Language and Teaching were assessed relative to the statistics based on the spoken languages within the community.

English was spoken by all members and French was spoken by none. Forty of the 100 respondents spoke Indigenous languages with more females than males speaking Indigenous languages. Approximately 30% of individuals learned an Indigenous language as their first language and approximately 25% spoke an Indigenous language. More females than males speak Indigenous languages at home.

For this Project, there is no anticipated effect on Indigenous language and teaching as English is already spoken by all members of Lhtako Dené Nation.

11.5.4.2 Water

The Water Indigenous interest is informed by two VCs: Surface Water and Groundwater. Full descriptions of Project effects can be found in Section 7.4 for Surface Water and Section 7.5 for Groundwater. As described in Section 11.5.4.1 above, several residual effects are identified for both Surface Water and Groundwater, and these may affect the Indigenous interest related to Water. Project residual effects for Surface Water include:

- Alterations to drainage pathways and drainage areas reporting to receiving environments; and
- Increase in surface water quantity and changes to surface water quality.

Alterations to drainage pathways and drainage areas reporting to receiving environments is due to water management infrastructure at the Mine Site diverting non-contact water around the Project disturbance areas and collection of contact-water into the water management system. Timing and magnitude of the runoff to the receiving environment would be altered. Construction of water diversion ditches has the potential to result in changes in the physical or chemical composition of surface waters.

Increase in surface water quantity and changes to surface water quality at the Mine Site is through the discharge of treated effluent to Jack of Clubs Lake and seasonal discharge to the Willow River. Discharge of treated effluent will result in flow being added to Jack of Clubs Lake and the downstream receiving environment. This will result in an incremental increase in the Jack of Clubs Lake water level, outflow, and streamflow in the downstream receiving environment. During Construction, Operations, Closure, and Post-Closure (active care period) release of treated effluent has the potential to change Surface Water Quality (e.g., nutrients, metals, total suspended solids (TSS) in Jack of Clubs Lake and the Willow River. Sediment quality in Jack of Clubs Lake can also be affected by the treated effluent discharge.

Increase in surface water quantity and changes to surface water quality at the QR Mill is through the discharge of treated effluent to Rudy Creek. Discharge of treated effluent will result in flow being added to the downstream receiving environment. This will result in an incremental increase in streamflow in the downstream receiving environment. The release of treated effluent may cause a change in Surface Water Quality in Rudy Creek. Sediment quality in Rudy Creek can be affected through the release of treated effluent from the TSF pond spillway, erosion and sedimentation at the TSF pond spillway, and erosion and sedimentation on the creek bed of Rudy Creek near mining infrastructure.

Project residual effects to Groundwater include:

- Alteration to groundwater flow and water level elevation from underground dewatering and operation of a water supply well;
- Alteration to groundwater flow quantity and quality from alteration of seepage from QR TSF/FSTSF and operation of a water supply well; and
- Alteration of groundwater flow quantity and quality from underground flooding.

Changes to groundwater quantity at the Mine Site during construction and operations are due to dewatering of the underground workings and the operation of a potable water supply well. Groundwater will be removed (treated and discharged into Jack of Clubs Lake) to facilitate the development of the underground mine at the Mine Site and to meet other Project water demands. Changes will also occur post-closure when the underground developments are flooded, and the final equilibrium is reached with the expanded network of hydraulically connected underground workings. The removal of groundwater can result in a change to the direction and rate of groundwater flow and to the elevation of the groundwater table. Removal of water from groundwater systems will tend to result in a localized depression in the groundwater level and a drawdown in the surrounding groundwater system. This change has the potential to reduce baseflow discharge to surface water receivers.

The act of groundwater removal has limited potential to alter groundwater quality at the Mine Site. Groundwater extraction from underground dewatering will result in the underground being a hydraulic sink and the capture of surface infiltration.

Following reflooding to occur in closure, discharge of groundwater from the flooded historical workings will continue and discharge from future workings will occur post-closure. Given the somewhat larger footprint of the underground workings below the Wells Aquifer, a potential exists for the Wells Aquifer to capture increased mine influenced water. Mitigation measures will be employed to minimize impacts to the community water supply in the post-closure phase.

Changes to groundwater quantity at the QR Mill are through the Construction, Operation, Closure and Post-closure of the FSTSF. Draining of the existing TSF and placement of the liner, and the use of the potable well located northwest of the FSTSF during construction and operations may lower the surrounding water levels near the FSTSF. These changes have the potential to reduce baseflow discharge to surface waters. The act of groundwater removal has limited potential to alter groundwater quality. Construction of the FSTSF includes a liner and a cover, which will reduce the seepage loss to the groundwater flow system. A comparison of existing water quality to predicted water quality indicates that some parameters may be higher in the seepage from the North Seepage Collection Pond (NSCP), South Seepage Collection Pond (SSCP) and Main Zone Pit (MZP) facilities, but given the minimal change in flow the effect of these changes in quality is expected to be minimal.

11.5.4.3 Caribou

The Indigenous interest for caribou is informed by the caribou sub-component under the Wildlife VC (Section 7.8). Effects to caribou from the Project include:

- Loss of wildlife species and/or alteration of wildlife habitat due to project activities;
- Sensory disturbance to wildlife species from project activities;
- Disruption to movement patterns or corridors from project activities;
- Loss of wildlife species through direct mortality due to project activities; and
- Loss of wildlife species through indirect mortality and attractants from project activities.

Potential effects to Wildlife as described in Section 11.5.4.1, also apply to caribou. The Mine Site and the eastern portion of the Transmission Line is located within critical caribou habitat and Project activities may result in a loss or alteration of caribou habitat. Caribou are highly sensitive to sensory disturbances and will avoid areas with light, noise, dust or human presence. Movement patterns of caribou may be disrupted by Project activities and infrastructure. Direct and indirect mortality may also be affected by Project activities, including construction and increased traffic associated with the Project.

Caribou are a key concern for Lhtako Dené Nation, and effects to caribou can further impact their recovery and viability in the region. Past activities related to caribou included hunting in areas near the Mine Site and Transmission Line. Currently, Lhtako Dené Nation does not hunt caribou. Lhtako Dené Nation stewardship over caribou is a key initiative of the community.

11.5.4.4 Community Wellbeing

Community Wellbeing is informed by both the Culture and Employment and Economy VCs.

11.5.4.4.1 Culture

As described in Section 7.16, residual effects to Culture include:

- Change to plant species of cultural significance.

Effects due to Culture are described in Section 7.16. Effects for changes to plant species of cultural significance and change to traditional foods can affect community wellbeing, as Lhtako Dené Nation community members place high value in harvested foods, even though these are now supplemented with store bought food.

There are no anticipated residual negative effects to traditional foods or Indigenous language and teaching.

11.5.4.4.2 Employment and Economy

Effects to Employment and Economy are described in Section 7.10. Project effects to Employment and Economy include:

- Creation of employment opportunities for local and regional residents and others;
- Revenue for local, provincial and federal governments and economic opportunities and/or challenges for other businesses or sectors;
- Loss of employment overall in the local and regional area but increased availability of more skilled and experienced workers for other employers in the Closure phase; and
- Decrease in demand for goods and services provided by local businesses in the Closure Phase.

The creation of employment opportunities for local and regional residents, including Lhtako Dené Nation, is a positive effect. ODV has indicated that they will aim to hire 75% or more of their construction and operations workforce within the Cariboo Regional District, and the remainder will come from outside this area. ODV will also facilitate the training of personnel and give opportunities to local Indigenous nations. They will be proactive in working to provide opportunities to those segments of society that may not regularly participate in mining and to implement workforce policies that support their involvement once they are hired. ODV is currently working with local education and training institutions to train a broad cross-section of local workers for potential employment with ODV, and this work and partnership will continue moving forward.

At closure, employment related to the Project will end. The effect of Project closure on the area and employees will depend on other opportunities available at the time of closure with ODV or other employers. The communities and employees will be aware that the Project has a defined lifespan from the outset of the Project and will be encouraged to consider this in their planning as the Project advances.

Construction and operation of the Project is expected to have a positive economic impact on local communities within the region and on the region as a whole. The mining sector represents a key driver for local economies in BC and for the CRD, a historical mining hub with an established base of suppliers. The industry supports a variety of local suppliers and is closely tied to other important economic sectors in the region, thus contributing to local wealth generation.

At closure, there will be a decrease in demand for goods and services provided by local businesses and a decrease in revenue to governments. As with employment, the communities and employees will be aware that the Project has a defined lifespan from the outset of the Project and will be encouraged to consider this in their planning as the Project advances. The economy of the area is resource based, and local communities are looking to diversify their economies to make them more resilient when changes to the economy like the end of a resource project do occur. Many of the businesses serving the project will have a broader client base and will be able to work to secure additional business prior to Project closure.

ODV is firmly committed to providing Lhtako Dené Nation with Project-specific training, employment and contracting opportunities in accordance with the terms of the Project Agreement.

11.5.4.5 Summary of Effects

Based on the pathways of effects, various effects on the VCs were carried forward to assess effects on Lhtako Dené Nation Indigenous interests (Table 11.5-3). Indicators were also identified for each of the VCs based on the indicators provided in each VC effects assessment chapter (Chapter 7.0).

Effects to Community Well-being from Employment and Economy are a positive effect and discussed further in Section 11.6.

Table 11.5-3 Pathways of Effects – Lhtako Dené Nation Indigenous Interests

Indigenous Interest	Valued Component	Effect	Indicator
Traditional Land Use	Vegetation	<ul style="list-style-type: none"> Loss and alteration of plant species of interest due to project activities Loss and alteration of plant communities of interest due to project activities Loss and alteration of wetlands and wetland functions due to project activities Loss and alteration of ecosystems due to project activities 	<ul style="list-style-type: none"> Loss or alteration of abundance or access to traditional use species by Indigenous nations Loss or alteration to known occurrences of traditionally used plant communities Loss or alteration of ecosystem abundance and/or distribution and connectivity, and function Loss or alteration of wetland function (hydrological, biogeochemical, and habitat)
	Wildlife	<ul style="list-style-type: none"> Loss of wildlife species and/or alteration of wildlife habitat due to project activities Sensory disturbance to wildlife species from project activities Disruption to movement patterns or corridors from project activities Loss of wildlife species through direct mortality due to project activities Loss of wildlife species through indirect mortality and attractants from project activities 	<ul style="list-style-type: none"> Habitat Availability and Distribution Mortality Risk
	Freshwater Fish	<ul style="list-style-type: none"> Loss or alteration of riparian habitat along the Transmission Line Change in water quantity at the Mine Site and QR Mill resulting in effects to fish and fish habitat 	<ul style="list-style-type: none"> Fish species presence or absence, fish population metrics, direct mortality Habitat loss or alteration Change in water quality parameter concentrations in fish-bearing watercourses as compared to baseline conditions and water quality guidelines for freshwater aquatic life

Indigenous Interest	Valued Component	Effect	Indicator
Traditional Land Use	Land and Resource Use	<ul style="list-style-type: none"> Reduced/changed access for Contemporary Land and Resource Use subcomponents Decrease in environmental conditions for Contemporary Land and Resource Use subcomponents Increased pressure on Public Land and Resource Use by the Project workforce Decrease in enjoyment/experience for Contemporary Land and Resource Use subcomponents due to a change in landscape/viewshed Change in visual quality 	<ul style="list-style-type: none"> Changes in the use and enjoyment of public land use opportunities, viewscape, noise and access are considered negative
	Human Health	<ul style="list-style-type: none"> Changes to Air Quality Changes to soil and food quality resulting from changes to Air Quality Potential changes to food quality resulting from changes to Surface Water Quality Changes to sediment quality resulting from changes to Surface Water Quality Changes to Groundwater Quality 	<ul style="list-style-type: none"> Comparison of air, water, soil, sediment, and foods (e.g., berries, fish) measurements/predictions to the applicable human health and ecological health guidelines/standards Hazard Quotient (indicates whether the amount of a chemical taken in by the receptor is greater than the amount of the chemical below which there would be essentially no risk of adverse health effects; calculated as the ratio of the estimated daily intake, based on the exposure assessment, to the selected TRV) Incremental lifetime cancer risk; the increased risk attributed to chemical exposure above background cancer risks caused by genetics, lifestyle, and other non-chemical factors Comparison of risk estimates to acceptable risk levels determined by Health Canada, BC Ministry of Environment and Climate Change, Canadian Council of Ministers of the Environment and BC Ministry of Health
	Archaeological and Heritage Resources	<ul style="list-style-type: none"> Damage to the integrity and context of archaeological, historical, or palaeontological sites or deposits, if present Changes to access to archaeological, historical, or palaeontological sites or deposits if present 	<ul style="list-style-type: none"> Presence/absence of archaeological sites, historical sites, palaeontological sites or areas of archaeological or paleontological potential

Indigenous Interest	Valued Component	Effect	Indicator
Traditional Land Use	Culture	<ul style="list-style-type: none"> • Change to plant species of cultural significance • Change to traditional foods • Change to Indigenous language and teaching 	<ul style="list-style-type: none"> • Loss or alteration to known occurrences of plants species of cultural significance • Loss or alteration of abundance or access to traditional use species by Indigenous nations • Increase in distribution and/or quantity of invasive plant species • Direct Loss or alteration of abundance or access to traditional foods • Increase in competition for traditional foods and access to traditional foods • Impacts to wildlife that is traditionally consumed by Indigenous nations • Health effects to fish and wildlife sources, resulting in a reduction in consumption • Increase of non-Indigenous hunters and harvesters • Loss or alteration of opportunity for culturally significant practices, gatherings and education • Dilution of Indigenous language within Indigenous groups
Water	Surface Water	<ul style="list-style-type: none"> • Alterations to drainage pathways and drainage areas reporting to receiving environments • Increase in surface water quantity and changes to surface water quality 	<ul style="list-style-type: none"> • Magnitude and temporal variation of streamflow, represented by statistical metrics (average annual and monthly flows, peak flood flows, low flows) at select locations in the receiving environment: <ul style="list-style-type: none"> • Change in concentrations of contaminants of potential concern (e.g., metals, nutrients, sulphate, TSS, and pH) compared to baseline conditions and to water quality guidelines for freshwater aquatic life or other relevant regulatory benchmarks • Change in concentrations of relevant sediment quality parameters (e.g., metals) compared to baseline relevant regulatory benchmarks

Indigenous Interest	Valued Component	Effect	Indicator
Water	Groundwater	<ul style="list-style-type: none"> Alteration to groundwater flow and water level elevation from underground dewatering and operation of a water supply well Alteration to groundwater flow quantity and quality from alteration of seepage from QR TSF/FSTSF and operation of a water supply well Alteration of groundwater flow quantity and quality from underground flooding 	<ul style="list-style-type: none"> Magnitude and temporal variation of groundwater contribution to streamflow Magnitude and temporal variation of groundwater water levels/gradients in the LAA due to groundwater removal (underground workings and construction of FSTSF) Groundwater quality of drinking water resources and downgradient watercourse receptors Groundwater quality parameters in monitoring wells compared to baseline and provincial or federal guidelines for drinking water (District of Wells) and for freshwater aquatic life (local watercourses)
Caribou	Wildlife	<ul style="list-style-type: none"> Loss of wildlife species and/or alteration of wildlife habitat due to project activities Sensory disturbance to wildlife species from project activities Disruption to movement patterns or corridors from project activities Loss of wildlife species through direct mortality due to project activities Loss of wildlife species through indirect mortality and attractants from project activities 	<ul style="list-style-type: none"> Habitat Availability and Distribution Mortality Risk

Indigenous Interest	Valued Component	Effect	Indicator
Community wellbeing	Culture	<ul style="list-style-type: none"> Change to plant species of cultural significance 	<ul style="list-style-type: none"> Maintenance of culturally significant landscape features, practices, and infrastructure
	Employment and Economy	<ul style="list-style-type: none"> Creation of employment opportunities for local and regional residents and others Revenue for local, provincial and federal governments and economic opportunities and/or challenges for other businesses or sectors Loss of employment overall in the local and regional area but increased availability of more skilled and experienced workers for other employers in the Closure phase Decrease in demand for goods and services provided by local businesses in the Closure Phase 	<ul style="list-style-type: none"> Input Output Model outputs Existing labour pool Participation rates Unemployment rates Income Local business profile Project-related employment and contracting opportunities Education and skills training opportunities Access to jobs/economic opportunities Local and regional economic statistics Project procurement opportunities and estimated contract values Effect on local and regional industry and businesses Other payments Access to procurement opportunities

11.5.5 Effects Management

This section describes the mitigation approach, the effectiveness and uncertainty of the mitigation approach, the mitigation summary and enhancement measures related to the Indigenous interests.

11.5.5.1 Mitigation Approach

Mitigation measures that are expected to reduce or eliminate an adverse effect, or enhance a positive effect, are described below and summarized in Table 11.5-4. Mitigation measures include mitigation integrated into Project design and specific mitigation identified for Indigenous interests.

The selection of mitigation measures for Indigenous interests was informed by:

- A review of mitigation measures and follow-up programs undertaken for similar developments;
- Mitigation measures provided in the TLUOS (DCMS, 2019);
- Regulator input, policies, and guidelines, and Lhtako Dené Nation input; and
- Internal evaluation of technical and economic feasibility.

Details on Project-specific mitigation measures are provided in the VC effects assessments in Chapter 7.0 and summarized in Appendix 20.1. Mitigation measures for the Project are based on the review and consideration of pre-existing best management practices (BMPs), regulatory and guidance documents, and mitigation measures successfully employed for similar projects. The selection of mitigation options appropriate to the Project was assisted through consideration of the "Procedures for Mitigating Impacts on Environmental Values (Environmental Mitigation Procedures)" (ENV, 2014a). In addition, Project-specific management and monitoring plans will be developed (Table 11.5-1).

Table 11.5-4 Project-specific Management and Monitoring Plans

Management Plans	Monitoring Plans
<ul style="list-style-type: none"> • Environmental Management System (EMS) • Archaeological and Cultural Heritage Resources Management Plan, including a Chance Find Management Plan • Chemicals and Materials Storage, Transfer and Handling Plan • Community Involvement Plan • Construction Environmental Management Plan; • Discharge Management Plan • Explosives Management Plan • Filtered Tailings Management Plan • Fuel Management and Spill Contingency Plan • Ground Control Plan • Health and Medical Services Plan • Indigenous Partnership Plan • Invasive Plant Management Plan • Mine Emergency Response Plan • Mine Site and QR Mill Water Management Plans • ML/ARD Management Plan • Noise Management and Monitoring Plan • Occupational Health and Safety Plan • Reclamation and Closure Plan • Soil Management Plan • Surface Erosion Prevention and Sediment Control Plan • Traffic Control Plan • Vegetation Management Plan • Waste (Refuse and Emissions) Management Plan, including Fugitive Dust Control Plan • Waste Rock and Underground Materials Management Plan • Wildlife Management Plan, including a caribou Mitigation and Management Plan 	<ul style="list-style-type: none"> • Aquatic Effects Monitoring Program • Air Quality Monitoring Plan (as part of the Waste (Refuse and Emission Management Plan) • Community and Stakeholders Concerns and Issues Monitoring Plan (as part of the Community Involvement Plan) • Environmental Monitoring Plan • Noise Monitoring Plan (as part of the Noise Management and Monitoring Plan) • Socio-Economic Monitoring Plan • Traffic Monitoring Plan (as part of the Traffic Control Plan) • Indigenous Nations Concerns and Issues Monitoring Plan (as part of the Indigenous Partnership Plan)

11.5.5.2 Lhtako Dené Nation Specific Mitigation Measures

ODV will work with Lhtako Dené Nation to develop a strategy to communicate effectively the Project activities to their community members. ODV will inform Lhtako Dené Nation of clearing and reclamation activities, including location and schedule prior to start.

Lhtako Dené Nation intends to complete a TLUOS for the Transmission Line, and ODV will incorporate the findings in Project planning and design as available. If existing Lhtako Dené Nation traditional land use sites are identified through studies conducted prior to construction of the Transmission Line, ODV will consider design modification options to avoid or limit disturbance to the site. Existing Lhtako Dené Nation traditional land use sites within the traditional territory of Lhtako Dené Nation (where identified) will be temporarily marked with high-visibility flagging or other barriers to prevent accidental disturbance clearing activities within the Surface Footprint.

As part of a broader stewardship initiative, ODV will support Lhtako Dené Nation in pursuing and/or developing salmon enhancement and/or outreach opportunities for other stewardship priorities. Preliminary discussions have included enhancement of the Bowron Lakes salmon runs, and this initiative would be beneficial to all Indigenous nations along the Fraser River.

ODV will also support Lhtako Dené Nation in playing a key role in caribou recovery in order to maximize stewardship, cultural, economic and employment opportunities.

ODV will implement a wildlife camera study along the Transmission Line ROW to determine wildlife species' presence, use and distribution along a new linear corridor. This information would be used to study population and predator/prey dynamics.

ODV will have ongoing monitoring programs during all phases of the Project. Quarterly and annual monitoring reports will be shared with Lhtako Dené Nation for Air Quality, Water Quality and Reclamation.

ODV will develop a Chance Find Management Plan for use by contractors and staff. Included in the chance find management plan will be a process for contacting Lhtako Dené Nation in the event that archaeological remains are observed at any time during Project activities.

Reclamation activities are summarized in the Reclamation and Closure Plan Summary (Appendix 1.0-13). A Reclamation Plan will be developed to establish site conditions that allow for realistic and operationally feasible ecological targets, taking into consideration ecosystem function and wildlife habitat objectives. Revegetation will be ecosystem-based and progressive reclamation will be employed where practical to reduce erosion potential and promote the initiation of successional ecological processes.

ODV and Lhtako Dené Nation will discuss additional mitigation measures in accordance with the processes set forth in the Project Agreement.

11.5.5.3 *Effectiveness and Uncertainty of Mitigation*

The anticipated effectiveness of mitigation measures to minimize the potential for effects to Indigenous interests has been evaluated and classified according to the methods described in Chapter 6.0.

All mitigation measures were classified as moderate to high effectiveness and low uncertainty as they are a well-established BMPs and industry standards (Table 11.5-2). Moderate effectiveness measures will reduce the effect over the short, medium or long term; however, a loss or alteration will occur, and thus this will have an effect on the Indigenous interest. High effectiveness measures will avoid and/or minimize the effect through adherence to the established protection measures outlined in the Project-specific management plans and Indigenous specific mitigation measures.

The mitigation measures proposed are standard measures that are known to be effective, based on relevant application to other mining and/or construction projects. The uncertainty around these mitigation measures is rated as low. Any uncertainty around mitigation measures will be addressed through the various management plans that will be developed for the Project. If monitoring indicates that the effectiveness is lower than predicted, then additional adaptive management measures will be implemented.

11.5.5.4 *Mitigation Summary*

A summary of mitigation measures and their expected effectiveness is summarized in Table 11.5-5 below.

Table 11.5-5 Proposed Mitigation Measures and Their Effectiveness – Lhatko Dené Nation Indigenous Interests

Indigenous Interest	Project Phase	Linked VC	Potential Effects	Mitigation	Effectiveness	Uncertainty	Residual Effect
Traditional Land Use	Construction, Operation, Closure, Post-closure	Vegetation	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Loss and alteration of plant species due to project activities Loss and alteration of plant communities of interest due to project activities Loss and alteration of wetlands and wetland functions due to project activities Loss and alteration of ecosystems due to project activities 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.7. Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. Existing traditional land use sites (where identified) will be marked with high visibility fencing or other barriers. Reclamation activities will target revegetation of ecological communities valued for traditional uses to pre-disturbance plant communities. 	Moderate to High	Low	Yes
	Construction, Operation, Closure, Post-closure	Wildlife	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Loss of wildlife species and/or alteration of wildlife habitat due to project activities Sensory disturbance to wildlife species from project activities Disruption to movement patterns or corridors from project activities Loss of wildlife species through direct mortality due to project activities Loss of wildlife species through indirect mortality and attractants from project activities 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.8. Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. Existing traditional land use sites (where identified) will be marked with high visibility fencing or other barriers. ODV will meet with Lhtako Dené Nation on how to support the caribou recovery initiative. Wildlife camera study along the Transmission Line ROW. 	Moderate to High	Low	Yes
	Construction, Operation, Closure, Post-closure	Freshwater Fish	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Loss or alteration of riparian habitat along the Transmission Line Change in water quantity at the Mine Site and QR Mill resulting in effects to fish and fish habitat. 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.9 Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. ODV will meet with Lhtako Dené Nation on how to support developing salmon enhancement and other stewardship opportunities. 	Moderate to High	Low	Yes

Indigenous Interest	Project Phase	Linked VC	Potential Effects	Mitigation	Effectiveness	Uncertainty	Residual Effect
Traditional Land Use	Construction, Operation, Closure, Post-closure	Land and Resource Use	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Reduced/changed access for Contemporary Land and Resource Use subcomponents; Decrease in environmental conditions for Contemporary Land and Resource Use subcomponents; Increased pressure on Public Land and Resource Use by Project workforce; Decrease in enjoyment/experience for Contemporary Land and Resource Use subcomponents due to a change in landscape/viewshed; Change in visual quality. 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.2, Section 7.3 and Section 7.11 Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. Existing traditional land use sites (where identified) will be marked with high visibility fencing or other barriers. 	Moderate to High	Low	Yes
	Construction, Operation,	Human Health	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Changes to Air Quality Changes to soil and food quality resulting from changes to Air Quality Potential changes to food quality resulting from changes to Surface Water Quality Changes to sediment quality resulting from changes to Surface Water Quality Changes to Groundwater Quality 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.2 and Section 7.4. A quarterly monitoring report summary will be shared with Lhtako Dené Nation. 	Moderate to High	Low	Yes
	Construction, Operation	Archaeological and Heritage Resources	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Damage to the integrity and context of archaeological, historical, or palaeontological sites or deposits, if present. Changes to access to archaeological, historical, or palaeontological sites or deposits, if present. 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.15. If any signs of archaeological remains are observed at any time during the proposed Project's activities, work will be halted and a qualified archaeologist and representatives from Lhtako Dené Nation will be notified. 	High	Low	No
	Construction, Operation, Closure, Post-closure	Culture	<p>Effects to Traditional Land Use through:</p> <ul style="list-style-type: none"> Change to plant species of cultural significance Change to traditional foods Change to Indigenous language and teaching 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.16 Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. Existing traditional land use sites (where identified) will be marked with high visibility fencing or other barriers. ODV will collaborate with and support Lhtako Dené Nation in pursuing and/or developing salmon enhancement and/or outreach opportunities for other stewardship priorities. ODV will meet with Lhtako Dené Nation on how to support the caribou recovery initiative. 	Moderate to High	Low	Yes

Indigenous Interest	Project Phase	Linked VC	Potential Effects	Mitigation	Effectiveness	Uncertainty	Residual Effect
Water	Construction, Operation, Closure, Post-closure	Surface Water	<p>Effects to Water through:</p> <ul style="list-style-type: none"> Alterations to drainage pathways and drainage areas reporting to receiving environments, Increase in surface water quantity and changes to surface water quality 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.4 A quarterly monitoring report summary will be shared with Lhtako Dené Nation. 	Moderate to High	Low	Yes
	Construction, Operation, Closure, Post-closure	Groundwater	<p>Effects to Water through:</p> <ul style="list-style-type: none"> Alteration to groundwater flow and water level elevation from underground dewatering and operation of a water supply well (Mine Site) Alteration to groundwater flow quantity and quality from alteration of seepage from QR Mill TSF \ FSTSF and operation of a water supply well Alteration of groundwater flow quantity and quality from underground flooding 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.5 A quarterly monitoring report summary will be shared with Lhtako Dené Nation. 	Low to High	Low	Yes
Caribou	Construction, Operation, Closure, Post-closure	Wildlife – caribou sub-component	<p>Effects to caribou through:</p> <ul style="list-style-type: none"> Loss of wildlife species and/or alteration of wildlife habitat due to project activities Sensory disturbance to wildlife species from project activities Disruption to movement patterns or corridors from project activities Loss of wildlife species through direct mortality due to project activities Loss of wildlife species through indirect mortality and attractants from project activities 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.8 Indigenous nations will be notified of clearing activities including location and schedule prior to start. Implement a caribou Mitigation and Management Plan. ODV will meet with Lhtako Dené Nation on how to support the caribou recovery initiative. Conduct a wildlife camera study along the Transmission Line ROW. 	Moderate to High	Low	Yes
Community Well-being	Construction, Operation, Closure, Post-closure	Culture	<p>Effects to Community Well-being through:</p> <ul style="list-style-type: none"> Change to plant species of cultural significance 	<ul style="list-style-type: none"> Mitigation measures identified in Section 7.7 Indigenous nations will be notified of clearing activities including location and schedule prior to start. The first priority to address a traditional land use site that is identified through pre-construction studies of the Transmission Line is to design Project components around the identified site. If the Project components are not able to be designed around a site, mitigation options will be followed, as outlined in the Construction Management Plan that will be developed. Existing traditional land use sites (where identified) will be marked with high visibility fencing or other barriers. Reclamation activities will target revegetation of ecological communities valued for traditional uses to pre-disturbance plant communities. ODV will collaborate with and support Lhtako Dené Nation in pursuing and/or developing salmon enhancement and/or outreach opportunities for other stewardship priorities. ODV will meet with Lhtako Dené Nation on how to support the caribou recovery initiative. 	Moderate to High	Low	Yes

Indigenous Interest	Project Phase	Linked VC	Potential Effects	Mitigation	Effectiveness	Uncertainty	Residual Effect
Community Well-being	Closure	Employment and Economy	<p>Effects to Community Well-being:</p> <ul style="list-style-type: none"> • Creation of employment opportunities for local and regional residents and others • Revenue for local, provincial and federal governments and economic opportunities and/or challenges for other businesses or sectors • Loss of employment overall in the local and regional area but increased availability of more skilled and experienced workers for other employers in the Closure phase • Decrease in demand for goods and services provided by local businesses in the Closure Phase 	<ul style="list-style-type: none"> • Mitigation measures identified in Section 7.10. 	Moderate to High	Low to Moderate	Yes

11.5.6 Assessing Negative Effects

Negative effects to Indigenous interests are identified in Table 11.5-6. These are effects that remain after the application of the Project and Indigenous specific mitigation measures.

Table 11.5-6 Summary of Negative Effects on Lhtako Dené Nation Indigenous Interests

Indigenous Interest	Project Residual Effect
Traditional Land Use	<ul style="list-style-type: none"> • Loss and alteration of plant species of interest due to project activities • Loss and alteration of plant communities of interest due to project activities • Loss and alteration of wetlands and wetland functions due to project activities • Loss and alteration of ecosystems due to project activities • Loss of wildlife species and/or alteration of wildlife habitat due to project activities • Sensory disturbance to wildlife species from project activities • Disruption to movement patterns or corridors from project activities • Loss of wildlife species through direct mortality due to project activities • Loss of wildlife species through indirect mortality and attractants from project activities • Loss or alteration of riparian habitat along the Transmission Line • Change in water quantity at the Mine Site and QR Mill resulting in effects to fish and fish habitat • Reduced/changed access for Contemporary Land and Resource Use subcomponents • Decrease in environmental conditions for Contemporary Land and Resource Use subcomponents • Increased pressure on Public Land and Resource Use by Project workforce • Decrease in enjoyment/experience for Contemporary Land and Resource Use subcomponents due to a change in landscape/viewshed • Change in visual quality • Changes to Air Quality • Changes to soil and food quality resulting from changes to Air Quality • Potential changes to food quality resulting from changes to Surface Water Quality • Changes to sediment quality resulting from changes to Surface Water Quality • Changes to Groundwater Quality • Damage to the integrity and context of archaeological, historical, or palaeontological sites or deposits, if present • Changes to access to archaeological, historical, or palaeontological sites or deposits, if present • Change to plant species of cultural significance
Water	<ul style="list-style-type: none"> • Alterations to drainage pathways and drainage areas reporting to receiving environments • Increase in surface water quantity and changes to surface water quality • Alteration to groundwater flow and water level elevation from underground dewatering and operation of a water supply well • Alteration to groundwater flow quantity and quality from alteration of seepage from QR TSF/ FSTSF and operation of a water supply well • Alteration of groundwater flow quantity and quality from underground flooding

Indigenous Interest	Project Residual Effect
Caribou	<ul style="list-style-type: none"> Loss of wildlife species and/or alteration of wildlife habitat due to project activities Sensory disturbance to wildlife species from project activities Disruption to movement patterns or corridors from project activities Loss of wildlife species through direct mortality due to project activities Loss of wildlife species through indirect mortality and attractants from project activities
Community Wellbeing	<ul style="list-style-type: none"> Change to plant species of cultural significance Change to traditional foods Change to Indigenous language and teaching

11.5.6.1 Methods

The characterization of potential residual effects was based on several criteria: context, magnitude, extent, duration, reversibility, frequency, affected populations, and risk and uncertainty (likelihood and consequence). These criteria are defined for Indigenous interests in Table 11.5-7.

Table 11.5-7 Residual Effects Criteria – Indigenous interests

Criteria	Residual Effect Characterization
Context	<p>Low: the Indigenous interest, as related to the receiving environment or population, has a low resilience to imposed stresses and will not easily adapt to the potential residual effect</p> <p>Neutral: the Indigenous interest, as related to the receiving environment or population, has a neutral resilience to imposed stresses and may be able to respond and adapt to the potential residual effect</p> <p>High: the Indigenous interest, as related to the receiving environment or population, has a high natural resilience to imposed stresses and can respond and adapt to the potential residual effect</p>
Magnitude	<p>Negligible: no detectable change from existing conditions</p> <p>Low: the potential residual effect will slightly alter or change the Indigenous interests existing without changing its role or function</p> <p>Medium: the potential residual effect will alter or change the nature, role, or function of the Indigenous interest, but will not affect its integrity</p> <p>High: the potential residual effect will substantially alter or change the nature, role, or function of the Indigenous interest, and may jeopardize the Indigenous interests integrity</p>
Extent	<p>Limited: the potential residual effect is restricted to the Surface Footprint</p> <p>Local: the potential residual effect will be within the local assessment area</p> <p>Regional: the potential residual effect will be within the regional assessment area</p> <p>Beyond Regional: the potential residual effect will be beyond the regional assessment area</p>
Duration	<p>Short term: the anticipated potential residual effect will be felt temporarily during the Project’s construction or closure stages only. Also applies to any effect that will occur for less than two years in operations</p> <p>Medium-term: the anticipated potential residual effect will be felt for a limited period of time greater than two years, generally corresponding to the operations phase and closure phase</p> <p>Long-term: the anticipated potential residual effect will be felt beyond closure</p>

Criteria	Residual Effect Characterization
Reversibility	<p>Fully reversible: the Indigenous interest may fully recover and return to its pre-Project state</p> <p>Partially reversible: the Indigenous interest may partially recover from the Project changes</p> <p>Irreversible: the Indigenous interest will not recover and return to its pre-Project state</p>
Frequency	<p>Once: effect is confined to one discrete event (month)</p> <p>Regular: effect occurs at consistent intervals</p> <p>Irregular: effect occurs at sporadic intervals</p> <p>Continuous: effects occur constantly</p>
Affected populations	<p>Even: the potential effect is experienced by any or all sub-populations</p> <p>Disproportionate: the potential effect is experienced only by certain sub-populations or experienced more acutely by certain sub-populations</p>

11.5.6.1.1 Risk and Uncertainty

Refer to Section 6.7.1.8 for the methodology employed to characterize risk and uncertainty, including likelihood and consequence (risk) and confidence (uncertainty) ratings.

11.5.6.1.2 Importance

All Indigenous interests have been rated as high importance. Indigenous nations have identified their Indigenous interests as important with a desire to utilize existing traditional use resources that are unhindered and unaltered by development and/or contamination.

11.5.6.2 Traditional Land Use

Traditional Land Use will be negatively affected by Project residual effects to vegetation, wildlife, freshwater fish, land and resource use, human health and culture. The following areas were identified as culturally significant for Lhtako Dené Nation from the TLUOS (DCMS, 2019) and community interviews conducted in 2021:

- Fishing in Dragon Lake, Jack of Clubs Lake, Ten Mile Lake and Bowron Lake.
- 500 Nyland Lake Road is an important area for berry harvesting and is used to access moose and deer hunting areas.
- Important historic travel routes were documented running near Lightning Creek and another heading north from Wells to the Bowron Lakes.
- Camping and gathering sites were identified at the Willow River, Lowhee Creek, and Jack of Clubs Lake.
- Trapline near Wingdam area and 500 Road.
- Potential burial sites located along Highway 26 could be disturbed by ground disturbance activities.

11.5.6.2.1 Residual Effect Analysis

11.5.6.2.1.1 Vegetation

Even with mitigation measures, there will still be a loss and alteration of vegetation within the Surface Footprint of the Project, with the majority of the loss and alteration occurring along the Transmission Line ROW. As natural ecological communities within the Project area can support a wide variety of traditional use plant species, there is an expected loss or alteration of traditional land use sites. Traditional use areas related to wildlife and hunting were identified in the TLUOS study area (DCMS, 2019). Community interviews with Lhtako Dené Nation in 2021 did not specifically identify harvesting or gathering areas along the Transmission Line, but it is conservatively estimated that there are sites that will intersect with the Transmission Line ROW.

Vegetation clearing for the Transmission Line will include the 40 m ROW and the removal of danger trees outside of the ROW that may fall into the Transmission Line. Once cleared the Transmission Line ROW will be allowed to regenerate and maintenance activities will manage the ROW for height requirements to maintain the safety and security of the Transmission Line.

Effects to Traditional Land Use from Vegetation are expected, as clearing activities will result in the loss or alteration of traditional use plants. However effects will be limited to the Transmission Line ROW. Vegetation effects are limited in extent and low in magnitude. Vegetation is resilient to change and over time will re-establish back to natural communities. Reclamation and revegetation will be planned and implemented with a focus on re-establishing pre-disturbance plant communities.

11.5.6.2.1.2 Wildlife

Effects to caribou are discussed in Section 11.5.6.4.

Wildlife will be affected by habitat alteration from clearing activities and construction of the Project infrastructure. The majority of the alteration and loss will occur along the Transmission Line. Wildlife habitat within the LAA and RAA (for select subcomponents) was modelled for suitability (Chapter 7.8) and for all species, optimal habitat was distributed across the assessment area. Minor amounts of optimal habitat would be altered by the Project. Effects from habitat alteration are local or limited in extent and low in magnitude.

Effects due to sensory disturbance apply to songbirds and ungulates. Sensory disturbance could occur from a variety of sources including noise and visual sources during construction and operations. Effects from sensory disturbance are limited in extent and low in magnitude.

Effects due to disruption of movement patterns apply to medium and large carnivores and furbearers. Medium and large carnivores and furbearers are sensitive to both habitat fragmentation and human disturbance and will likely experience minor effects related to noise and worker presence during the construction and operations phases. Effects to Wildlife from disruption of movement patterns are limited in extent and low in magnitude.

Effects due to direct mortality apply to ungulates and large carnivores. Direct mortality risk is anticipated to be primarily caused by wildlife-vehicle collisions and/or an increase in hunting mortality (only applicable to ungulates). Effects to Wildlife from direct mortality are limited in extent and low in magnitude.

Effects due to indirect mortality apply to ungulates, including deer and moose. Indirect mortality on ungulates is anticipated to be associated with associated with new road access into the LAA and RAA that could better facilitate access into the area by predators. Effects to Wildlife from in-direct mortality are limited in extent and low in magnitude.

Effects to Traditional Land Use from Wildlife are expected. Project activities could affect the habitat of wildlife species, and thus displacing wildlife from areas where they are normally harvested. Sensory disturbance and disruption of movement patterns could displace wildlife from areas where they are normally found. Direct and in-direct mortality could also affect the availability of species for harvesting. Traditional use areas related to wildlife and hunting were identified in the TLUOS study area (DCMS, 2019). Community interviews with Lhtako Dené Nation in 2021 did not specifically identify traditional use areas along the Transmission Line, but it is conservatively estimated that there are sites that will intersect with the Transmission Line. Wildlife effects are limited or local in extent, and low to medium in magnitude. Most sub-component species are resilient to change and optimal habitat for use is not limited and is widely available in the LAA. For further details on the effects assessment for wildlife see Section 7.8 Wildlife.

11.5.6.2.1.3 Freshwater Fish

Freshwater fish will be affected by the removal of riparian vegetation along the Transmission Line and at the Willow River Bridge. Clearing will be limited near the Willow River Bridge and for the Transmission Line, only the 40 m ROW will be cleared, and low height vegetation will be retained and allowed to regrow. It is unlikely that the riparian vegetation removal will reduce fish habitat at both larger and smaller watercourse crossings as small sections of riparian vegetation removal has minimal impact to nutrient inputs, temperature, or instream habitat. Any anticipated effect on fish along the Transmission Line or near the Willow River Bridge from the alteration of riparian vegetation is expected to be negligible with the application of mitigation measures.

Freshwater Fish will also be affected by the change in flow due to the implementation of water management infrastructure and the effluent discharge at the Mine Site and QR Mill. There will be downstream effects to habitat but these will be limited and not negatively impact available spawning habitat in the Willow River. For Rudy Creek there may be an improvement in available overwintering habitat from the change in downstream flow.

Effects to Traditional Land Use from Freshwater Fish are not expected as the effects to Freshwater Fish are local or limited in extent and low in magnitude. Lhtako Dené Nation does not currently harvest fish from Jack of Clubs Lake and effects to other fish harvesting locations are not expected. Fish and fish habitat has a high resilience to change.

11.5.6.2.1.4 Land and Resource Use

Effects to public lands are not expected for the Mine Site and QR Mill are not expected, as these components will not be publicly accessible. Effects to public lands along the Transmission Line are expected. Increased traffic and the resulting reduced or changed access is predicted to be infrequent and short-term on public land. The reduced or changed access will only affect the overall experience and enjoyment of the Contemporary Land and Resource Use subcomponents, not the function or integrity. Potential effects to traffic and access are limited to the Mine Site Surface Footprint and footprints associated with the Transportation Route and Transmission Line access roads.

Increased noise and fugitive dust will, during certain times, have a medium magnitude on Contemporary Land and Resource Use subcomponents proximate to the Mine Site, altering or changing the nature, role, or function but not affecting the integrity. The increased noise and fugitive dust associated with the Transportation Route is characterized as having a low magnitude on Contemporary Land and Resource Use subcomponents.

Increased pressure on public land and resource use due to increased workforce will be primarily focused within the District of Wells.

The modification of certain night landscape will occur where direct access to view is present. The majority of residual effects will be limited to the Mine Site Surface Footprint. The extent of change in visual resources is characterized as limited to local. There is the potential for the landscape / viewshed to change within the LAA. However, the majority of residual effects will be limited to the Mine Site Surface Footprint and the Transmission Line.

11.5.6.2.1.5 Human Health

The results from Chapter 7.13 (Human Health and Ecological Risk Assessment) indicate that there are negligible to low residual effects for Indigenous receptors from exposure to constituents of potential concern identified in the human health multimedia risk assessment, except for exposure to arsenic and methylmercury, where the residual effect was classified as moderate. The elevated risks from exposure to arsenic are associated with dermal contact with sediment (e.g., primarily associated with historic mine tailings) from Jack of Clubs lake; however, there is signage at Jack of Clubs Lake communicating that recreation activities should not take place in the area. The elevated risks from exposure to methylmercury are associated with fish ingestion from Jack of Clubs Lake, but it is noted that there is a fish consumption advisory in place for mercury in lake trout and bull trout in Jack of Clubs Lake. The acute and chronic inhalation human health risk assessment identified negligible to low residual effects for Indigenous receptors from exposure to constituents of potential concern identified in air.

For Methylmercury - the overall residual effect is moderate. The main pathway contributing to overall risks was ingestion of fish in Jack of Clubs Lake. Several assumptions were applied in estimating fish exposure, particularly exposure concentrations using literature conversion factors for total mercury to methylmercury and literature bioaccumulation factors (BAFs), that resulted in high uncertainty in the predicted exposure estimates and risks. Given that surface water quality is not expected to change as a result of the Project, a change in fish tissue concentrations is not expected. It is also noted that there is currently a fish consumption advisory in place for lake trout and bull trout from Jack of Clubs Lake.

Particulate matter containing COPCs from dust generation or from incomplete combustion may deposit directly onto plant surfaces and soil in the area. Some COPCs can accumulate in soil or plants. Wild game can then consume the COPCs in soil and plants. The plants and wild game may be food sources for people. Dust emissions are predicted to be greatest during Construction and Operations and return to Existing Conditions levels in the Closure and Post-closure phases.

Particulate matter containing COPCs from dust generation or from incomplete combustion may deposit directly onto plant surfaces and soil in the area. Some COPCs can accumulate in soil or plants, which can be food sources for wildlife. Dust emissions are predicted to be greatest during Construction and Operations and return to Existing Conditions levels in the Closure and Post-closure phases.

The oral pathway is typically the greatest contributor to total exposure for the dustfall-related substances that will be assessed in the wildlife health assessment (i.e., metals; refer to US EPA, 2003).

11.5.6.2.1.6 Culture

Loss or alteration of known occurrences of plant species of cultural significance could occur as a result of Project activities.

Plant species of cultural significance are likely common in the Surface Footprint and LAA. While specific ecological communities may infer suitable habitat for plant species of cultural significance to be present (e.g., huckleberry, blueberry, or cranberry dominated ecosystems), population sizes of valued species within these communities may or may not be present with abundance to make them suitable for harvesting or other uses. Mitigation measures will be targeted to limit the amount of disturbance to natural plant communities that may result in the loss and alteration to plant species of cultural significance by limiting the extent of new vegetation clearing to the smallest extent possible, maintenance of hydrological connectivity, dust suppression and revegetation with a focus on re-establishing pre-disturbance ecological communities containing plant species of cultural significance.

Mitigation measures, including the implementation of a Vegetation Management Plan and associated Invasive Plant Management Plan will reduce the potential for the establishment and/or spread of invasive and/or non-native plant species in the Surface Footprint and LAA. Routine monitoring and adaptive management are expected to allow for control of invasive and non-native plant populations.

In addition to direct loss of plant species of cultural significance, the potential exists for indirect effects resulting in alteration of this sub-component through fugitive dust emissions, hydrological changes, and edge effects and fragmentation. Mitigation measures are anticipated to reduce these negative residual effects and reduce the alterations that may occur to this subcomponent.

Effects to Traditional Land Use from Culture are expected, however the effects to Culture are limited in extent and low in magnitude. Effects will be restricted to those areas on or near the Surface Footprint. Plant species of cultural significance and forage species for wildlife are common in the Project region and reclamation and revegetation will be planned and implemented with a focus on re-establishing communities that support plant species of cultural significance.

11.5.6.2.2 Characterization of Residual Effect

The effect to Indigenous interest Traditional Land Use from the Project is described in Table 11.5-8.

Table 11.5-8 Residual Effect Characterization for Traditional Land Use

Criteria	Characterization	Description
Context	Low to Neutral	Certain activities have been affected by the anthropogenic influences in the area (such as mining, forestry), affecting the amount of undisturbed areas for some traditional land use practices. Other traditional land use practices may not be affected by these past disturbances or positively affected (e.g., berry picking opportunities in young seral stage areas).
Magnitude	Low	Traditional land use activities in the Project area will continue but may be altered where they overlap with the Surface Footprint. Historical use is documented at the Mine Site but due to past mining activities, the area is no longer used. Community interviews did not identify any critical traditional land use areas along the Transmission Line, however if they are identified, mitigation measures will minimize any effects.
Extent	Limited	The potential effect to traditional land use is anticipated to be restricted to the traditional land use sites that overlap with Project Components and areas immediately adjacent or downstream.
Duration	Medium-term	Reclamation activities will restore disturbed areas to pre-disturbance conditions that will support traditional use plant and animal species.
Reversibility	Partially Reversible	Loss and alteration of areas that support traditional use activities are expected to be reversed through mitigation and reclamation, however the reclaimed area may support different activities relative to pre-project conditions.
Frequency	Irregular	Effects to traditional land use will occur irregularly as it will be dependent on the traditional land use activity and the Project activities.
Affected Populations	Even	Effects will be experienced by Lhtako Dené Nation community members practicing traditional land use activities.

11.5.6.2.3 Risk and Uncertainty

The risk and uncertainty for Traditional Land Use is characterized in Table 11.5-9.

Table 11.5-9 Risk and Uncertainty Characterization for Traditional Land Use

Criteria	Characterization	Rationale
Likelihood	Low	The likelihood of the effect occurring is low because Project components have been planned to minimize disturbance to traditional land use, and will be further informed by completion of a TLUOS for the Transmission Line.
Consequence	Minor	As the magnitude and extent of effects to Traditional Land Use has been assessed as low and limited, respectively, the consequence rating is classified as minor.
Risk	Low	As the likelihood and consequence of the residual effect is considered low and minor, respectively, the risk rating is classified as low.
Confidence	Moderate	The cause-effect relationships between the Project and Traditional Land Use is understood, and will be further informed by the completion of a TLUOS for the Transmission Line.

11.5.6.3 Water

Water will be negatively affected by Project activities. Lhtako Dené Nation values the water resource in their traditional territory and are concerned about the contamination of water resources from developments.

11.5.6.3.1 Surface Water

Construction of the water management system for the Mine Site will alter flows in the downstream receiving environment beginning with the Construction Phase. The construction of the water management system will reduce runoff reporting to external surface water receivers resulting from drainage collection. Changes in streamflow will be measurable in the downstream receiving environment but will be limited to within the Surface Water LAA. Streamflows will be maintained within the historical range of variability; therefore, existing watercourses are capable of conveying flows without further adverse effect. The magnitude of the effect to Surface Water is low and the extent is within the LAA.

The discharge of treated effluent to Jack of Clubs Lake will result in an incremental increase in lake outflow and water level. The increased outflow will subsequently translate to an increase in streamflows in the downstream system. Annual average flows at Jack of Clubs Lake at the outlet are predicted to remain similar to existing conditions; however, change to the seasonal distribution of flows is predicted during Operations. Changes to streamflow within the Jack of Clubs Lake and Lowhee Creek watersheds will propagate to downstream locations. However, measurable changes are not predicted to streamflow at Willow River downstream of Mosquito Creek or locations further downstream within the RAA. Streamflows will be maintained within the historical range of variability; therefore, existing watercourses are capable of conveying flows without further adverse effect. The magnitude of the effect to surface water is low and the extent is local (within the LAA).

The discharge of treated effluent to Rudy Creek during drawdown and Operations will result in an incremental increase in streamflows in the downstream system. Streamflows will be maintained within the historical range of variability; therefore, existing watercourses are capable of conveying flows without further adverse effect. The magnitude of the effect to surface water is low and the extent is local (within the LAA).

The discharge of treated effluent to Jack of Clubs Lake will result in changes in surface water and sediment quality. The discharge of treated effluent to Rudy Creek will also result in changes in surface water and sediment quality. Surface water concentrations will increase relative to existing conditions, but will remain below relevant Surface Water Quality guidelines or toxicological benchmarks. Sediment concentrations are not expected to change notably from existing conditions. The magnitude of the effect is low and the extent is local (within the LAA).

11.5.6.3.2 *Groundwater*

Construction and operation at the Mine Site will alter groundwater quantity in the Mine Site relative to existing conditions. Interception of groundwater by dewatering has potential to reduce surface water baseflows, reduce discharges where historical mine workings intersect ground surface, and lower water levels in the Wells aquifer, a drinking water aquifer utilized by the community of Wells. The water level reduction in the Wells Aquifer will not impede use of the Community of Wells water supply well.

The magnitude ranges from low to high, due to the conservative rankings for changes to baseflow within Lowhee Creek, Watson's Gulch, Emory Gulch, and Upper Mosquito Creek. The extent is limited to within the LAA. Closure of the Mine Site will alter groundwater quantity in the Mine Site relative to existing conditions. The predicted changes in groundwater discharge to surface water relative to existing conditions range between 0% and 10%. Water level reduction in Wells Aquifer is less than 1 m change from existing conditions. The magnitude is low and the extent is limited to the LAA.

Operation of the underground mine will alter groundwater quality in the underground developments relative to existing conditions. The predicted underground mine water quality will exceed guidelines for key parameters of potential concern. Concentrations of arsenic and sulphate will exceed relevant guidelines in existing underground mine water. The magnitude is moderate and extent is limited to the LAA. The effect is predicted to persist Post Closure.

The Wells Aquifer is presently affected by mine influenced water that is predicted to be captured by the water supply well for the Community of Wells (Appendix 7.5-3). Due to the larger width of the underground workings below the Wells Aquifer, potential exists for the additional mine influenced water to be captured in Post-Closure due to the reflooding of the underground workings. However, it should be noted that, due to current concerns regarding the quality of the community water supply, ODV is actively working with the District of Wells to: 1) establish a new well location (sourcing water from suitable surface water or groundwater options other than the Wells Aquifer or an area of non-mine influenced water; and 2) upgrade the current water supply pipeline infrastructure.

Construction and operation of the FSTSF will alter groundwater in the QR Mill LAA relative to existing conditions. There will be a potential reduction in stream baseflow with predicted changes in groundwater discharge to surface water within -1% to -18%. The magnitude is low and the extent is limited to the LAA.

Closure of the FSTSF will alter groundwater in the QR Mill LAA relative to existing conditions. There will be a potential reduction in stream baseflow with predicted changes. Predicted changes in baseflow within -7% (reduction) to 10% (increase) of existing conditions. The magnitude is low and the extent is limited to the LAA.

There will be a change in groundwater quality at the QR Mill during Closure and Post-Closure of the FSTSF. The increase in the percent (%) contribution of seepage water in the groundwater discharge is approximately 0% to 2% from existing conditions. This has a minor effect on groundwater quality. The magnitude is low and the extent is limited to the LAA.

11.5.6.3.3 *Characterization of Residual Effect*

The effect to Water from the Project is described in Table 11.5-10.

Table 11.5-10 Residual Effect Characterization for Water

Criteria	Characterization	Description
Context	Low to Neutral	The receiving water bodies will likely adapt to the changes. The low rating applies to the groundwater flow system at the Wells Aquifer which has a low resilience to imposed stresses, which means it will not easily adapt to the potential residual effect.
Magnitude	Low to Medium	Changes are within the historical range of variability for streamflow or within relevant Surface Water Quality guidelines or toxicological benchmarks. The medium rating applies to the Wells Aquifer and groundwater down-gradient of the mine workings, it does not apply to the Community of Wells water supply well, which is considered mitigated per measures in Section 7.5.4.2.
Extent	Local	Effects to Water are within the LAA for Surface Water
Duration	Medium to Long term	Effects are predicted through Operations with some effects predicted to persist in Post-Closure.
Reversibility	Partially Irreversible to irreversible	Effects related to effluent discharge will reverse upon cessation of treated effluent discharge. Some effects will persist Post-Closure
Frequency	Continuous	Effects to groundwater are expected to persist Post-Closure.

11.5.6.3.4 Risk and Uncertainty

The risk and uncertainty for Water is characterized in Table 11.5-11.

Table 11.5-11 Risk and Uncertainty Characterization for Water

Criteria	Characterization	Rationale
Likelihood	High	Changes in groundwater and surface water are expected to occur.
Consequence	Moderate	Magnitude is low to medium and extent is local, which results in a minor rating per the consequence matrix
Risk	Moderate	Consequence is moderate and likelihood is high, which results in a low rating per the risk matrix in Chapter 6, Figure 6.7-1.
Confidence	High	The cause-effect relationship is well understood, and sufficient data is available to support the assessment.

11.5.6.4 Caribou

Caribou will be negatively affected by Project activities. Project effects to habitat alteration, sensory disturbance, disruption to movement, direct mortality and indirect mortality are described below.

Habitat alteration was assessed quantitatively for caribou, by overlapping the Surface Footprint with habitat modelling rated poor, good, better and best. Optimal (good, better, best) habitat is located within the Surface Footprint, mainly along the Transmission Line. Optimal habitat in the Mine Site has been disturbed, and a portion of this disturbance has been accounted for through previous offsetting measures. The effects to caribou are low in magnitude and local in extent.

The Project is expected to have an adverse effect on the optimal habitat of the Southern Mountain caribou related to sensory disturbance. Optimal (good, better, best) habitat is located within the Surface Footprint, mainly along the Transmission Line. A low rating is applicable for the portions of the Mine Site and Transmission Line that has been previously disturbed. A low rating is associated with areas of new disturbance along the transmission line right-of-way.

The Project is expected to have an adverse effect on the herd movements of the Southern Mountain caribou related to Project activities. The Barkerville caribou Herd is not known to make well designed seasonal migration but do move between habitats at multiple elevations (Seip, 1992). Based on historical radio telemetry (1993-2004) on the herd, the proposed Transmission Line passes through a caribou migration corridor linking access to a calving area on Mt. Tom. A low to medium magnitude rating is associated with areas of new disturbance along the Transmission Line right-of-way. Due to the mitigation, sensory disturbance and habitat alteration within the LAA is not expected to affect the regional-scale movement of the caribou herd.

Direct mortality is not anticipated during operations due to minimal increase in traffic along the Transportation Route and Transmission Line access routes. Direct mortality is expected to be negligible during the Construction and Closure Phases of all Project Components as individuals are likely to avoid the area during these periods.

11.5.6.4.1 Characterization of Residual Effect

The effect to caribou from the Project is described in Table 11.5-12.

Table 11.5-12 Residual Effect Characterization for Traditional Land Use

Criteria	Characterization	Description
Context	Low	Caribou have a low natural resilience to imposed stresses, and will not respond and adapt to a potential residual effect. The estimated population is less than 100 animals which places the herd in a vulnerable position regarding additive mortality.
Magnitude	Low to Medium	Optimal (good, better, best) habitat is located within the Surface Footprint, mainly along the Transmission Line. A low rating is applicable for the portions of the Mine Site and Transmission Line that has been previously disturbed. A medium rating is associated with areas of new disturbance along the transmission line right-of-way. Detailed management plans, monitoring and adaptive management will be used to mitigate effects.
Extent	Local	Effects will occur within the LAA.
Duration	Long-term	Active reclamation and passive reclamation during the later portion of operations will allow the vegetation to start to grow before closure however forests will take many years to return to the initial structural stage and provide an effective source of lichen.
Reversibility	Partially Reversible	No ground works are proposed for the Transmission Line and the objectives of reclamation and closure planning is to reclaim the Project to pre-Project vegetation communities. The growth required to provide suitable habitat with abundant lichen will take many years
Frequency	Regular	Effects will occur during the construction and operation of the Transmission Line.

11.5.6.4.2 Risk and Uncertainty

The risk and uncertainty for caribou is characterized in Table 11.5-13.

Table 11.5-13 Risk and Uncertainty Characterization for Caribou

Criteria	Characterization	Rationale
Likelihood	Medium	There will be between a 40% to 80% chance of the event occurring
Consequence	Moderate	Based on the combination of a Local Extent and Medium Magnitude
Risk	Moderate	Based on the combination of a Medium Likelihood and a Moderate Consequence
Confidence	Low	There is a moderate understanding of the interaction with caribou however low confidence in the effectiveness of mitigation and the need for long-term monitoring and adaptive management

11.5.6.5 Community Well-being

Effects to Community Well-being are anticipated from negative effects to plant species of cultural significance as described in the Culture VC (Section 7.16). As described above in Traditional Land Use, loss or alteration of known occurrences of plant species of cultural significance could occur as a result of Project activities. Effects will be restricted to those areas on or near the Surface Footprint. Plant species of cultural significance and forage species for wildlife are common in the Project region and reclamation and revegetation will be planned and implemented with a focus on re-establishing communities that support plant species of cultural significance.

11.5.6.5.1 Characterization of Residual Effect

The effect to Community Well-being from the Project is described in Table 11.5-14.

Table 11.5-14 Residual Effect Characterization for Community Well-being

Criteria	Characterization	Description
Context	Neutral	Limited vegetation clearing will occur and will primarily occur along the Transmission Line. Invasive and non-native plants can be controlled with adaptive weed management practices. Plant species of cultural significance and forage species for wildlife are common in the Project region and reclamation and revegetation will be planned and implemented with a focus on re-establishing communities that support plant species of cultural significance.
Magnitude	Low	With the implementation of mitigation and the execution of reclamation the residual effect is expected to slightly alter the ability of plant species of cultural significance to be re-established without changing their ability to persist in the reclaimed landscape.
Extent	Limited	The potential residual effect is anticipated to be restricted to the Surface Footprint. Impacts may occur beyond the area of direct disturbance but are not expected to occur beyond the 50 m buffer that has been applied around the area of direct disturbance.
Duration	Medium Term	Re-establishment of pre-disturbance plant communities within the Mine Site and QR Mill footprints will take decades beyond reclamation to reach a seral stage to support pre-disturbance micro-habitats for plant species of cultural significance. Invasive and non-native plant infestations are not expected to occur beyond pre-disturbance levels with mitigation.
Reversibility	Fully Reversible	Loss and alteration of plant species of cultural significance are expected to be reversed through mitigation and reclamation
Frequency	Once	Loss of plant species of cultural significance is only expected to occur during vegetation clearing that will occur during construction. Alteration to plant species of cultural significance is expected to occur on an irregular basis due to potential edge effects and dust deposition.

11.5.6.5.2 Risk and Uncertainty

The risk and uncertainty for Community Well-being is characterized in Table 11.5-15.

Table 11.5-15 Risk and Uncertainty Characterization for Community Well-being

Criteria	Characterization	Rationale
Likelihood	High	Temporary loss of Plant Species of Interest will occur based on the understanding of Project activities (Chapter 1.0).
Consequence	Minor	As the magnitude and extent of loss or alteration to Plant Species of Interest has been assessed as low and limited, respectively, the consequence rating is classified as minor.
Risk	Low	As the likelihood and consequence of the residual effect is considered high and low, respectively, the risk rating is classified as low.
Confidence	High	The cause-effect relationships between the Project and Plant Species of Interest is well understood.

11.5.7 Characterization of Residual Effects

Negative residual effects for Lhtako Dené Nation Indigenous interests are summarized in Table 11.5-16.

11.5.8 Cumulative Effects

Lhtako Dené Nation is concerned that cumulative effects from natural resource developments in their traditional territory will negatively affect their way of life and unjustly infringe on their constitutional rights (DMCS, 2019). Negative effects from past developments continue at the same time new impacts from current projects are being generated. These can contribute to greater noise, air and water pollution, habitat loss and the destruction of culturally significant sites and areas.

Osisko Development Corp. acknowledges that Lhtako Dené Nation has been affected by cumulative effects from anthropogenic disturbances in their traditional territory. Potential effects from the Project could interact with effects from other present / ongoing or future project/ activities. Cumulative effects from the Project are discussed below in relation Lhtako Dené Nation's Indigenous interests.

Table 11.5-16 Summary of Residual Effects for Lhtako Dené Nation Indigenous Interests

Indigenous Interest	Context	Magnitude	Extent	Duration	Reversibility	Affected Populations	Frequency	Risk	Confidence	Importance
Traditional Land Use	Low to Neutral	Low	Limited	Medium-term	Partially-reversible	Even	Irregular	Low	Moderate	High
Water	Low to Neutral	Low to Medium	Local	Medium to Long term	Partially Irreversible to irreversible	NA	Continuous	Moderate	High	High
Caribou	Low	Low to Medium	Local	Long-term	Partially reversible	NA	Regular	Moderate	Low	High
Community Well-being	Neutral	Low	Limited	Medium-term	Fully Reversible	NA	Once	Low	High	High

11.5.8.1 Traditional Land Use

As described in Chapter 7.0, cumulative effects are expected for Vegetation and thus could affect Traditional Land Use. Cumulative effects to Wildlife were identified for caribou and are discussed in Section 11.5.8.2. Cumulative effects are not expected for Freshwater Fish, Human Health, and Land and Resource Use

11.5.8.1.1 Vegetation

All residual effects for Vegetation were carried forward into the cumulative effects assessment. The Project effects could interact with effects from forestry, mineral exploration, placer mining and transportation activities. The majority of Project infrastructure will be located on brownfield sites that have been previously disturbed by historical mining operations. The Transmission Line has been routed to follow existing roads and previously disturbed areas as much as possible to limit new disturbance.

Project potential residual effects are anticipated to be restricted to the Surface Footprint. Impacts may occur beyond the area of direct disturbance but are not expected to occur beyond the buffers that have been applied around the area of direct disturbance. Regional effects are expected due to on-going forest harvesting activities, however the Project contribution to overall effects is minor (Table 11.5-17).

Table 11.5-17 Summary of Cumulative Effects to Vegetation VC Subcomponents

Vegetation VC Subcomponent	Existing (ha)	Project Loss and Alteration (ha)	Future (ha)	Total Loss and Alteration	RAA Total (ha)	Cumulative RAA Change (%)
Plant Species of Interest¹						
Plant Communities of Interest						
Provincially Listed Ecological Communities	16,617.6	88.6	50.4	16,756.5	79,448.4	21.1
Ecological Communities Valued for Traditional Use Plants	61,133.4	331.5	424.4	61,889.3	276,179.6	22.4
Wetland Function	491.4	18.0	2.3	511.8	7,910.1	6.5
Ecosystems						
Ecosystem Types	55,565.7	332.3	410.8	56,308.9	232,302.4	24.2
Old Forests	0.5	26.1	0	26.5	2,425.8	1.1
Grassland, Alpine and Subalpine Communities	20,160.5	119.8	301.4	20,581.7	276,251.7	7.5
Riparian Communities	1562.8	2.6	5.5	1,570.9	39,387.9	4.0

Note: ¹ Quantification of loss or alteration to Plant Species of interest is not possible.

11.5.8.2 Summary of Cumulative Effects on Traditional Land and Resource

Cumulative effects for Traditional Land and Resource are related cumulative effects on Vegetation. The cumulative effect has been characterized in Table 11.5-18.

Table 11.5-18 Residual Cumulative Effect Characterization for Traditional Land Use

Criteria	Characterization	Description
Context	Neutral	Limited vegetation clearing will occur and will primarily occur along the Transmission Line. Past, present and future activities, in combination with the Project will result in clearing of plant species of traditional use and ecological communities valued for traditional plant use in the RAA and the majority of the effects to these communities will result in alteration but not loss of these communities. The majority of ecosystem types found in the Surface Footprint and RAA are common and the majority of the effects to these communities will result in the removal of tall trees and shrubs, resulting in alteration but not loss of most of these communities. Old forests may have reduced resilience to recovery; however, over time, may re-establish to old forest status with limited repeat disturbances. Reclamation and reforestation will be planned and implemented with a focus on re-establishing pre-disturbance plant communities.
Magnitude	Low	The clearing and harvesting of ecosystems from all activities is expected to result in the loss or alteration of the following in the RAA: <ul style="list-style-type: none"> • 24.2% of natural ecosystems, • 1.1% of old forests, • 7.5% of parkland or subalpine communities • 4.0% of riparian communities. Reclamation and reforestation practices are expected to allow for the re-establishment of ecosystems without changing their ability to persist in the RAA.
Extent	Regional	Regional effects are expected as a result of forest harvesting; however, BMP's and conventional harvesting and silviculture practices are expected to target the re-establishment of pre-disturbance Ecosystems.
Duration	Long-term	Re-establishment of affected ecosystems, especially old forests, within the RAA will take decades beyond reclamation and reforestation to reach a seral stage equivalent to pre-disturbance conditions.
Reversibility	Partially Reversible	Loss and alteration of ecosystems are expected to be reversed through mitigation, reclamation and reforestation; however, it is uncertain that all affected old forests, will be re-established to pre-disturbance conditions.
Frequency	Irregular	Loss and alteration of Ecosystems is only expected to occur during Project construction and when clearing activities associated with mining and forestry occur. Alteration to Ecosystems is expected to occur on an irregular basis due to potential edge effects, potential changes to hydrology, dust deposition, forest pests and diseases and effects from projected climate change.

Table 11.5-19 Risk and Uncertainty Residual Cumulative Effect Characterization for Traditional Land Use

Criteria	Characterization	Rationale
Likelihood	High	Loss or alteration of ecosystems will occur based on the understanding of Project and other activities in the RAA.
Consequence	Moderate	As the magnitude and extent of loss or alteration to ecosystems has been assessed as low and regional, respectively, the consequence rating is classified as moderate.
Risk	Moderate	As the likelihood and consequence of the residual effect is considered high and moderate, respectively, the risk rating is classified as moderate.
Confidence	Moderate	The cause-effect relationships between the Project and past, present and future activities and ecosystems is not fully understood due to a lack of understanding of expected alteration to this Vegetation VC subcomponent due to edge effects, potential changes to hydrology, dust deposition, forest pests and diseases and effects from projected climate change.

11.5.8.3 Water

Potential adverse cumulative effects related to changes in surface water quantity or quality were not identified. Potential adverse cumulative effects related to groundwater were not identified.

11.5.8.4 Caribou

Residual effects for caribou were carried forward to the cumulative effects assessment. Caribou have a low natural resilience to imposed stresses, and will not respond and adapt to a potential residual effects. Potential residual effects from the Project can interact with other present / ongoing or future project/ activities in the RAA. Forestry, placer mining, and transportation activities have the potential to influence optimal habitat through physical alteration of the landscape and/or through sensory disturbance. Forestry cutblocks occurring next to the Transmission Line, or other Project components can increase the amount of open area.

Cumulative effects for caribou are characterized in Table 11.5-20.

Table 11.5-20 Residual Cumulative Effect Characterization for Caribou

Criteria	Characterization	Description
Context	Low	Caribou have a low natural resilience to imposed stresses, and will not respond and adapt to a potential residual effect
Magnitude	Medium	Optimal habitat is located within the Surface Footprints including the largest amount to be removed at the Transmission Line however detailed management plans, monitoring and adaptive management will be used to mitigate effects. A site-specific clearing and maintenance prescription will be developed in partnership with FLNRORD and Indigenous nations for the Transmission line right-of-way in areas identified as movement corridors to and from caribou calving areas along the Transmission Line. Regional management plans with stakeholders will be a part of the adaptive management program.
Extent	Regional	Effects will be within the RAA
Duration	Long-term	Active reclamation and passive reclamation during the later portion of operations will allow the vegetation to start to grow before closure however forests will take many years to return to the initial structural stage. It is assumed that all projects in the RAA will have reclamation however new projects could initiate during the temporal boundaries of the Project
Reversibility	Partially Reversible	The other industrial projects in the RAA that do not include reclamation are not located in close proximity to the Project.
Frequency	Regular	The habitat alteration will be limited to a discrete occurrence during the construction of the Transmission Line Access Roads and during construction and Operations of the Transmission Line. This will also occur at the Bonanza Ledge and Mosquito Creek Sites. Forest fires occur but also regenerate

Table 11.5-21 Risk and Uncertainty Residual Cumulative Effect Characterization for Traditional Land Use

Criteria	Characterization	Rationale
Likelihood	Medium	There will be a between 40 to 80% chance of the event occurring
Consequence	Moderate	Based on the combination of a Regional Extent and Moderate Magnitude
Risk	Moderate	Based on the combination of a Medium Likelihood and a Moderate Consequence
Confidence	Low	There is a moderate understanding of the interaction with caribou however low confidence in the effectiveness of mitigation and the need for long-term monitoring and adaptive management. The population of the herd is less than 100 animals. Additional future projects may occur during the Projects timeline including reclamation.

11.5.8.5 Community Well-Being

Cumulative effects to Community Well-Being are directly related to plant species of cultural significance as described in the Culture VC. Cumulative effects are identical to those discussed in for the Vegetation VC (i.e., Plant Species of Interest, specifically traditional use plants). These cumulative effects are discussed in Section 11.5.8.1.

11.5.9 Views of Lhtako Dené Nation

The assessment of effects to Lhtako Dené Nation Indigenous interests was informed by the TLUOS (DMCS, 2019) and ongoing engagement with Lhtako Dené Nation. Osisko Development Corp. will continue to work with Lhtako Dené Nation directly to further understand Indigenous interests that may be affected by the Project.

During Application Review, Lhtako Dené Nation, through their third party consultant, provided comments on the Application. Review comments focused on the Air Quality, Culture, Freshwater Fish, Groundwater, Land and Resource Use, Soil, Surface Water, Vegetation and Wildlife VCs. Review comments were also provided on the Application Summary, Effects of the Environment on the Project and Summary of Biophysical Factors that Support Ecosystem Function. All comments and responses are provided in the Issues Tracking Table. The majority of the comments were on the technical aspects of the Project focusing on the Mine Site, QR Mill and Transmission Line. Osisko Development met with Lhtako Dené Nation to discuss specific comments relating to water quality, water treatment and freshwater fish.

Osisko Development Corp. has incorporated comments specifically pertaining to Lhtako Dené Nation views related to wildlife and amphibian management, conceptual aquatics restoration plan for Jack of Clubs Lake, mitigation measures and impacts to water-base traditional practices and various others related to management and monitoring plans. Osisko Development Corp. will continue to work with Lhtako Dené Nation to develop appropriate management and monitoring plans.

11.6 Positive Effects

Osisko Development Corp. entered into the Project Agreement with Lhtako Dené Nation in October 2020 to facilitate the development of the Cariboo Gold Project with the consent and support of Lhtako Dené Nation. The agreement provides Project-related opportunities and benefits for current and future generations of the Lhtako Dené Nation people. As explained by Chief Lebrun:

“The protection of the land, water, resources and our way of life has guided our negotiating team. This agreement confirms our relationship with [ODV], to ensure we will work together to provide meaningful training, employment and business opportunities for Lhtako Dené Nation people. It also includes financial provisions that will enable the Lhtako Dené Nation to participate in the opportunities that the Project provides.”¹

Positive effects were identified under Community Well-being related to Employment and Economy. The project will create employment opportunities for local and regional residents and the project will generate revenue for local, provincial and federal governments and create economic opportunities and/or challenges for local and other businesses and sectors. Osisko Development Corp. will implement a proactive training program that will train local and regional residents for available opportunities and encourage those not in the labour market to participate, thereby increasing the pool of available workers.

¹ <https://osiskogr.com/en/osisko-signs-agreement-with-lhtako-dene-nation-for-the-cariboo-gold-project/>

11.7 Summary

The Project is located within the core traditional territory of the Lhtako Dené Nation. Lhtako Dené Nation has agreed to consent and support the development, operation and closure of the Project in accordance with the terms of the Project Agreement.

During Application Review, Osisko Development provided responses to Lhtako Dené Nation review comments in the Issues Tracking Table and in subsequent Technical Memos. Osisko Development met with Lhtako Dené Nation and their third party consultant to discuss review comments and resolve any issues raised. To date, there are no outstanding points of disagreement with Lhtako Dené Nation on issues raised during the Application Review.

The Project will cause residual effects to Lhtako Dené Nation Indigenous interests as follows:

- Residual effects to Traditional Land Use primarily related to Project activities along the Transmission Line that could affect vegetation, wildlife, freshwater fish, and land and resource use. Effects to Traditional Land Use are limited to the Surface Footprint and are expected to slightly alter or change Traditional Land Use activities.
- Residual effects to Water are primarily related to the changes in surface water quantity and changes to groundwater from the flooding of the underground workings. Effects to Water are limited to the within the LAA at the Mine Site and QR Mill, and will alter the characteristics of the water resource from existing conditions, but these are within the historical range of variability for streamflow or within relevant Surface Water Quality guidelines or toxicological benchmarks. An effect to the Wells Aquifer will persist Post-Closure.
- Residual effects to caribou primarily related to Project activities along the Transmission Line. Effects to caribou are local in extent, and are low to medium in magnitude.
- Residual effects to Community Well-being are primary related to effects of traditional plant species of interest. Effects are not expected to alter or change Community Well-being.

Osisko Development Corp. has committed to mitigation measures summarized in Chapter 20.1 in order to minimize these residual effects to Lhtako Dené Nation Indigenous interests.