Environmental Management Plan

Four J Gypsum Mine Project

Prepared for:
Homegold Resources Ltd.
Unit 5 – 2330 Tyner Street
Port Coquitlam, BC
V3C 2Z1

Prepared by:
Nova Pacific Environmental Ltd.
97 North Renfrew Street
Vancouver, BC V5K 3N6
Tel: 604.251.5216 • WWW.NOVAPACIFIC.NET

June 31, 2023

Contents

Table of Contents

APPENDICES

1.0: INTRODUCTION

Homegold Resources Ltd. is proposing a gypsum mining project (the "Project") in the Canal Flats area of the Rocky Mountains, located in the East Kootenays (the "Site"), in southeastern British Columbia (Figure 1). The Project will involve extracting accessible historic gypsum material from Pit #2 of the Four J (4J) Gypsum Mine (the "Site"). This Environmental Management Plan (EMP) has been developed to provide guidance to all personnel, contractors, and third-party service providers involved in the onsite gypsum extraction works, to ensure that safe, compliant, environmentally, and socially responsible actions are taken to mitigate potential project effects on the environment. This EMP is designed to comply with legislative requirements, conditions of the environmental approvals and guidelines. It identifies and outlines:

- Site and activity-specific environmental management and monitoring plans designed to protect the human and ecological environment),
- Key construction and operations activities, applicable environmental mitigation measures, and best management practices (BMPs), and
- Environmental monitoring, reporting, and regulatory compliance requirements.

Project personnel will be required to comply with the EMP or provide a suitable alternative approach that can be incorporated into an updated EMP, if necessary.

1.1: Location

The Site is located southeast of Canal Flats in the Regional District of East Kootenay approximately 3 km south of Alces Lake and 33 km by road from the village of Canal Flats (Figure 1). The exact location of the site is at latitude 50°05.688N, and longitude 115°31.187W.

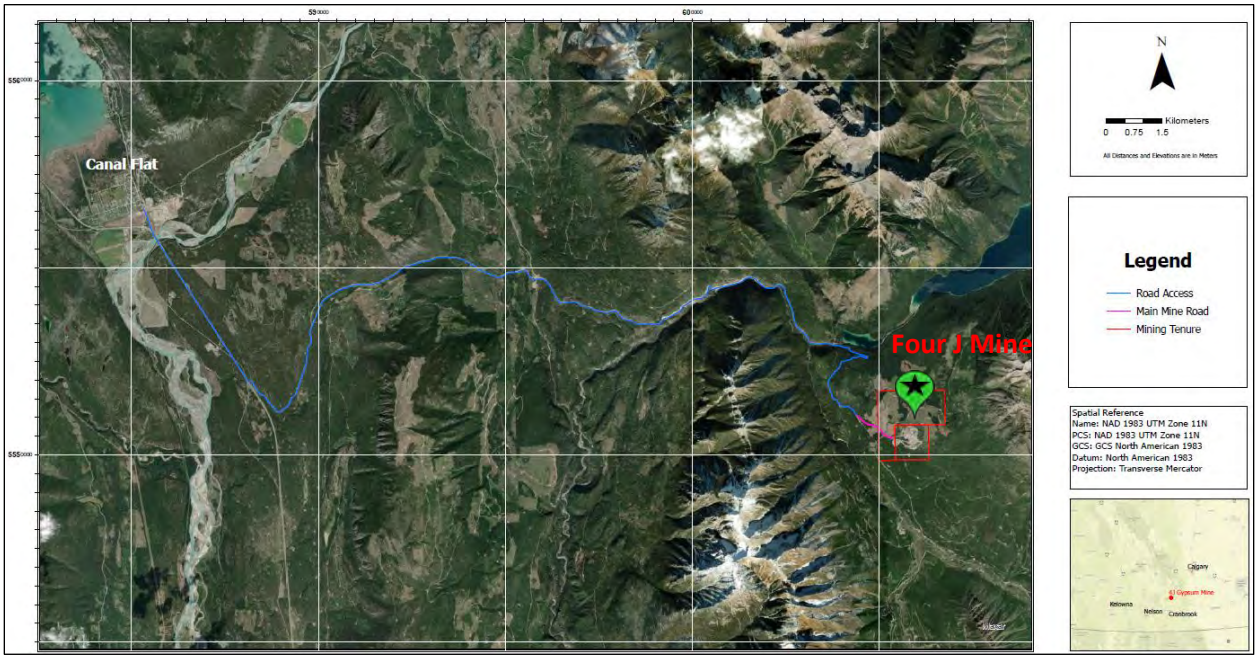


Figure 1 – *Four J Gypsum Mine Location*

1.2: Site Description

The Site extends outside of Whiteswan Lake Provincial Park within Mineral Titles Online (MTO) claim 1093623 (Figure 2), encompassing an estimated area of 2.64 ha or 26,400 m^2. It is part of the Montane Spruce (MSdk2) dry cool Biogeoclimatic Zone in the Rocky Mountain Natural Resource District. The location of Pit 2 is characterized by westerly facing gentle slopes.

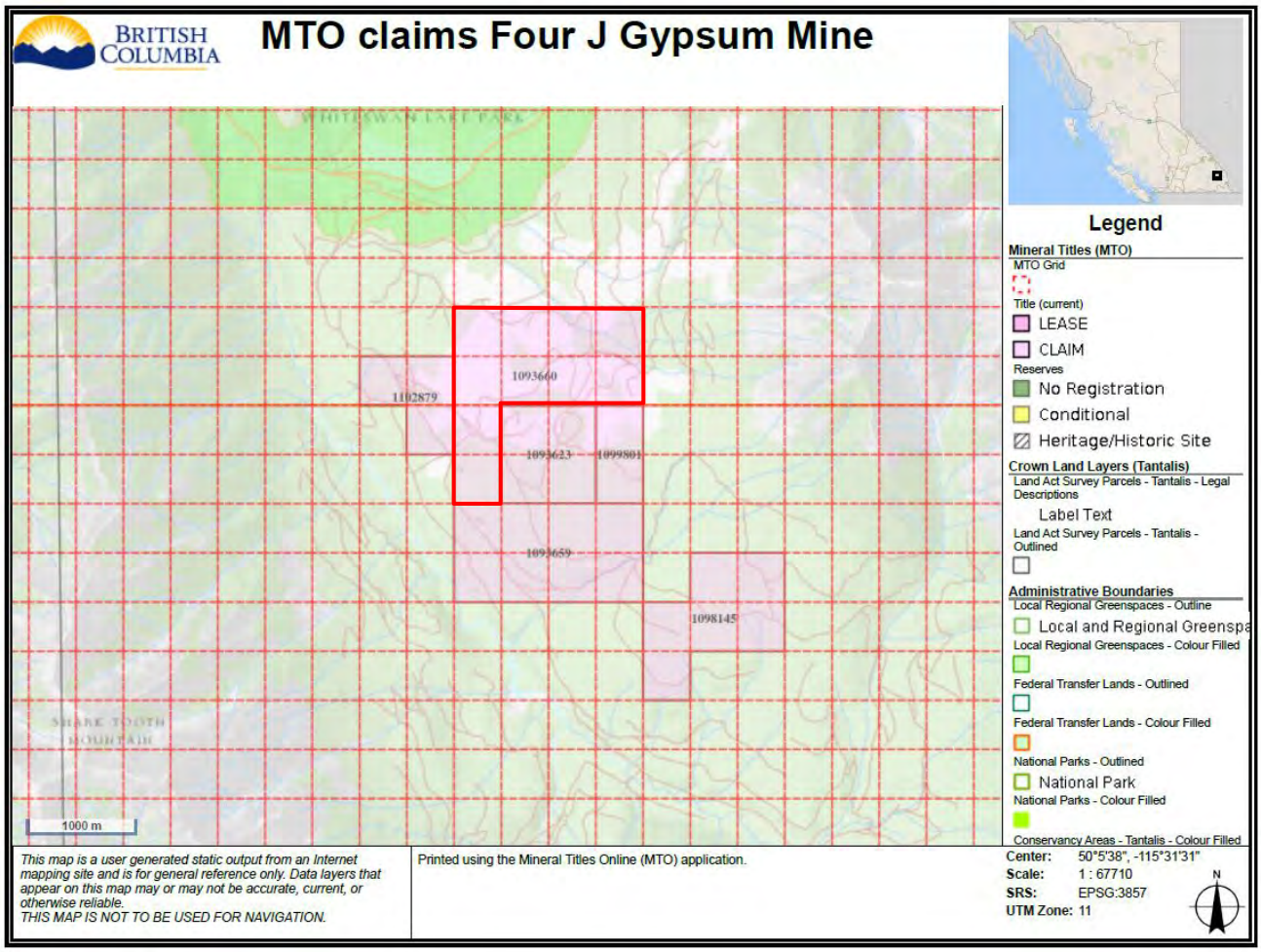


Figure 2: *Four J Gypsum Mine Mineral Claims*

1.3: Project Description

According to the 5-year Mine Plan for the Four J gypsum mine the Project focuses on extracting the existing material exclusively from the historic Pit 2 areas (Foo, 2023). Gypsum will be mined using surface mining method. Friable weathered ore close to the surface is amenable to free-digging by mid-sized excavators or front-end loaders. Transition ore can be broken with hydraulic hammers attached to excavators, while fresh gypsum rock may require drilling and blasting. The extracted gypsum or Run of Mine (RoM) will directly be loaded onto tridem trucks and transported off-site; hence, there will be no processing of the material or stockpile located onsite, and no waste rock will be generated or stockpiled onsite.

1.4: Site Access

The Site can be accessed from Canal Flats via Highway 93 southbound for 5 km, Whiteswan Forest Service Road eastbound for 21 km and Lussier Road for 4.5 km, where a locked access gate leads to the mine site via the Main Mine Road (Figure 1).

1.5: Hydrology

The Site is located approximately 1.5 km east of the Lussier River. Several drainage channels are situated approximately west of the Project area (Figure 3). These drainage channels drain west into the Lussier River, and ultimately the Kootenay River. An assessment conducted in May 2023 found that none of these channels were carrying any water and are likely ephemeral. Only watercourse (Wat) 1 flows from the mine site and could be influenced by the project (Figure 3). Watercourses 2 to 4 were 200+ m from Pit #2 and the access road and surrounded by vegetation, so will not be effected by the project (Figure 3). There were also no registered groundwater resources such as aquifers, water wells or drinking water extraction points in the vicinity of the site. The nearest water well is located approximately 3.4 km to the north-west from the Project area, near Whiteswan Lake.

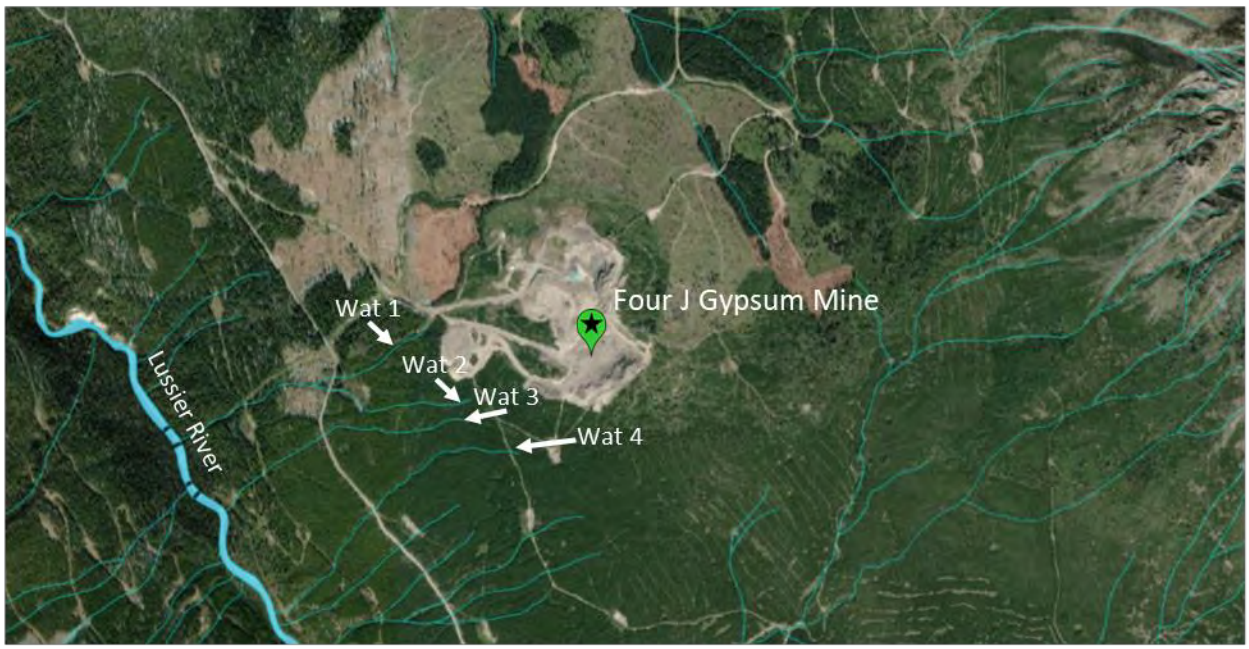


Figure 3: Watercourses (blue lines) within the Project Area and vicinity

1.6 Meteorology and Climate

The prevailing MSdk2 biogeoclimatic zone is characterized as cool dry climate, with cold, snowy winters and short dry summers. Temperatures typically reach 10°C for only 2-4 months of the year between May and September, with average low temperatures falling below zero for five months of the year, the coldest being between December and February. The monthly precipitation is low, typically below 500 mm a year, the majority being snow. May and June are typically the wettest (Table 1). Extended dry seasons throughout the summer often leads to large, stand-destroying fires.

Table 1: *Average Climate data for the past 10 years at Canal Flats, BC (Data courtesy of WeatherWX.com)**

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Average Hi Temperatures (°C)	-6	-6	-1	3	10	15	20	20	14	5	-3	-8
Average. Lo Temperatures (°C)	-14	-15	-10	-6	-1	3	7	6	2	-4	-12	-16
Average Wind Speed (km/h)	7	7	7	7	6	6	6	6	6	7	7	7
Average. Precipitation (mm)	15	14	21	21	29	50	37	30	21	22	26	16
Average % Humidity	92	91	89	83	72	68	58	58	67	77	89	91
Average % Cloud Cover	57	58	58	53	43	44	30	26	33	41	52	56
Pressure Average (mb)	1021	1020	1017	1015	1014	1012	1014	1014	1015	1017	1019	1021
Average Dry Days	15	14	9	14	20	16	20	22	22	19	11	15
Average. Precipitation Days	11	10	14	11	9	14	12	9	7	8	12	11
Average Snow Days	5	4	9	5	3	1	0	0	1	5	7	5
Average Fog Days	0	0	0	0	0	0	0	0	0	0	0	0
Average UV Index	1	1	1	1	3	3	4	3	2	1	1	1
Average Hours of Sun	31	28	33	34	57	51	81	89	71	60	40	34

* Averages are based on historical weather data from the past 10 years

2.0: Environmental Risk Assessment

To ensure, that the Project is conducted in a safe, compliant, and environmentally responsible manner, an Environmental Risk Assessment was conducted to identify and evaluate potential risks and impacts associated with the Project's activities on the environment. It aims to assess the likelihood and severity of various environmental risks from various activities during the Project's life cycle, including hydraulic excavating, hammering, drilling and blasting of the gypsum rock, excavating and transportation off-site.

2.1: Potential Risks from Vegetation Clearing

Since the Site already has road access, no additional vegetation clearing is required for site access. The areas to be excavated primarily consist of previously reclaimed bare ground where revegetation has not yet been completed, necessitating only limited vegetation clearing. The associated risks are assessed as low in terms of both likelihood and severity.

2.2: Potential Risks from Excavation

Potential risks associated with extracting gypsum rock through excavation include soil erosion, fuel leaks/spills, introduction of invasive species, and contamination of nearby water bodies. To mitigate these risks, it is recommended to implement progressive rehabilitation of exposed slopes and excavation sites, focusing on minimizing soil erosion and preventing the spread of invasive species.

The activities mentioned above pose environmental risks, including:

- Temporary impacts on ambient air quality due to the mobilization and use of equipment (e.g., generators, vehicles, etc.) and construction activities that generate dust from soil disturbances, gypsum excavation, and transfer to trucks. These risks are characterized by a high likelihood of occurrence and a low severity.
- Temporary effects to ambient noise levels through mobilizing and use of equipment at site, increased human presence, and construction activities. These risks are characterized by a high likelihood of occurrence and a low severity.
- Effect on ground surface through Project activities involved in ground disturbance (e.g., vegetation clearing, excavation, machinery access, etc.), ground surface compaction caused by equipment, material laydown, and other Project works. These risks are characterized by a high likelihood of occurrence and medium severity.
- Possible soil contamination through accidental spill or release of deleterious substances. These risks are characterized by a high likelihood of occurrence and a low severity. These risks are characterized by a low likelihood of occurrence and a high severity.
- Effects on water quality through accidental spills or release of deleterious substances (e.g., fuel and oil for machinery) during works. These risks are characterized by a low likelihood of occurrence and a high severity.
- Temporary and short-term impacts to water quality through the introduction of debris into the water. These risks are characterized by a medium likelihood of occurrence and medium severity.
- Temporary and short-term impacts to water quality in Watercourse 1 from sediment mobilized to watercourse from projects activities. These risks are characterized by a medium likelihood of occurrence and medium severity.
- Possible introduction or spread of invasive plant species which may be transported to or from the Project area through vehicles and equipment. These risks are characterized by a low likelihood of occurrence and a high severity.
- Disturbance to vegetation through Project activities (e.g., equipment movement and material laydown, gaining access to work area, and construction work) that may damage or destroy vegetation. These risks are characterized by a low likelihood of occurrence and medium severity.
- Temporary disturbance and direct or indirect harm to wildlife through vehicle collisions during mobilization to or from site and by accidental spill or release of a deleterious substance (e.g., hydrocarbons, uncured concrete). These risks are characterized by a low

likelihood of occurrence and high severity.

- Direct or indirect harm to fish by accidental spill or release of a deleterious substance (e.g., hydrocarbons, uncured concrete) or by increased turbidity in water due to sediments mobilized from soil disturbances. These risks are characterized by a low likelihood of occurrence and high severity.
- Disturbance or destruction of habitat through construction activities conducted below the high-water mark which may alter existing aquatic habitat or through removal of riparian vegetation at the top of the banks above the riprap area which may reduce shade cover, etc. These risks are characterized by a low likelihood of occurrence and medium severity.

2.3: Potential Risks from Blasting and Hammering

- Temporary effects to ambient air quality through blasting and hammering activities creating dust. These risks are characterized by a high likelihood of occurrence and low severity.
- Temporary effects to ambient noise levels through blasting and hammering activities. These risks are characterized by a high likelihood of occurrence and medium severity.
- Deleterious environmental effects caused explosives like ammonium nitrate -fuel oil mixtures (ANFO), such as incomplete combustion, toxic residuals, releases of nitrate, nitrite, ammonia, and hydrocarbon fuels, which can lead to impacts such as algal blooms, reduced oxygen, eutrophication, and potential harm to aquatic life and human health. These risks are characterized by a high likelihood of occurrence and medium severity.

2.4: Potential Risks from Off-site Transportation

- Temporary disturbance and direct or indirect harm to wildlife through vehicle collisions during mobilization to or from site and by accidental spill or release of a deleterious substance (e.g., hydrocarbons, uncured concrete). These risks are characterized by a low likelihood of occurrence and high severity.
- Temporary and short-term impacts to water quality from sediment mobilized to watercourse from stream crossings. These risks are characterized by a low likelihood of occurrence and medium severity.

3.0: RELEVANT ENVIRONMENTAL LEGISLATION AND REGULATION

- The BC Wildlife Act protects all wildlife and wildlife habitat in BC from being harmed. More specifically, Section 34 of the Wildlife Act protects nesting birds, their nests and eggs.
- The BC Government Actions Regulations protects localized areas such as Ungulate Winter Ranges (UWRs) requiring special management of certain forest values.
- Several resource management agreements exist between Treaty 8 First Nations and the BC government. In particular, the Wildlife Collaborative Management Agreement (WCMA) requires consultation with relevant First Nations groups regarding wildlife management prior to commencing work in the Peace Region. The guidelines laid out in the WCMA must be followed prior to a Wildlife Act authorization.
- Fish and fish habitat are protected under the Fisheries Act of Canada.
- The Federal Migratory Birds Convention Act (MBCA) protects the following species: waterfowl; cranes; rails and coots; shorebirds, including gulls and terns; pigeons and doves; insectivorous songbirds (excluding blackbirds); seabirds; loons; grebes; herons, egrets and bitterns.
- The BC Weed Control Act regulates the introduction and spread of invasive species (noxious weeds).
- The siting, construction, equipment standards, safety measures, operation, and licensing of explosive facilities must adhere to the minimum requirements outlined in the Explosives Act (Canada) and the Health, Safety and Reclamation Code for Mines in British Columbia. For guidance on meeting the federal requirements of the Explosives Act, refer to the Natural Resources Canada Guidelines for Bulk Explosives Facilities G05-01, dated February 2014.

4.0: ENVIRONMENTALLY SENSITIVE RESOURCES

The key environmental sensitivities identified in the Project area include the following:

- Fish and fish habitat;
- Wildlife and wildlife habitat;
- Vegetation;
- Species at risk;
- Invasive species; and
- Archaeological and heritage sites.

These sensitivities are discussed in the following sections

4.1: Fish and Fish Habitat

Lussier River is home to a variety of fish species including Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*), Rainbow Trout (*Oncorhynchus mykiss*), Mountain whitefish (*Prosopium williamsoni*), bull trout (*Salvelinus confluentus*), and longnose dace (*Rhinichthys cataractae*) (Habitat Wizard 2023). Watercourse 1 (Figure 3) is the sole connection between the Site and Lussier River, but it was dry during the May 2023 assessment and may only have any fish at the confluence with the Lussier River due the ephemeral nature of the watercourse.

4.2: Wildlife and Wildlife Habitat

The area surrounding the bulk sample site provides suitable habitat for variety of wildlife species:

- Mountain sheep and goats
- Shira's moose;
- Rocky Mountain elk;
- Mule and white tail deer;
- Black and grizzly bears;
- Song birds; and
- Raptors.

4.2.1 Mountain Sheep and Mountain Goats

The higher elevations surrounding the Site provide suitable habitat for bighorn sheep (Ovis canadensis) and mountain goats (Oreamnos americanus). Bighorn sheep are classified as a species of special concern on the provincial blue-list, while mountain goats exist in healthy numbers throughout the region and are not listed federally or provincially. In 2019, the estimated population for Bighorn sheep in Population Management Unit 7 Whiteswan-Sharktooth was 249, with a historical range of 133-312 (BC FLNR 2021).

4.2.2 Shira's Moose

Shira's moose (*Alces alces*) exist around the Site. Population estimates for the Kootenay region are estimated between 4,000-6,000 with a stable population trend. They are provincially yellow-listed as

species of least risk of concern (BC, 2022). The Site provides very low summer habitat potential and no winter habitat potential for the Shira's moose. Therefore, the likelihood that moose will be present onsite is very low.

4.2.3 Elk

Rocky Mountain elk (*Cervus elaphus*) exist around the Site. Population estimates for the Kootenay region are estimated between 10,000-20,000 with a declining to stable population trend (BC, 2022). They are provincially yellow-listed as species of least risk of concern. The Site provides moderate summer habitat potential and very low winter habitat potential for elk.

4.2.4 Deer

Mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) exist around the Site. Population estimates for the Kootenay region are estimated between 10,000-20,000 and 30,000-60,000, respectively, with stable to increasing population trends (BC, 2022). They are provincially yellow-listed as species of least risk of concern. The Site offers moderate summer habitat potential but lacks winter habitat potential for mule deer. Additionally, it has low summer habitat potential and no winter habitat potential for white-tailed deer. However, during the site assessment conducted in May 2023, a herd of five white-tailed deer were observed, indicating their presence in the area. Figure 4 (left) depicts one member of the herd. Furthermore, a distinct wildlife trail (Figure 4, right), likely formed by frequent animal crossing of Pit 2, was also observed.

Figure 4: White tail deer encountered at Pit 2 (left); wildlife trail in Pit 2 (right) during assessment in May 2023.

4.2.5 Bears

Both black bears (*Ursus americanus*) and grizzly bears (*Ursus arctos horribilis*) can be found on and around the Site. In this area both species hibernate during the winter months.

4.2.5.1 Black Bears

Black bears usually live in mountainous forests and bush lands. They are omnivorous, eating a wide variety of plants and animals such as berries, nuts, tubers, insects and their larvae, small mammals, eggs, honey, carrion, fish, and human garbage when available. Black bears emerge from their den between March and April depending upon regional weather patterns and the spring thaw. Cubs are usually born in late January or February and emerge in April or May. The summer months are usually

spent foraging for food. In the fall, black bears seek out a denning site in an area that will provide shelter from the winter elements (overturned trees, hollow trees, or constructed caves). Denning usually occurs in late October or November.

4.2.5.2 Grizzly Bears

The grizzly bear prefers mountainous areas, floodplains, skunk cabbage swamps, and the lower slopes of coastal valleys. Grizzly bears are omnivores and feed on a variety of grasses including horsetail, peavine, and hedysarum roots. In the summer months, their forage includes red elderberry, currents, salmonberry, red-osier dogwood, and devil's club. These plants are supplemented with carrion, fish, small and large mammals, and any carcasses left by other predators. In the fall months, the grizzly eats salmon berries, wild strawberries, wild raspberries, blue berries, huckleberries, and buffalo berries.

4.2.6 Caribou

Caribou (*Rangifer tarandus*) are found within the Kootenays; However, caribou do not use the Site or the surrounding areas (BC, 2021).

4.2.7 Birds

The Kootenay Region is home to permanent resident, long-distant migrant and short-distant migrant bird species. The least-risk timing window for all bird species occurs outside of the breeding season which varies for songbirds and raptors.

4.3: Ungulate Winter Range (UWR)

The Site is located within a portion of the Ungulate Winter Range (UWR) U-4-008 Invermere, designated on 2005/02/17, known for its wildlife population including White-tailed Deer, Mule Deer, Moose, Elk, Bighorn Sheep, and Mountain Goat. Figure 5 shows a visual representation of the UWR boundaries in the vicinity of the Site.

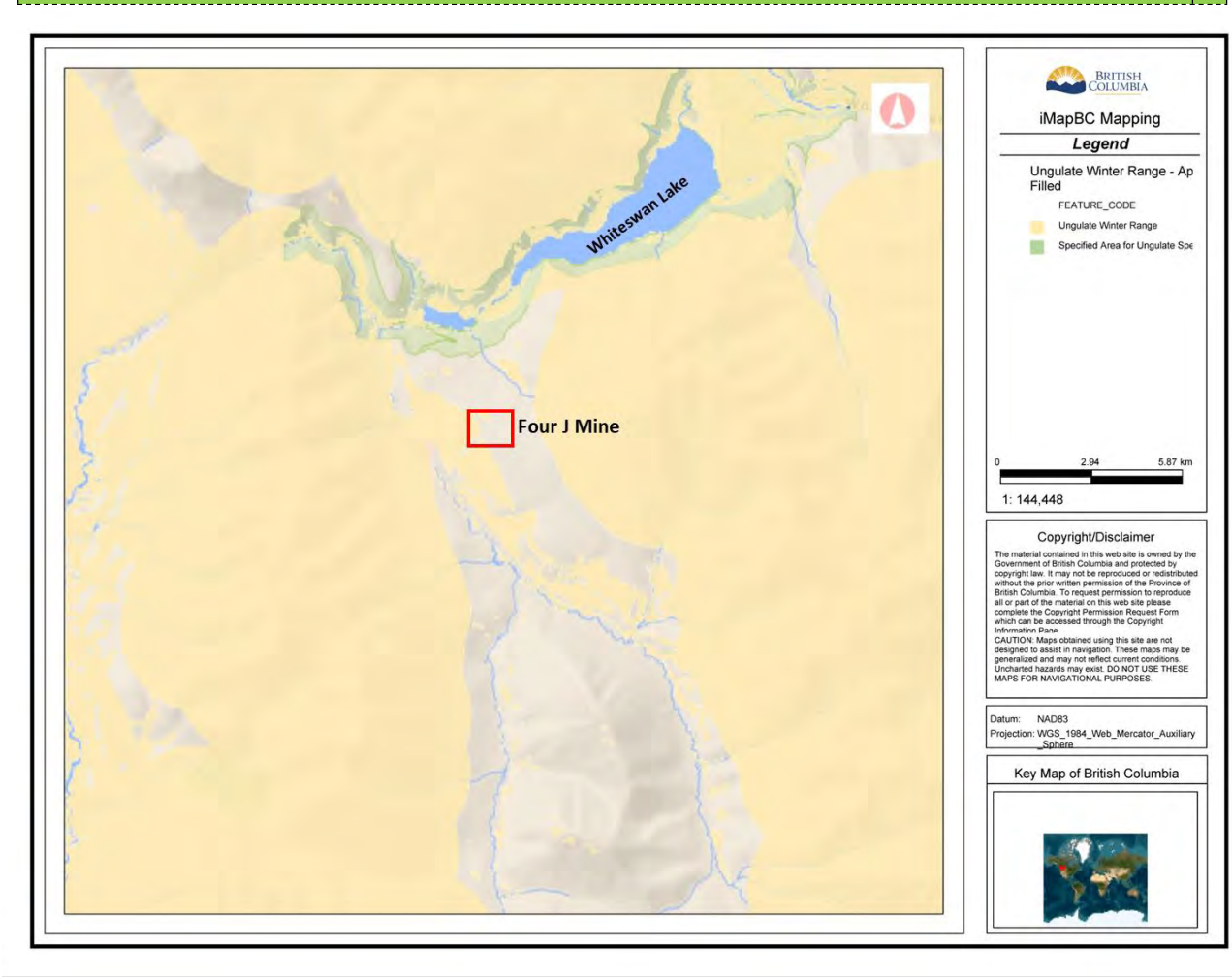


Figure 5: Map outlining the Ungulate Winter Range around the Site.

4.4: Provincially and Federally Listed Species

The Conservation Data Center of BC indicates no endangered species within 4 km of the proposed mine (CDC, 2023). Presently, the Alberta population of westslope cutthroat trout is classified as threatened and the B.C. population is classified as special concern by the Committee on the Status of Wildlife in Canada (COSEWIC, 2022). Bull trout (interior lineage) is currently listed as special concern by COSEWIC.

4.5: Environmental Timing Windows

The BC Ministry of Environment (MoE) has assigned timing window designations for different species groups to reduce the impact on their breeding and development. Timing windows are divided into critical, cautionary and low risk categories. Any development during cautionary and critical timing windows should be avoided and instead work should ideally take place during low-risk timing windows.

4.5.1: Least Risk Window for Bighorn Sheep and Mountain Goats

The least-risk timing window for bighorn sheep and mountain goats is approximately between July 16 and November 14, when lambing and rutting periods have finished.

4.5.2: Least Risk Window for Moose Elk, Mule Deer and White- tailed Deer

The least-risk timing window for all moose, deer, and elk is approximately from July 16 to January 14.

4.5.3: Least Risk Breeding Bird Window

The Project will not involve vegetation removal and therefore the works have low potential to affect nesting birds. The Least Risk Bird Nesting Window for this area is the period of August 15 to April 15 for songbirds and between October 1 and March 31 for raptors.

The intent of this window is to reduce potential risk of contravention to the Migratory Bird Convention Act. If clearing and/or grabbing operations are required during the nesting, an Appropriately Qualified Professional (AQP) should conduct an intensive survey of the area(s) where vegetation is to be removed and follow the bird nest protocol found in Section 5.7. In the event any active nests are identified, the work will be halted in the area and the AQP will develop and implement a site-specific nest management plan.

In accordance with Section 34 of the BC Wildlife Act, nests for raptors (osprey, eagle, peregrine falcon, gyrfalcon, heron, or burrowing owl) are protected year-round, whether the nest is occupied or not. In the event a protected nest is found, the work will be halted and the AQP will develop and implement a site-specific nest management plan. A search of the Wildlife Tree Atlas (https://cmnmaps.ca/WITS_gomap/) showed no wildlife trees in the vicinity of the project site.

5.0: PROJECT MITIGATION MEASURES AND ENVIRONMENTAL SPECIFICATIONS

The potential environmental impacts that may result from Project activities can be avoided or minimized through implementation of environmental standards, guidelines, Best Management Practices (BMPs), and site-specific mitigation measures. The following sections provide mitigation measures and standard best practices relevant to Project work which will be implemented during the works to mitigate the risk to natural resources including aquatic and terrestrial habitat values. These measures will also ensure the works are compliant with all applicable legislation, the requirements of the permits for the Project and this EMP.

The following BMPs and guidelines are applicable to this Project. The Project team has the responsibility to be familiar with these BMPs.

- Land Development Guidelines for the Protection of Aquatic Habitat
  - http://dfo-mpo.gc.ca/Library/16535.pdf
- A User's Guide for Working In and Around Water
  - http://www2.gov.bc.ca/assets/gov/famring-natural-resources-and-industry/natural-resource-use/land-water-use/crown-

land/working_around_water.pdf

- Develop With Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia (replaces the 2012 version of Develop With Care)
- Best Practices for Managing Invasive Plants on Roadsides
  - Weeds_Roads_BMP_Guide-2019-web.pdf (bcinvasives.ca)
- A Field Guide to Fuel Handling, Transportation and Storage. BC Ministry of Water, Land and Air Protection, 2002
- Working Water Quality Guidelines for British Columbia (2015). BC Ministry of Environment, 2015 Edition;
- Manual of Control of Erosion and Shallow Slope Movement, Vancouver Island Highway Project. MoT, August 22, 1997;
- BC Archaeological Resource Management Handbook. BC Ministry of Small Business, Tourism and Culture, Archaeology Branch British Columbia Archaeological Resource Management Handbook, February 1998;
- Migratory Birds Policy and Regulations: Incidental Take - Avoidance Guidelines, General Avoidance Information. Environment Canada, online resource;
- Best Management Practices for Raptor Conservation during Urban and Rural Land Development in British Columbia. MOE, 2013;
- Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia. BC Ministry of Environment, January 2014; and
- British Columbia Hazardous Material Response Plan. MOE 2007.
- Health Safety and Reclamation Code. Ministry of Energy, Mines and Petroleum Resources Mining and Minerals Division Victoria, British Columbia. 2008

This EMP includes standards from the documents listed above.

5.1: Environmental Monitoring and Reporting

A qualified environmental monitor (EM) for this Project will be provided by NPE to conduct environmental monitoring and oversee the implementation of the EMP. When the EM is not available onsite, the Project engineer or Mine Manager will act as the EM in his stead. The primary responsibility of the EM is to ensure that the environmental protection objectives and requirements of all applicable approvals/permits are met and the requirements of this EMP and other applicable conditions implemented. The EM has the authority to modify and/or halt any construction activity at any time if deemed necessary for the protection of the environment.

Responsibilities of the EM include, but may not limited to:

- Communicate the requirements of the EMP to Project team members during pre-construction and tailgate meetings and promote BMPs during the Project,
- Be available throughout the duration of the work to represent the Contractor in all matters related to the protection of the environment,

- Review erosion and sediment control features during site visits to ensure they are installed properly and functioning as intended,
- Review the Contractor's work procedures to ensure functionality and compliance with the EMP and applicable regulations, standards, and BMPs,
- Attend site meetings, as required, and provide advice in preparing for work activities in a manner that mitigates adverse effects,
- Measure/assess key environmental indicators (e.g. turbidity) during routine monitoring to determine if work being conducted is in accordance with the EMP.
- Inspect hazardous material containment, storage, transportation, and disposal to ensure compliance with applicable legislation and regulation,
- Assist in incident or non-compliance reporting,
- Liaise directly with Project members and provide technical advice to resolve situations that may impact the environment as they arise,
- Maintain complete records of activities related to the implementation of the EMP. This includes any measurements taken, photographs, and incident reports.

5.2: Air Quality and Dust Control

The proponent is taking initiatives to reduce greenhouse gas emissions from the Project and has identified reduced idling of construction vehicles and equipment as a reduction strategy. Idling of Contractor and Sub-Contractor off-road equipment will be minimized and are not to exceed the following:

- Motor Vehicles and light diesel Trucks – 1 minute,
- Heavy duty vehicles – 5 minutes,
- Diesel Vehicles involved in construction site passenger transportation – 10 minutes; and
- Construction equipment – exempt when employed at the Site for work intended.

Idling for more than the above times is permitted only under the following circumstances:

- When the vehicle or equipment is forced to remain motionless because of other traffic conditions or mechanical difficulties over which the operator has no control,
- To bring the vehicle or equipment to the manufacturers recommended operating temperature,
- When the outdoor temperature is below 0°C or above +30°C and the operator or passengers are inside the vehicle, and there are no auxiliary power sources available to provide temperature control,
- When it is necessary to operate auxiliary equipment that is located in or on the vehicle or equipment to accomplish the intended use of the vehicle or equipment (for example, cranes and cement mixers),
- When the vehicle is detaching or exchanging a trailer,

- When the vehicle or equipment is being repaired or engaged in repairing another vehicle, if idling is necessary for such repair,
- When the vehicle or equipment is queued for inspection, if idling is necessary for such inspection,
- For designated emergency vehicles or any vehicle or equipment assisting in police, fire or ambulance services; and/or
- When defrosting or defogging windows. Idling will end when fog, frost, or ice conditions have been eliminated.

The following BMPs are recommended to avoid or minimize impacts to air quality:

- Dust emissions will be controlled at the source, where possible, to contain or limit the release of dust particles to the air.
- All equipment, vehicles, and stationary emission sources will be well-maintained and used at optimal loads to minimize emissions.
- Equipment and vehicles will be turned off when not in active use.
- Combustion engines will be located away from sensitive receptors such as fresh air intakes, air conditioners, and windows,
- A staging zone for trucks that are waiting to load or unload material in the Contract area will be established away from sensitive receptors.
- Vehicles or equipment producing excessive exhaust will be repaired or replaced prior to being used on the Project.
- Stationary emission sources (e.g., portable diesel generators, compressors, etc.) will be used only as necessary and turned off when not in use.
- Dust generating activities will be minimized as much as possible, especially during windy periods.
- Water application must be performed in such a way that does not generate sediment-laden water that may be transported to ditches or catch basins that lead to fish habitat.
- Regular sweeping is required to control mud and dirt tracking onto public roads, utilizing wet broom cleaning during dry weather conditions.
- No burning of oils, rubber, tires and any other material will take place at the Site.
- Stabilize exposed soils with growing medium, compost seed and plants, as soon as possible.

5.3: Noise and Vibration

The following BMPs are recommended to avoid or minimize potential Project effects resulting from noise:

- Explosives for blasting in or adjacent to any fish habitat should be used as outlined in the Guidelines for the Use of Explosives in Canadian Fisheries Waters, prepared by the Department of Fisheries and Oceans (DFO, 1995). The Explosives and Construction

Permits Management Manual (ECPMM) defines setback distances from the center of detonation of a confined explosive to fish habitat to achieve the 100 kPa guideline criteria.

- To minimize the risk of egg or nestling abandonment among raptors and birds, it is advised to maintain a 1,000-meter buffer between active nest sites and blasting sites from January 30 to August 15 (BC Ministry of Water 2002).
- All equipment will be properly maintained to limit noise emission and fitted with functioning exhaust and muffler systems. Machinery covers and equipment panels will be well fitted and remain in place to muffle noise. Bolts and fasteners will be tight to avoid rattling.
- Engines will be turned off when not in use or reduced to limited idle (or as appropriate to reduce air emissions).

5.4: Machinery and Equipment

The following BMPs are recommended to avoid or minimize potential environmental impacts from machinery and equipment:

- Equipment and machinery will be in good operating condition and maintained free of leaks, excess oil and grease, invasive species, and noxious weeds. Equipment will be inspected daily for leaks or spills.
- Where possible, any hydraulic machinery used in water should use environmentally friendly hydraulic fluids (i.e., non-toxic to aquatic life, and bio- degradable).
- Equipment will be operated at optimum rated loads and be turned off when not in use to minimize exhaust and noise emissions. Equipment producing excessive exhaust or noise will be repaired or replaced.
- Refueling of equipment will occur on land at least 30 m from the water.
- Refueling of machinery will follow the Refueling Management Plan in Section 7.
- Refueling areas will have spill containment kits immediately accessible and personnel will be knowledgeable in the use of these kits.

5.5: Fish and Fish Habitat Protection Plan

5.6.1 Potential Environmental Impacts

Excavation, hammering and blasting works have the potential to impact fish and fish habitat due to:

- Destabilization of slopes and liberation of sediments, which could result in high turbidity and sedimentation;
- Introduction of hazardous and/or foreign materials;
- Loss of riparian habitat providing food and nutrients to the channel; and
- Direct mortality of fish.

5.6.2 Environmental Expectations

- Clearing works are carried out during favorable weather conditions;
- No trees or foreign materials are introduced into surrounding waterbodies;
- Approved disturbance areas are maintained;
- Erosion and sediment controls are maintained and functioning as intended;
- All refueling is carried out on level surfaces in a controlled area away from any other open water source, with the aid of a drip tray and absorbent pads;
- Jerry cans and other hazardous materials are stored in appropriately designed and designated locations on a level surface, and have secondary containment;
- All machines are maintained in a leak-free state and free of excess oil and grease; and
- Spill kits are readily available on site and properly equipped with materials appropriate for containing and cleaning up spills on soil and in water.

5.6.3 Mitigation Measures

- Ensure equipment is properly maintained in leak-free condition and free of excess oil and grease prior to works;
- Conduct all refueling, maintenance, and storage of hazardous materials on level surfaces with appropriate design and function away from any open water source;
- Maintain disturbance free areas;
- Install and maintain sediment fencing if and where applicable;
- Cover any exposed soils with mulch, erosion control blankets, or other materials as directed by the EMP;
- Ensure a spill kit is on site, stocked, and readily available in the event of a spill, and that crews are trained in its use. Spill kit contents must contain materials (i.e. aquatic boom and spill pads) appropriate for containing and cleaning up spills to water.

5.6 Wildlife Protection Plan

5.7.1 Potential Environmental Impacts

Wildlife has the potential to be impacted by Project activities due to:

- Removal or disturbance of vegetation serving as key wildlife habitat (i.e. nesting sites, roosting/denning sites);
- Alterations to behavioral patterns of wildlife due to increased noise or human presence;
- Alterations to habitats in a manner that attracts or repels certain wildlife species;
- Habituation of wildlife due to feeding of wildlife, whether passively through improper care of wildlife attractants or actively; and

- Direct mortality of wildlife.

5.7.2 Environmental Expectations

- Works are completed least-risk timing window (see Section 4.5) where feasible. A breeding bird survey is conducted prior to clearing activity within the breeding bird window (see Section 5.8);
- Buffers are established and respected for any active breeding bird zone(s);
- Wildlife attractants are stored in a sealed container and in an appropriate location, and no wildlife are observed trying to access materials on site;
- Posted speed limits are established and adhered to in order to mitigate the potential for wildlife collisions;
- Wildlife observations are recorded and any negative interactions with wildlife are reported to the Mine Manager; and
- No hay is used on site.

5.7.3 Mitigation Measures

- Conduct works prior to or as early into the breeding bird window of March 25 to August 15 as feasible;
- Establish and clearly mark buffers around active breeding bird sites under the guidance of a Qualified Environmental Professional (QEP). Buffers will remain in place until the nest is determined to be no longer active by the QEP. Buffers for nests that are protected year-round (i.e., raptors and herons) will not be removed, even when the nest is no longer active;
- Store all wildlife attractants in sealed containers and in an appropriate location on or off site on a daily basis;
- Establish and post speed limits to and from the work site in order to mitigate the potential for wildlife collisions; and
- Report any negative interactions with wildlife to the Mine Manager.

5.7: Breeding Bird Nest Survey Protocol

1. Survey Requirements for Areas to be Cleared and Grubbed.

Both vegetated habitats and non-vegetated habitats (i.e., rock outcrops) have the potential to support nesting birds, although bird abundance is generally greater in heavily vegetated areas. In addition, many man-made structures such as retention ponds, bridges, utility towers, and larger culverts have the potential for nesting bird activity.

2. Survey Timing

Bird nest surveys should be conducted during the appropriate seasonal timing window (see Section 4.5.3).

Bird nest surveys should be carried out within first 3 to 4 hours after sunrise. Surveys should not be undertaken during periods of inclement weather (e.g., heavy rain, fog or snow) or under windy conditions.

3. Team Member Qualifications

All nest surveys must be conducted by, or under the direction of an AQP who will be responsible for sign-off on all surveys. All survey team members must have sufficient experience with bird identification and biology.

4. Survey Effort

Survey duration must be minimum of 1 hr/ha and will be longer if searches are occurring in complex habitats. The AQP will be responsible for determining the effort required within these parameters.

Survey team members will walk transects through the area to be cleared to search for bird nests and nesting activity. Where appropriate, surveyors should also use additional survey techniques to increase the likelihood of finding nests such as behavioral cues and bird song identification.

Surveys should be conducted both within the clearing and grubbing limits and, where feasible and appropriate, up to 30 meters beyond the limits.

5. Determining Nest Activity

Each nest observed during the survey must be mapped and designated as either **active** or **inactive**. If the contents of the nest are easily observed from a distance, indicators such as new nesting material and/or eggs can be used to determine activity. Other means of determining nest activity can include observations of adult birds exhibiting nesting or territorial behaviour. To avoid unnecessary disturbance, a nest should be observed from a distance if it is considered active.

6. Active Nest Buffers

A No Work Zone buffer must be applied to any active nests identified. The AQP is responsible for developing and implementing a nest management plan including an appropriate buffer width, buffer marking, and mitigation measures for the duration of the nest occupancy. Buffer zones will be determined based on factors such as surrounding vegetative cover, topography, species sensitivity to disturbance, existing disturbance in the area, or proposed construction activities in the vicinity of the nest.

7. Survey Conditions

a. New Surveys

Vegetation clearing must begin within 48 hours of the end of the survey. Clearing and grubbing can be undertaken for up to 14 days after the end of the survey cycle, if the AQP determines that ongoing construction activities will preclude additional nesting activity.

b. Survey Extensions

If vegetation clearing does not begin within 48 hours of the end of the survey or cannot be

completed within the 14-day clearing window, then an additional survey will be required.

c. Reassessment of Active Nests

A minimum of 2 days after a nest is designated as active, the nest can be reassessed. Reassessment will consist of a minimum 1-hour nest observation period. Potential disturbance of birds must be minimized during the observation period.

If observations have been conducted and no bird presence and/or breeding activity is noted, nest status can change from active to inactive. As a final verification of inactivity, the nest will be approached and inspected.

If at any time the nest is found to still be active, the buffer will remain until the nest is inactive.

5.8: Invasive Plant Management Plan

No invasive species were noted onsite, and none have been documented in the area.

The following BMPs for Managing Invasive Plants on Roadsides from MOTI and the Invasive Species Council of BC (ISC) (MOTI 2019) will be implemented throughout the duration of the works should any invasive species be noted onsite.

- Identify invasive plants within the work area. The EM should consult the invasive plant inventory and treatment maps prior to construction commencement, as well as conduct a pre-work survey for invasives within any areas to be cleared or grubbed.
- Record and report any invasive plants using the Report a Weed app or online database, call regional invasive species organization, or call the Invasive Species Council of BC.
- Avoid parking, turning around, or staging equipment in invasive plant infested areas.
- Inspect and clean vehicles before entering a weed-free area and before leaving an infested area.
- Minimize roadside disturbance and retain desirable vegetation where possible.
- Where possible, begin mowing or brushing in an invasive plant-free area and end in infested areas.
- Do not use materials contaminated with invasive plants.
- Restore disturbed sites and remove unsuitable waste material.
- Re-seed disturbed areas with grass mixtures that are free of weeds, locally adapted, quick to establish, and approved by the Ministry.

5.9: Waste Management Plan

- A small amount of general refuse and non-hazardous construction waste may be generated on the Site.
- Food and food waste will be stored in animal proof containers or within trailers, so it is not accessible by animals.
- The Contractor will provide designated waste bins for the disposal of non-hazardous solid

wastes and separate marked bins for hazardous waste.

- All construction waste will be separated from domestic food waste and removed from the Site once the receiving bins are full.
- All solid waste will be either recycled or disposed of at approved waste disposal facilities.
- Littering is prohibited and monitoring for this activity will be on-going throughout the Project.
- There will be no disposal of solid wastes into sumps, ditches, streams, culverts, road edges, or private property.

5.10 : Hazardous Materials Management Plan

Management of hazardous materials will be addressed via the following measures:

- The Contractor has a spill response plan which the construction crew will become familiar with and will be posted near the designated refueling area (Section 6.0),
- Ensure all equipment and machinery are in good working order, clean, and free of leaks or excess oil/grease,
- Refueling of land-based equipment must be completed by a mobile refueling service to avoid storage of bulk fuel onsite,
- An operator must remain by the fuel nozzle during all refueling to ensure no spills occur and to be able to shut of the source if a spill does occur,
- Fueling or servicing of land-based equipment will not be completed within 30m of any watercourse or surface water feature where practical,
- Fuels, oil, grease, and other substances deleterious to aquatic life will be prevented from entering any watercourse or storm sewer,
- All stationary gas- or diesel-powered equipment and liquid storage containers must be stored in a secondary containment tray with 125% capacity of all the containers and situated to avoid potential damage to it or containment,
- The Contractor must provide fully stocked emergency spill kits and barrels which will always be present onsite during construction,
- Any spills of substances toxic to aquatic life of reportable quantities (see Appendix A) will be immediately reported to the Emergency Management BC 24-hour phoneline at 1-800-663-3456,
- Fuel and hydrocarbon-based lubricants must be stored in designated storage areas, such as a lockable metal cabinet (or an alternative approved by the EM), a minimum of 30 m in from streams, ditches, and catch basins,
- All hazardous material must be properly stored, contained, and labelled in accordance with relevant acts and regulations at least 30 m from any drainage,
- If any hazardous materials are utilized at the Site, the labeling must be in accordance with

the Transportation of Dangerous Goods (TDG) regulations as well as the manufacturers SDS,

- It is not anticipated that the works will uncover contaminated soils,
- In the event of a hydrocarbon spill, the absorbent materials or soils saturated with oil or gasoline are classified as Hazardous Waste, and
- The BC Hazardous waste Regulations and the federal TDG must be adhered to with respect to storage, transportation, and disposal of hazardous wastes.
- Ammonium nitrate based explosives, specifically ANFO, must not be used or stored in or near water due to the production of toxic by-products (DFO 1995).
- Best management practices, protocols and procedures shall be implemented to ensure the optimal use and minimal loss of ANFO, this includes but may not be limited to the optimization explosive storage (preventing contact with water/moisture), practices to prevent water contacting explosive in blast holes (i.e., blast hole liners, bench dewatering), blast optimization simulations, spill response/reporting, incident management/investigation, blast monitoring, dealing with misfires and handling and disposal of waste explosive products (BC Ministry of Environment 2018).

6.0: EROSION AND SEDIMENT CONTROL PLAN

6.1: Erosion and Sediment Control Measures

Soil disturbed by the excavation could be prone to wind and water erosion. Since the excavation area is located in the vicinity of some drainages that are connected to Lussier River, erosion and sediment control measures are very important for protecting its water and fish habitat qualities. The following erosion control practices will be implemented:

- During excavation, all topsoil will be salvaged and used to create a berm adjacent to the trench beyond the up-gradient of the excavation to prevent the flow of non-contact run off storm water into the trench in the event of rainfall.
- Project area where mineral soils are exposed will be re-countered and re-seeded/planted with a suitable cover crop to stabilize the soil and facilitate a return to its natural vegetated state.
- Disturbed slopes, if any, will be re-vegetated with native and approved agronomic species where possible to stabilize the Site and prevent the invasion of weed species. It is recommended that seed mixes and seedlings be provided by a local native plant nursery.
- Unnecessary removal or trimming of woody vegetation will be avoided to increase ground cover and forage, minimize disruption to desirable plant species, maintain natural diversity and decrease the likelihood of exotics outcompeting native vegetation.
- Use of pesticides/herbicides and other chemicals that may impair ecosystem function will be

avoided.

- Erosion control materials such as sediment fencing, stakes, and erosion control matting will be stockpiled on-site in the event that additional erosion and sediment control measures are required.

6.2: Proposed Erosion and Sediment Control Structure Locations

A site-specific Erosion and Sediment Control Plan showing structure locations can be found in Appendix B. This includes using existing swales, drainage ditches and settling ponds.

.

6.3: Surface Water Monitoring

Watercourse 1 is ephemeral, but does connect to settling pond 2 and discharge into the Lussier River; Therefore, turbidity should be sampled in the watercourse just downstream of the culvert when it is flowing (See Appendix B). Turbidity sampling should follow BC Water Quality Guidelines (Table 2).

Table 2: *Water Quality Criteria for Aquatic Life for Turbidity and Total Suspended Solids**

Turbidity (NTU)	Total Suspended Sediments
Change from background of 8 NTU for a duration of 24 hours during clear flows	Change from background of 25 mg/L for a duration of 24 hours during clear flows
Change from background of 2 NTU for a duration of 30 days during clear flows	Change from background of 5 mg/L for a duration of 30 days during clear flows
Change from background of 5 NTU when background is 8 – 50 NTU	Change from background of 10 mg/L when background is 25 – 100 mg/L
Change from background of 10% NTU when background is >50 NTU	Change from background of 10% NTU when background is >100 mg/L

*British Columbia Approved Water Quality Guidelines Aquatic Life, Wildlife & Agriculture, August 2019

7.0: SPILL PREVENTION AND EMERGENCY RESPONSE PLAN

7.1: Spill Preparedness

The Spill Response Plan should be reviewed with all construction staff in the pre- construction meeting and staff should be trained to respond to spills. The Plan should be updated when required to include any materials of a deleterious nature that could be spilled not previously identified. The Spill Response Plan will be updated with the following Project-specific information for the staff to familiarize themselves with:

- Identification of all hazardous materials present on site as well as waste storage and secondary containment. Understanding of reportable spill quantities and reporting requirements. Material Safety Data Sheets (MSDS) will be kept on site and made available to all construction team members.
- Identification of the locations of spill response equipment and materials for containment and clean-up as well as instruction on how to use them effectively.
- As work will be conducted in and around water, spill barrels will be stored on site at key locations.

7.2: Environmental Spill Response

The purpose of the Spill Prevention and Emergency Response Plan is to identify potential risks at or in proximity to the Site, provide procedures to facilitate rapid deployment of resources in the event of a spill to minimize the impact and risk to the environment, the public and personnel on site. The Contractor will be familiar with the regulatory requirements and be adequately prepared with personnel and equipment to respond within the shortest possible time.

The Contractor is to implement the following mitigation measures to avoid spills and provide adequate response in the event of a spill:

- The Contractor will maintain equipment and machinery in good working condition, and free of leaks or excess oil and grease, to prevent contamination to the environment. Equipment that contains oils and grease (e.g., excavators, cranes, generators) and requires periodic maintenance will be serviced by a mechanic with necessary supplies to contain potentially deleterious substances. All machinery should be serviced off-site, however, if onsite servicing is required it should be done at least 30 m from any drainage.
- Each machine working on-site will have a spill kit containing, as a minimum: 20 oil absorbent sheets, two 1.2 m absorbent socks, heavy duty disposal bags, a round-nose shovel or equivalent, and suitable Personal Protective Equipment (PPE).
- A spill barrel will be kept within the work site as well as at all re-fueling sites. It will contain, as a minimum: 100 oil absorbent sheets, 100 universal sorbent pads, 25 kg of dry oil sorbent, four 1.2 m oil linkable absorbent socks; four 1.2 m universal linkable absorbent socks, four 3 m sorbent linkable floating booms, 1 roll of 25 m x 4 m poly sheeting, ten disposable bags, and PPE.
- Used spill response materials will be bagged in heavy-duty polyethylene bags, labelled, and disposed of appropriately.
- Spill kits will be inspected regularly by the Contractor and EM and will be refilled immediately when spill response materials are used.
- Adhere to the mitigation measures outlined in the Fuel Management Plan (Section 8.0).
- The Spill Prevention and Emergency Response Plan will be visibly posted at the Site.
- The Contractor will designate a staff member as the Spill Coordinator. This staff member will have knowledge of spill mitigation, containment, and reporting procedures.
- All personnel are to be made aware of the content of the Spill Prevention and

Emergency Response Plan, the location of response materials, response procedures and emergency contact names and numbers. Spill contingency procedures will be posted in visible locations within the Contractor's work site offices and trailers. Spill response equipment and supplies are to be kept in accessible and visible locations which are to be made known to personnel during Site safety orientations.

- Sorbent material will be on hand at the work areas as a means of containing and soaking up any spilled substance before it reaches the groundwater table or open water.
- Empty drums/pails are to be kept on-site for storage of waste oil, solvents, used sorbents, contaminated soil, etc. Drums/pails will have tight fitting lids and be protected from the elements by tarping. They are to be immediately labelled for identification of contents.

7.3: Environmental Incident Reporting

Deleterious substances are not permitted to be released into the environment. In the event of a spill, regardless of size, the Contractor will:

- Take immediate action to minimize environmental consequences and manage resolution of the incident.
- Determine the type of material and estimated volume spilled.
- Gather information to complete an initial Environmental Incident Reporting (EIR). The EIR will include a description of the time and location of the incident, a description of what occurred and the cause, the product name and substance in the event of the spill, an estimate of the volume of spilled product, and a description of containment and/or mitigation measures employed.
- The EM and/or the Contractor is responsible for making all incident reports to the Environmental Agencies for contraventions under the Fisheries Act, Water Sustainability Act, Environmental Management Act, and any other relevant acts.
- A copy of the Environmental Incident Report form can be found in Appendix C.

7.4: Emergency Spill Response Plan

- Spills may be reportable to Emergency Management BC (EMBC) depending on the substance and quantity (volume/weight) of the spill. Spills reportable to EMBC include spills of flammable liquids, hydrocarbons and oils >100 L and spills of any volume into water.
- If any petroleum, hydrocarbon or other product (no matter how small) is spilled, the contaminated soil/gravels will be collected and removed for appropriate disposal. In the event of a spill, the immediate response will be as follows:

\

Ensure Safety:

- Ensure personal, public, electrical and environmental safety;

- Wear appropriate personal protective equipment;
- Never rush in; always determine the product spilled before taking action;
- Warn people in the immediate vicinity;
- Be aware of wind direction; and
- Ensure no ignition sources are present if spill is a flammable material.

Stop the Flow (when possible):

- Act quickly to reduce the risk of environmental impacts;
- Utilize all available resources to contain the spill (i.e., native soil, spill kits, excavators or any material, equipment or tool that can safely contribute to containment efforts);
- Close valves, shut off pumps, or plug holes and leaks; and
- Stop the flow or the spill at its source.

Secure the Area:

- Limit access to the spill area; and
- Prevent unauthorized entry onto the site by securing and marking the area to limit exposure to pedestrians, including workers, and vehicle/boat traffic.

Contain the Spill:

- Prevent spilled material from entering drainage structures;
- Use spill-absorbent material to contain the spill; or if that is not possible and the spill volume exceeds the capacity of the spill kit, use native soil, sandbags, straw bales, etc.;
- If necessary, use a dyke or any other method to prevent any discharge off-site;
- A temporary sump may be employed to contain or direct spilled liquids if groundwater is not present;
- Make every effort to minimize contamination; and
- Take soil or water samples for laboratory testing.

Notify/Report:

- Any accidental or unauthorized release or discharge of a hydrocarbon (petroleum base) product (diesel, gas, hydraulic oils, drill additives, glycol etc.) of any volume to either land or water will be reported to the EM immediately;
- An employee discovering a spill shall initially take any safe, reasonable action to stop or minimize the volume of material spilled and to contain the spilled material. At the earliest possible opportunity, the employee must notify their Supervisor and the EM of the incident;
- If a reportable spill has occurred the Contractor will notify the EM immediately, and

Emergency Management BC will be called to report the spill at 1-800-663-3456 (24 Hour) and Fisheries and Oceans Canada “Observe, Record, Report” (ORR) at 1-800-465-4336.

- An EIR will be generated and include the following information:
- the reporting person’s name and telephone number;
- name and number of persons who caused the spill;
- location and time of the spill;
- type and quantity of the substance spilled;
- the cause and effect of the spill;
- details of action taken or proposed to comply with section 3 of the Spill Reporting Regulation;
- a description of the spill location and of the area surrounding the spill;
- the details of further action contemplated or required;
- the names of agencies on the scene; and
- the names of other persons or agencies advised concerning the spill.

Clean-Up:

- Technical assistance on clean-up procedures and residue sampling will be available from the EM, as required;
- Remove the impact/debris; decontaminate any equipment or tools used in the cleanup;
- Clean up the affected area, including confirmatory testing on the cleaned area;
- Dispose of waste materials at an approved disposal site; and
- Restore site to environmental regulatory standards.

8.0: FUEL MANAGEMENT PLAN

The fuel management plan provides measures to ensure the receiving environment is adequately protected from construction-related fuels and products on site. Best management practices for land-based operations include:

- Fuel storage tanks/containers will be clearly labeled, and their locations will be made known to all onsite personnel.
- Refueling equipment and tanks will be clean and in good working order. Fuel tanks will be situated within appropriate secondary containment (an impermeable containment facility capable of holding 125% of the storage tank contents). This will be achieved using double-walled storage tanks or sit-in containers constructed out of impermeable material, such as aluminum or plastic.

- All fuels, oils, lubricants, and other petrochemical products will not be stored within 30 m of any waterbody.
- Where practical, equipment will not be fueled within 30 m of a waterbody. If possible, one area will be designated for fuel transfer.
- Refueling will occur on a flat surface to minimize potential off-site runoff. A spill kit should be on-hand at the refueling site.
- Any fuel spilled will be immediately cleaned up and reported to the EM (see Section 7.0).

9.0: HISTORICAL AND ARCHEOLOGICAL REMAINS

There is possibility that artifacts of a historical or cultural significant could be found during the course of the work. In the event any artifacts are noted, the work in the area will cease, the local authority will be informed, and the chance find procedures found in Appendix D will be followed. Work will not recommence until the local authority has given authorization to proceed.

10.0 Wildlife Hazards and Safety Procedures

General Wildlife Safety:

- Make noise while you work.
- Stay alert and be aware of your surroundings.
- Avoid areas that show signs of wildlife use.
- Keep work sites clean and use bear proof containers for garbage storage.
- Never approach a wild animal.
- Never feed wildlife.
- Keep dogs away from an active work site.

10.1: Bears

Given the potential year-round presence of bears, it is essential to maintain constant vigilance and implement necessary precautions in bear-prone areas like this Site. While bears generally exhibit reduced activity during winter, it's important to note that encounters with bears can still happen, even during mining operations. Always remember that bears are inherently dangerous, and their behavior can become unpredictable, especially when food sources are scarce. If a bear is reported or observed in the vicinity of the work area, the following should occur.

- The worker will stop working in the area where the bear has been observed if the worker is not suitably protected from an encounter.
- The worker should retreat to a safe place such as a building or vehicle until the bear has left the area.
- The worker will immediately notify a supervisor and other workers about the bear sighting.
- The bear should be monitored to determine its activities and location relative to the work area.
- Only when the bear is well away from the area and it is reasonably certain that it will not immediately return can the workers resume work.

- Record all information regarding the event and report any bear sighting to the onsite supervisor.
- If the bear stays in the area and appears that it is not going to leave, call the Conservation Officer Service for assistance.
- If at any time the bear is aggressive and threatening, the Conservation Officer Service should be notified.

If a bear is encountered or you are attacked, use the following strategies to reduce the risk of bear attack:

- Try to determine what kind of bear you are dealing with (black bear or grizzly bear).
- If the bear has not detected you, move away from it quietly, back the way you came and leave the area.
- If you can't leave without being noticed, try to move quietly upwind so the bear will pick up your scent.
- If you think the bear has noticed you, start to make noise by talking loudly and slowly wave your arms. It is important to make yourself look as big as possible. Try not to shout, as it may startle the bear.
- If the bear follows, set some piece of equipment down in its path and continue to move slowly away. Don't leave food, except as a last resort.
- If you are carrying bear spray, ensure that it is carried in a holster or attached to a strap that is within easy reach. Also check that the canister has:
    - Minimum weight of 7.9 ounces
    - Minimum spray range of 15 feet
    - Expiry date clearly noted
- First time users should conduct an outdoor test spray. Remember that the test spray reduces the canisters supply. Always spray downwind.
- Bear spray should be used only as a last resort. Bear spray has had up to a 90% deterrence rate from cases where it has been used for both grizzly and black bear encounters.
- If you are dealing with a grizzly bear without bear spray and trees are nearby, you may have to climb a tree, but remember that a Grizzly can charge at a speed of at least 48 km per hour.
- If a grizzly bear charges and you are convinced it intends to attack, this is the time to lie down and play dead. If the bear does attack, do your best to remain in a ball, cover the back of your neck, and try not to struggle or cry out.
- If a black bear attacks, fight it off with anything you have.
- Getting into deep water can be a good defense against most bears.
- Inform your supervisor and the Conservation Officer Service of any serious bear encounters.

10.2: Cougars

Cougars are aggressive, dangerous animals. Whenever a cougar is reported or observed in the vicinity of the work area, the following should occur:

- The worker will stop working in the area where the cougar has been observed if the worker is not suitably protected from an encounter.
- The worker should retreat to a safe place such as a building or vehicle until the cougar has left the area.
- The worker will immediately notify an onsite supervisor and other workers about the cougar sighting.
- Immediately notify the Conservation Officer Service of the cougar sighting.
- The cougar should be monitored to determine its activities and location relative to the work area.
- Only when the cougar is well away from the area and the site supervisor is reasonably certain that it will not immediately return, can the workers resume work.
- Record all information regarding the event and report the cougar sighting to the supervisor.

If you encounter a cougar, use the following strategies to reduce the risk of cougar attack:

- Never approach a cougar. Although cougars will normally avoid a confrontation, all cougars are unpredictable. Cougars feeding on a kill may be dangerous.
- Always give the cougar an avenue of escape.
- Stay calm and talk to the cougar in a confident voice.
- Do not run. Try to back away from the cougar slowly. Sudden movement or flight may trigger an instinctive attack.
- Do not turn your back on the cougar. Face the cougar and remain upright.
- Do all you can to enlarge your profile. Don't crouch down or try to hide. Pick up sticks or branches and wave them about.
- If a cougar behaves aggressively arm yourself with a large stick, throw rocks, and speak loudly and firmly. Convince the cougar that you are a threat and not prey.

If a cougar attacks:

- Fight back. Many people have survived cougar attacks by fighting back with anything including rocks, sticks, bare fists, and fishing poles.
- Inform you supervisor and the Conservation Officer Service of any cougar encounters.

10.3 Moose, Elk, and Deer

Moose, elk, and deer, including the White-tailed deer, belong to the order Artiodactyla. The most significant workplace hazard these animals pose is the risk of collision during vehicle travel, which becomes especially pertinent when considering that White-tailed deer have been encountered on Site.

- Pay attention at all times. While these animals are most active at dawn and dusk, they wander onto roads and highways at all times of day and night.
- Use your headlights, especially your high beams, but do not expect to see moose, elk, or deer easily at night. Moose are dark-colored and tall, so you may not see them until you are very close. (Tip: look higher than you would if you were checking for deer; moose are much taller in real life than they appear in photos.)

- Slow down, especially at dawn and dusk, during winter driving road conditions, and in foggy weather. You are more likely to hit an animal if you cannot stop your vehicle quickly.
- Be especially careful on blind curves. Even on a major highway, you may find a moose, elk, or deer standing in the middle of the road as you round a bend.
- If a moose, elk, or deer is seen on or adjacent to the road, stop your vehicle, turn on the hazard flashers, and blink your headlights. Do not swerve to avoid the moose; these creatures are unpredictable and may move right into your new path. Wait for the animal to move out of the road and give it time to walk well away from the shoulder before commencing with your travel. Drive away slowly in case there are more animals in the area.

If encountered at the work site, moose, elk, and deer will often smell your scent or hear you before you see them and will flee from the area. Wild animals can be unpredictable and all three species of Artiedactylid have been known to charge. Workers should be aware that bedded moose may be encountered during winter construction and should be mindful not to inadvertently startle a bedded moose. When approached, a bedded moose will generally flee from the area. Bedded moose should not be a problem during daylight work hours, however, during periods of cold weather, moose may remain bedded and work plans may need to be adjusted to ensure that a bedded moose is not disturbed by construction activities.

If a moose, elk, or deer is reported in the vicinity of the work area, the following should occur:

- The worker will stop working in the area where a moose has been observed if the worker is not suitably protected from an encounter.
- The worker will immediately notify a supervisor and other workers that a moose, elk, or deer has been sighted in the area.
- The animal's activities should be monitored to determine its location relative to the work area.
- The workers should retreat to a safe place such as a building or vehicle until the animal has left the area.
- If the animal stays in the area and appears that it is not going to leave, call the Conservation Officer Service for assistance.
- If at any time the animal appears to be aggressive and threatening, the Conservation Officer Service should be notified.

These animals may be aggressive if their movement is restricted by deep snow, or they feel cornered. There are documented cases of attack that generally happen in the spring associated with cow(s) and calf(s). Deer attacks in the spring are less likely but may occur if a doe(s) and her offspring are encountered. A cow moose or elk will charge a person if she feels they are threatening her calf(s). During these attacks, the cow will charge the person and may try to kick or stomp on them. Bull moose and elk can also pose a threat to humans especially when they are in rut (fall). A moose will kick with its front and/or back legs. Buck deer pose a threat to humans especially when they are in rut (fall) and may charge. These attacks can mostly be avoided.

Use the following strategies to reduce the risk of moose, elk, and deer attacks:

- Attempt to get behind a large tree or rock or climb up a tree if able.
- If there are no large trees or rocks nearby, run from it, turning a sharp 90 degree corner and hiding behind whatever you can find, keeping an eye in the direction of the moose.

Running may trigger an attack; however, these animals try to avoid turning sharply and therefore will not likely follow.

- If a moose is attacking you and kicking, get down on the ground in the fetal position, covering your head and neck, and stay still. Use pepper spray only when the animal is close enough to be effective.
- Inform your supervisor and the Conservation Officer Service of any serious encounters.

10.4: Coyotes and Foxes

Coyotes and foxes may be encountered while in their den or while they are foraging in the work area. Care should be taken to ensure that dens are not disturbed and if an occupied den is observed, the area should be flagged, and a buffer established to ensure that workers and the animal remain safe.
Coyotes and foxes are wild and unpredictable animals. Outside of BC, these animals should be considered rabid unless tested and shown to be negative, but terrestrial animals are not known to be reservoirs of rabies within the province.

Whenever coyotes or foxes are reported or observed in the work area, the following should occur:

- The worker will stop working in the area where the coyote or fox has been observed if the worker is not suitably protected from an encounter.
- The worker will immediately notify a supervisor and other workers that an animal has been sited.
- The animal's activities should be monitored to determine its location relative to the work area.
- If an animal is within 200m of a work area, the animal should be monitored until the animal has left the area.
- If the animal appears to be threatening in any way, the worker should retreat to a safe place such as a building or vehicle until the animal has left the area.
- If the animal is within 100m of the work area, workers should retreat to a safe place. If the animal stays in the area and appears that it is not going to leave, call the Conservation Officer Service for assistance.
- If at any time the animal appears to be aggressive and threatening, the Conservation Officer Service should be notified.

10.5: Wolves

Wolves are generally not a threat to humans. Wolves are secretive; usually once a wolf has spotted or winded a human it will run away. Problems between humans and wolves can occur when the wolf has become conditioned/comfortable with people as a result of direct or indirect feeding or if a wolf kill (animal carcass) is approached. If a fresh kill is discovered, the worker should be aware that a wolf(s) may be present. It is necessary to vacate the area if a kill is discovered so as not to disturb the wolf population of other predatory animals. Whenever these animals are reported or observed in the work area, the following should occur:

- The worker will stop working in the area where the wolf is observed if the worker is not suitably protected from an encounter.

- The worker will immediately notify a supervisor and other workers that an animal has been sited.
- The animal's activities should be monitored to determine its location relative to the work area.
- If an animal is within 200m of a work area, the animal should be monitored until it has left the area.
- If an animal is within 100m of a work area, workers should retreat to a safe place. If the animal stays in the area and appears that it is not going to leave, call the Conservation Officer Service for assistance.
- If at any time the animal appears to be aggressive and threatening, the Conservation Officer Service should be notified.

If you encounter a wolf, use the following strategies to reduce the risk of wolf attack:

- Do not allow a wolf to approach any closer than 100m.
- Raise your arms and wave them in the air to make yourself look larger.
- Back away slowly; do not turn your back on a wolf.

10.6: Stinging Insects

Stinging insects commonly occur at work sites especially during the summer months. Avoidance and awareness are the keys to not being stung. If stinging insect activity or a hive are encountered in the work area:

- The worker will stop working in the area where the activity or hive has been observed.
- The area will be flagged as a no work area until the nest is removed by a professional.
- Be aware that power tools and activity may provoke the insects and monitor nest activity during work in the surrounding area.
- If you have disturbed a nest or insect, protect your face with your hands and run from the area immediately.

If you are stung:

- Remove the sting, if present, right away since the venom can still be injected for up to a minute after the bee detaches from its sting.
- A normal reaction to a sting is redness or the skin, swelling, severe itching, and a burning or stabbing pain.
- Inform your supervisor and site first aid attendant immediately.
- Apply ice (wrapped in a towel to prevent freezing the skin), anti-itch cream, and/or antihistamine pill to reduce the effects of the sting.

Stinging insects have a sting (or stinger) at the posterior end of their abdomen. This group of insects includes honeybees, bumble bees, wasps, hornets, yellow jackets, harvester ants, and army ants. While each species may have a favorite type of nesting spot, in general, nesting places can be anywhere and include:

- Inside hollow trees (the entrance is usually a very small hole).
- Nests that hang from branches or overhangs such as eaves of a building.

- In shrubs, bushes, hedges, or on tree limbs.
- In rubber tires, crates, boxes, abandoned vehicles, etc.
- Under shrubs, logs, piles of rocks, and other protected sites.
- Inside rodent burrows or other holes in the ground.

Insect repellent (“bug spray”) does not affect these stinging insects. Avoidance and awareness are the keys to not being stung.

Literature cited:

1. BC 2021. "Caribou Herds Population Estimates." Government of British Columbia, 2021. Available at: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/caribou/bc_caribou_herds_population_estimates.pdf

2. BC 2022. "Provincial Ungulate Population Estimates." Government of British Columbia, 2022. Available at: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/ungulates/2022_provincial_ungulate_population_estimates.pdf

3. BC FLNR 2021. "Kootenay Region Bighorn Sheep Management Plan." Government of British Columbia, 2021. Available at: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/sheep/kootenay_bighorn_sheep_management_plan.pdf

4. BC Ministry of Environment. 2018. "Guidance for Developing Nitrogen Management Plans." Available at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/mining-smelt-energy/guidance-documents/guidance_for_developing_nitrogen_management_plans.pdf

5. BC Ministry of Water. 2002. "Best Management Practices for Aggregate Extraction in British Columbia." Available at: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/aggregate.pdf

6. Conservation Data Center (CDC). Accessed April 2023. Available at: https://maps.gov.bc.ca/ess/hm/cdc/

7. COSEWIC (Committee on the Status of Endangered Wildlife in Canada). "Canadian Wildlife Species at Risk." May 2013. Committee on the Status of Endangered Wildlife in Canada. Gatineau, QC.

8. DFO (Department of Fisheries and Oceans). 1995. " Guidelines for the Use of Explosives in Canadian Fisheries Waters." Available at: https://waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/40684246.pdf

9. Foo, B. 2023. "Four J: Five-Year Mine Plan." Unpublished.

10. MOTI (BC Ministry of Transportation and Infrastructure). 2019. "Best Management Practices Guide: Invasive Plant Management on Roadsides." Available at: https://bcinvasives.ca/wp-content/uploads/2021/01/Weeds_Roads_BMP_Guide-2019-web.pdf

11. Wildlife Tree Atlas (Access July 2023) https://cmnmaps.ca/WITS_gomap/

Appendix A –Reportable Spills

Prescribed substances and quantities for immediate spill reporting[1]

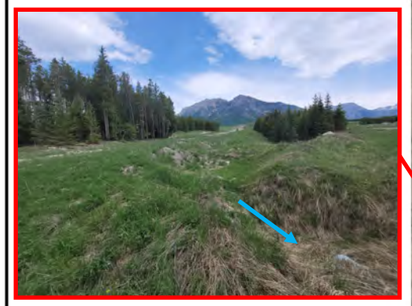
Item	Column 1 Substance Spilled	Column 2 Specified Amount
1	Class 1, Explosives as defined in section 2.9 of the Federal Regulations[2]	Any quantity that could pose a danger to public safety or 50 kg
2	Class 2.1, Flammable Gases, other than natural gas, as defined in section 2.14 (a) of the Federal Regulations	10 kg
3	Class 2.2 Non-Flammable and Non-Toxic Gases as defined in section 2.14 (b) of the Federal Regulations	10 kg
4	Class 2.3, Toxic Gases as defined in section 2.14 (c) of the Federal Regulations	5 kg
5	Class 3, Flammable Liquids as defined in section 2.18 of the Federal Regulations	100 L
6	Class 4, Flammable Solids as defined in section 2.20 of the Federal Regulations	25 kg
7	Class 5.1, Oxidizing Substances as defined in section 2.24 (a) of the Federal Regulations	50 kg or 50 L
8	Class 5.2, Organic Peroxides as defined in section 2.24 (b) of the Federal Regulations	1 kg or 1 L
9	Class 6.1, Toxic Substances as defined in section 2.27 (a) of the Federal Regulations	5 kg or 5 L
10	Class 6.2, Infectious Substances as defined in section 2.27 (b) of the Federal Regulations	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
11	Class 7, Radioactive Materials as defined in section 2.37 of the Federal Regulations	Any quantity that could pose a danger to public safety and an emission level greater than the emission level established in section 20 of the "Packaging and Transport of Nuclear Substances Regulations"

[1] If the spill enters, or is likely to enter, a body of water, it is reportable regardless of the quantity
'Federal regulations' refer to the Transportation of Dangerous Goods Regulations under the *Transportation of Dangerous Goods Act 1992*
'Hazardous Waste Regulation' refers to B.C. Reg. 63/88

12	Class 8, Corrosives as defined in section 2.40 of the Federal Regulations	5 kg or 5 L
13	Class 9, Miscellaneous Products, Substances or Organisms as defined in section 2.43 of the Federal Regulations	25 kg or 25 L
14	Waste containing dioxin as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
15	Leachable toxic waste as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
16	Waste containing polycyclic aromatic hydrocarbons as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
17	Waste asbestos as defined in section 1 of the Hazardous Waste Regulation	50 kg
18	Waste oil as defined in section 1 of the Hazardous Waste Regulation	100 L
19	Waste containing a pest control product as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
20	PCB Wastes as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
21	Waste containing tetrachloroethylene as defined in section 1 of the Hazardous Waste Regulation	50 kg or 50 L
22	Biomedical waste as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
23	A hazardous waste as defined in section 1 of the Hazardous Waste Regulation and not covered under items 1 – 22	25 kg or 25 L
24	A substance, not covered by items 1 to 23, that can cause pollution	200 kg or 200 L

25	Natural gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

Appendix B – Erosion and Sediment Control Plan



Settling Pond #2
Needs Rehabilitation
(See Drawing 1597-ESC-001)

Watercourse #1

Swale #3

Settling Pond #1

Swale #2

Swale #1

All photos taken May 21, 2023

FourJ Gypsum Mine

Erosion and Sediment Control Plan

Professional Seal

Mine Site Overview

Legend

Drainage ditch

Culvert

Water Sampling Location

Prepared By:

Nova Pacific Environmental

Date of Original Drawing: 2023-07-24

Date of Last Revision:

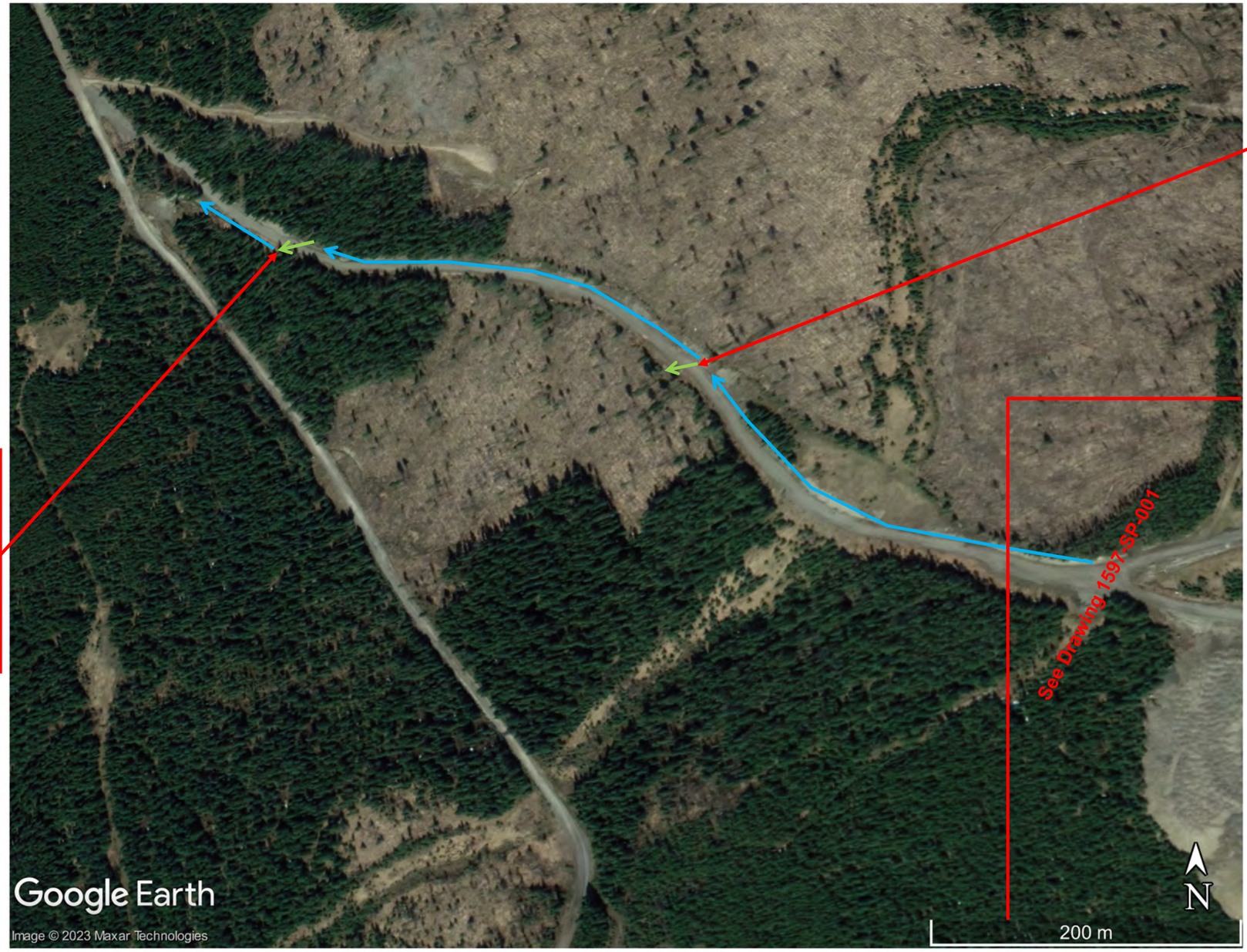
Designed By: R. Akester, R.P.Bio.

Prepared For:

HomeGold Resources Ltd.

Drawing No.: 1597-ESC-001

Cross Drain #2 and swale



Cross Drain #1

All photos taken May 21, 2023

FourJ Gypsum Mine

Erosion and Sediment Control Plan

Professional Seal

Access Road Overview

Prepared By:
Nova Pacific Environmental

Date of Original Drawing: 2023-07-24
Date of Last Revision:
Sheet No.: 2 of 4
Scale: N/A

Designed By: R. Akester, R.P.Bio.
Drawn By: R. Akester, R.P.Bio.
Reviewed By: F, Rossman, PhD

Legend
Drainage ditch
Culvert

Prepared For:
HomeGold Resources Ltd.

Drawing No.: 1597-ESC-002

Environmental Notes

- Only Pit #2 and the access roads to this Pit will be actively used
- All drainage from the Pit #2 should be kept in the pit, directed to Settling Pond #1 or swale #1
- Settling Pond #1 has lots of capacity; however, does not have an outlet. The pond should be monitored and if capacity is going to be exceeded then an outlet should be created that connects it to the drainage ditch to the west (See Section B –B' on Drawing 1597-ESC-004)
- Settling Pond #2 need to be rehabilitated. A basic design for the settling pond can be found in Drawing 1597-ESC-004
- The settling Ponds may need cleaning periodically to maintain functionality if a lot of sediment is deposited
- Any drainage ditches with slopes ≥5% should have check dams installed (See Figure 1). Particularly the access road to the mine site area (See Drawing 1597-ESC-002)
- Cross drain #1 should have a check dam installed immediately downstream of the inlet to the culvert to direct water into the culvert during low and moderate flows.
- Watercourses (Wat) 2, 3 and 4 are downslope of the mine site and at least 200m away through dense vegetation (Figure 2). These watercourse should not be effected by works or any rain runoff.
- Watercourse (Wat) 1 connects to Settling Pond #2 through a culvert under the road (Figure 2 and Drawing 1597-ESC-001)
- Wat 1 appears to be ephemeral and should have its water quality tested when actively flowing.

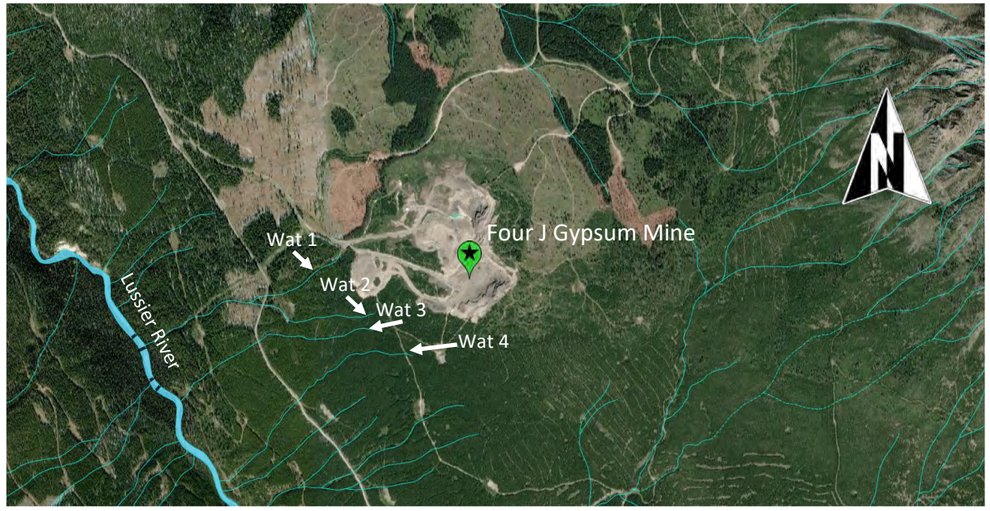


Figure 2: Watercourses (blue lines) within the Project Area and vicinity

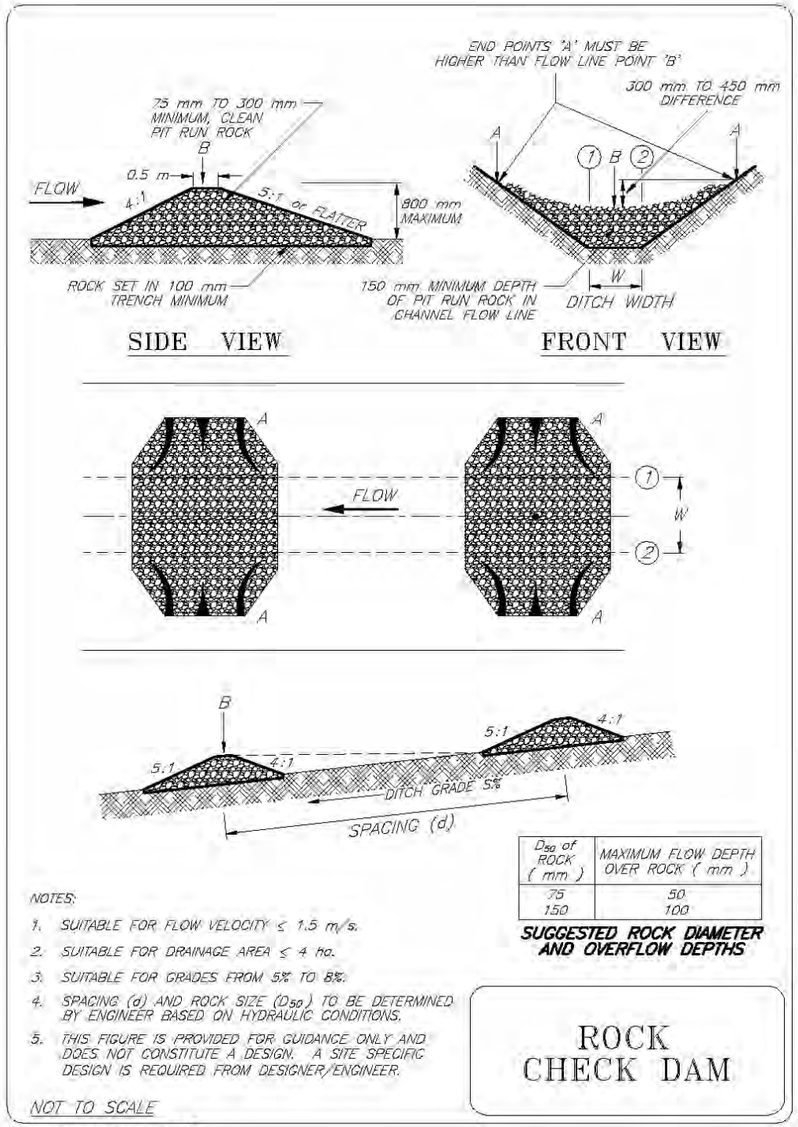
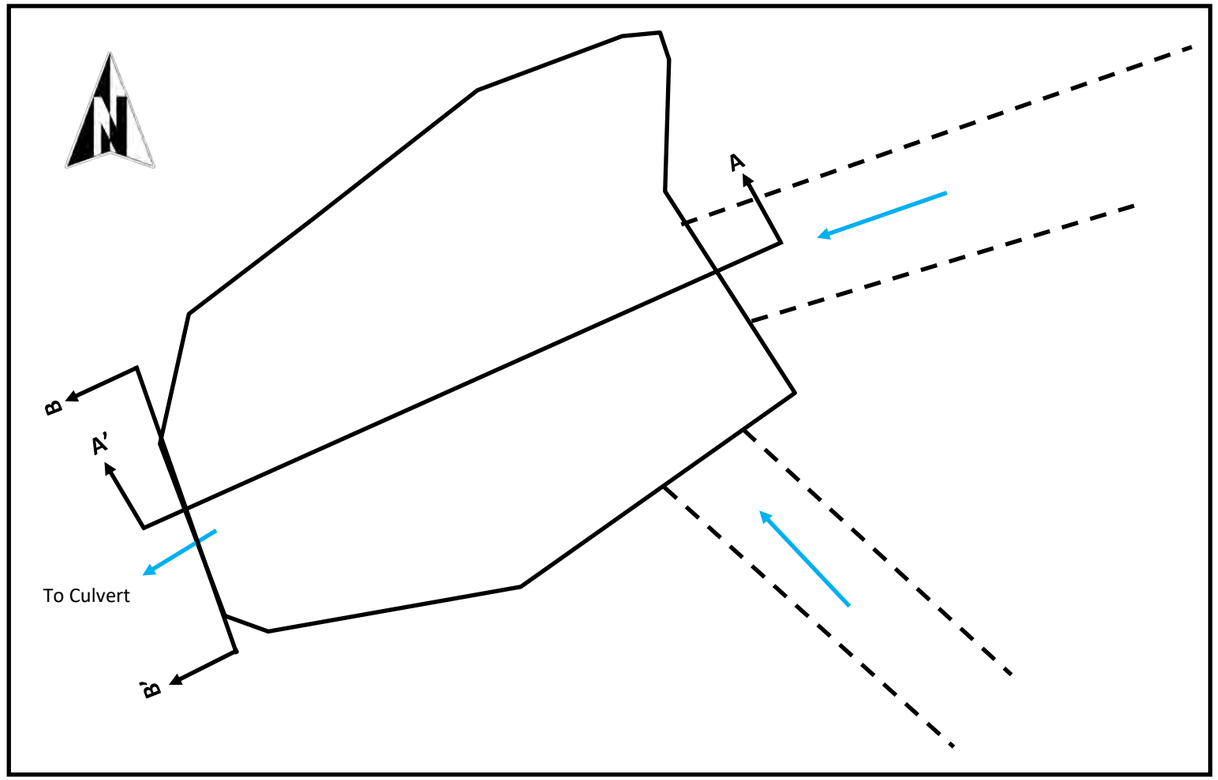
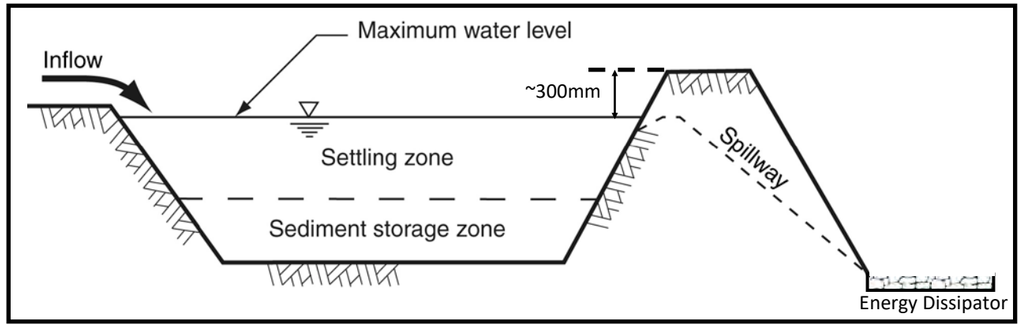


Figure 1

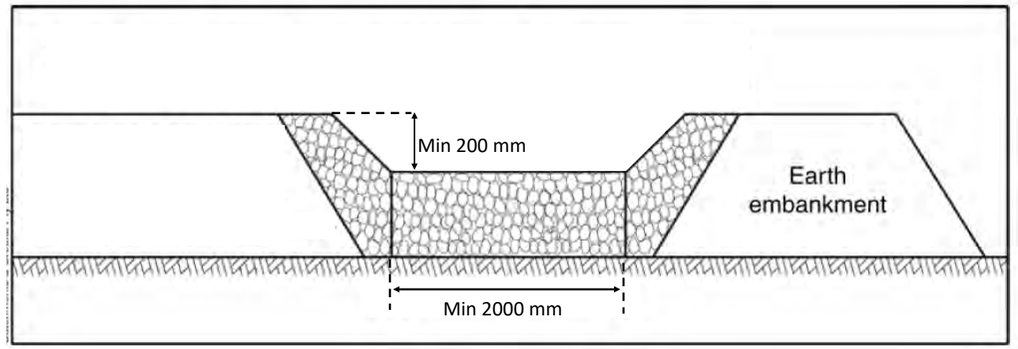
FourJ Gypsum Mine **Erosion and Sediment Control Plan**			Professional Seal	
Prepared By: Nova Pacific Environmental	Date of Original Drawing: 2023-07-24 Date of Last Revision: Sheet No.: 3 of 4 Scale: N/A	Designed By: R. Akester, R.P.Bio. Drawn By: R. Akester, R.P.Bio. Reviewed By: F, Rossman, PhD	Legend	Prepared For: **HomeGold Resources Ltd.** Drawing No.: 1597-ESC-003



Settling Pond #2 (Not to Scale)



Section A –A'



Section B –B'

Construction Notes

- The work involves rehabilitating the existing settling pond
- The rehabilitation will be field fit
- It may be necessary to excavate any deposited sediment from when it was last used to ensure proper capacity to manage water quality

FourJ Gypsum Mine

Erosion and Sediment Control Plan

Professional Seal

Settling Pond #2 Rehabilitation Design

Prepared By:

Nova Pacific Environmental

Date of Original Drawing: 2023-07-24

Date of Last Revision:

Sheet No.: 4 of 4

Scale: N/A

Designed By: R. Akester, R.P.Bio.

Drawn By: R. Akester, R.P.Bio.

Reviewed By: F, Rossman, PhD

Legend

Prepared For:

HomeGold Resources Ltd.

Drawing No.: 1597-ESC-004

Appendix C –Environmental Incident Report Form

ENVIRONMENTAL INCIDENT REPORT FORM

NAME OF OPERATOR:			
BUSINESS ADDRESS:			
RELEVANT ENVIRONMENT PLAN:			
DATE AND TIME OF INCIDENT:			
DATE AND TIME OF VERBAL NOTIFICATION:			
DETAILS OF PERSON MAKING REPORT:			
NAME: **TELEPHONE:**		**EMAIL:**	
DETAILS OF WITNESS/WITNESSES:			
NAME:	**TELEPHONE:**	**EMAIL:**	
LOCATION:			
PROJECT:			
SITE LOCATION:			
MUNICIPALITY:			
INCIDENT SITE (TICK AS REQUIRED):			
OFFSHORE (CWTH WATERS)	☐	**VESSEL**	☐
OFFSHORE (STATE WATERS)	☐	**PIPELINE**	☐
ONSHORE (MAINLAND)	☐	**DRILLING UNIT**	☐
ONSHORE (ISLAND)	☐	**PRODUCTION FACILITY**	☐
ONSHORE (INLAND WATERS)	☐	**OTHER**	☐
ACTIVITY BEING UNDERTAKEN AT TIME OF THE INCIDENT:			
ENVIRONMENTAL CONSEQUENCE LEVEL:			

CATASTROPHIC	☐	MODERATE	☐	COMMENT:
MAJOR	☐	MINOR	☐	

INCIDENT TYPE:			
UNAUTHORISED CLEARING	☐	SPILL INCIDENT	☐
FAUNA INCIDENT	☐	ATMOSPHERIC RELEASE	☐
FIRE	☐	OTHER	☐

DESCRIPTION OF INCIDENT:

ANY SAFETY CONCERNS ASSOCIATED WITH THE INCIDENT:

ENVIRONMENTAL CONCERNS (FILL IN AS APPLICABLE):
VOLUME OF MATERIAL SPILLED / RELEASED (Gas - m^3, Liquid - L)
SIZE OF AREA AFFECTED (m^2)
TYPE / COMPOSITION OF MATERIAL SPILLED / RELEASED
HAS THE EMERGENCY RESPONSE PLAN BEEN PUT INTO ACTION? YES / NO
WHAT ARE THE MAIN ENVIRONMENTAL SENSITIVITIES IN THE AREA AND IS THERE A POTENTIAL FOR THESE TO BE IMPACTED AS A RESULT OF THE INCIDENT (I.E. WHAT IS THE DISTANCE OF THE ENVIRONMENTAL SENSITIVITIES FROM THE SOURCE OF THE RELEASE / FIRE)?

ENVIRONMENTAL CONDITIONS AT TIME OF INCIDENT (WHERE RELEVANT):	
WIND SPEED & DIRECTION	
CURRENT SPEED & DIRECTION	
WATER DEPTH	
TEMPERATURE	
VISIBILITY	
PRECIPITATION	
TOPOGRAPHY	
OTHER INFORMATION	

IMMEDIATE RESPONSE ACTION TAKEN (BY PERSON/OPERATOR MAKING REPORT) AND INTERNAL INSTRUCTIONS:
COMMENTS:

IS FURTHER ACTION REQUIRED? (I.e. Remediation)	
FURTHER ACTION REQUIRED BY:	
CORRECTIVE ACTIONS TO PREVENT RECURRENCE:	

Prepared by: _____ **Date: __01/02/2020_____**

FORM COMPLETE

Appendix D – Archeology Chance Find Procedures

Heritage Sites: Chance Find Management Guidelines

Chipped stone flakes and core artifacts

Fire altered rock

Waterlogged basket (cleaned)

Shell midden deposits

INTRODUCTION

The Project is committed to the responsible management of heritage sites within its project sites and maintenance and service areas. The intent of this document is to provide contractors working on the project guidelines for the appropriate response to the discovery of known or suspected heritage sites during construction or maintenance activities. The objective for providing this information is to minimize disruption to the activity while promoting the preservation and proper management of heritage sites.

The following sections:

1) Describe the provincial heritage regulatory framework;
2) Present step-by-step guidelines for heritage site chance find management, including a procedure for the identification, treatment and management options for human remains;
3) Identify the limitations of the Chance Find Management Guidelines; and,
4) Provide a list of heritage management contacts to be notified in the event that heritage resources are encountered during construction activities.

BC REGULATORY FRAMEWORK

Heritage sites in British Columbia are managed in accordance with the *Heritage Conservation Act* (RSBC 1996, c. 187). Section 12 of *the Heritage Conservation Act* (HCA) specifies that an individual (or corporation) must not damage, excavate, dig in or alter, or remove any heritage object from a heritage site, except in accordance with a permit issued by the Minister. The HCA confers automatic protection upon all heritage sites that pre-date AD 1846, regardless of whether they are recorded in the Provincial Heritage Register, and regardless of whether they are located on Crown land or private property. Certain sites, including human burials and rock art sites with heritage value, are automatically protected, regardless of their antiquity.

It's important to note that all archaeological sites, regardless of their condition, are protected by the HCA and that it does not distinguish between "intact" (i.e., those sites which are in a pristine, or undisturbed state) and "disturbed" (i.e., those sites which have been subject to alteration, permitted or otherwise) sites. Post AD 1846 historical heritage sites can be protected by Provincial Ministerial Order or Designation by an Order-in-Council.

GUIDELINES FOR CHANCE FIND MANAGEMENT

Step 1: If suspected archaeological materials or features are encountered, stop work in the immediate vicinity of the find and secure the area. Do not undertake further work that could disturb the find, including moving any soil from the vicinity of the site or adjacent spoil material;
Step 2: Contact the Archaeology Branch for advise on further action;
Step 3: Inform the Ministry Representative for your project or District Office Area Manager for your service area.

Note: Based on the nature of the incident, it may be determined that there are no further concerns and activities may continue, or further assessment or mitigation may be required.

MANAGEMENT OPTIONS

In the event that an archaeological site is confirmed, discussions will occur between the Archaeology Branch, the contractor, First Nations in order to select the appropriate management option*. Options could include:

1) Avoidance through partial activity redesign or relocation. This results in minimal impact to the archaeological site, is the preferred option from a cultural resource management perspective and is the least expensive option. An archaeological impact assessment may be required to define site limits.
2) Application of temporary and/or permanent site protection measures as approved by the Archaeology Branch (e.g., fencing off the site, capping with soil). An archaeological impact assessment to identify site boundaries and archaeological monitoring to verify the effectiveness of protective measures may be required;
3) Archaeological mitigation consisting of controlled excavations or archaeological construction monitoring; and,
4) Monitoring of construction or maintenance activities near the site by a professional archaeologist.

*A permit under Section 12 of the HCA may be required prior to undertaking any of these options.

CHANCE FIND – HUMAN REMAINS

1) If suspected human remains are encountered (either intact or disturbed), immediately stop construction or maintenance activities and secure the area;
2) Do not undertake further work that could disturb the remains. This includes moving soil and/or spoil;
3) Inform the Ministry Representative or District Office Area Manager of the discovery;
4) Contact the Archaeology Branch;
5) A designate shall contact all First Nations with traditional interests in the area;
6) The archaeologist or designate may visit the site with First Nations representatives;
7) If it is determined that the human remains are not archaeological in nature (i.e., forensic), the local policing authority and Office of the Coroner will be contacted by the Archaeology Branch;
8) Discussions between the Archaeology Branch, First Nations, archaeologist, and the contractor will identify appropriate follow-up procedures including the appropriate treatment of the human remains and reburial procedures.

Bone and antler artifacts

CONTACTS:

Archaeology Branch Reception:
Tel: (250) 953-3334