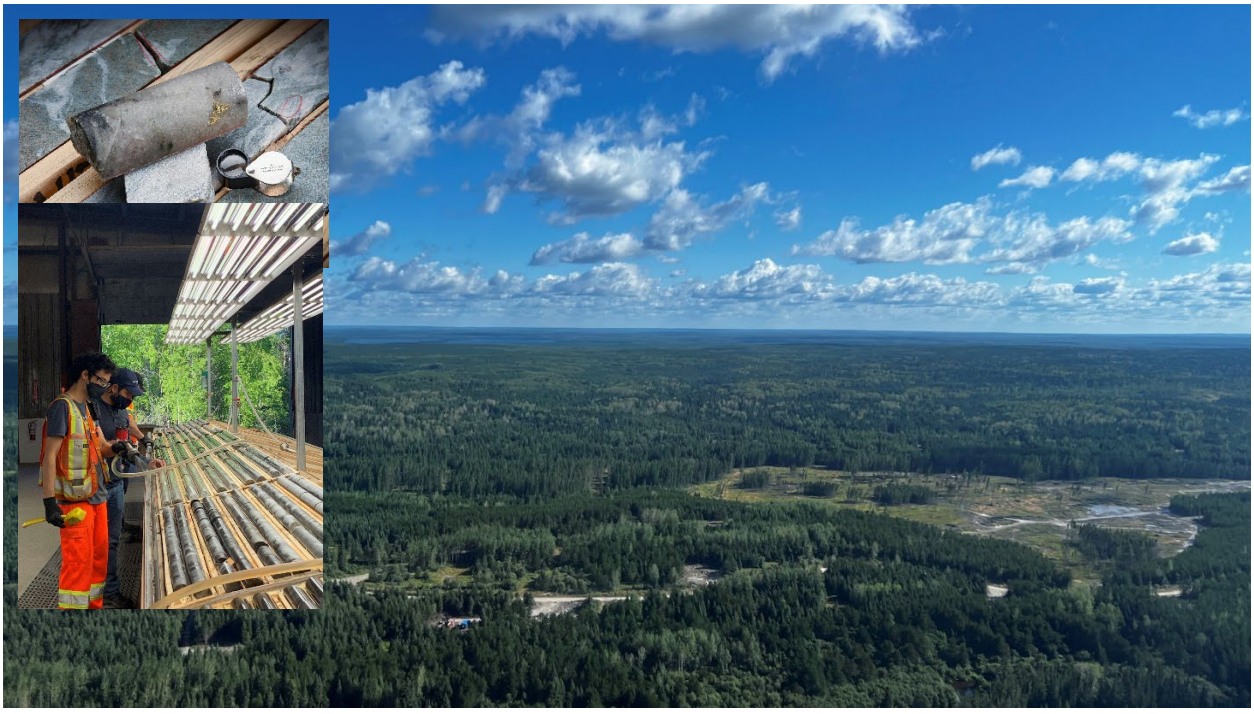
KINROSS

KINROSS GOLD CORPORATION

GREAT BEAR GOLD PROJECT

INITIAL PROJECT DESCRIPTION

July 2023



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GREAT BEAR GOLD PROJECT

INITIAL PROJECT DESCRIPTION

KINROSS GOLD CORPORATION

PROJECT NO.: OMEMA2303
DATE: AUGUST 11, 2023

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ABBREVIATIONS

AEX	advanced exploration program
asl	above sea level
CO_2Eq	carbon dioxide equivalent
ECCC	Environment and Climate Change Canada
ESA	*Endangered Species Act*
ha	hectare
IAAC	Impact Assessment Agency of Canada
Kinross	Kinross Gold Corp.
km	kilometres
kV	kilovolt
Project	Great Bear Gold Project
Property	Great Bear Property
m	metre
m^2	square metre
m^3	cubic metre
Mt	million tonnes
MW	megawatts
t	tonne
tpd	tonnes per day
µg	micrograms

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A. GENERAL INFORMATION

A.1 PROJECT NAME, SECTOR AND LOCATION

Project Name:	Great Bear Gold Project (or Project)
Sector:	Mines and minerals - gold mine
Location:	23 kilometres (km) southeast of the Town of Red Lake (see Figure A.1).

A.2 PROPONENT

Proponent: Great Bear Resources Ltd. is a wholly (100%) owned subsidiary of Kinross Gold Corp. (Kinross), a Canadian-based gold and silver mining company founded in 1993 and headquartered in Toronto, Ontario, Canada.

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Great Bear Resources / Kinross Gold Corporation
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Kinross is a Canadian-based gold and silver mining company founded in 1993, headquartered in Toronto, Ontario, Canada. Kinross is a senior gold mining company with a diverse portfolio including six operating mines and several mining projects in various jurisdictions, including in Canada and the United States. Kinross is listed on the Toronto Stock Exchange (TSX:K) and New York Stock Exchange (NYSE:KGC). Kinross focuses on delivering value through operational excellence, balance sheet strength, disciplined growth, and responsible mining. With this vision in mind, Kinross acquired Great Bear Resources Ltd. and the Great Bear Property (Property) located in the Red Lake mining district of Ontario, Canada in February 2022. Kinross is committed to establishing a long-term presence in northern Ontario and the Red Lake area specifically, returning to its roots in the Province.

Kinross believes that responsible mining generates sustainable value for investors, host countries and communities. We value the occupational health and safety of our people as our top priority. We strive to create positive economic and social benefits for local communities and Indigenous peoples, leading to improvements in the overall quality of people's lives in a manner that is sustainable beyond the life of mine, while being responsible stewards of the environment. Together, these commitments are our "First Priorities" and are the pillars of our "on the ground", people-focused approach. Our approach to responsible mining also includes our Environment, Social, Governance strategy whereby we consider our material topics and initiatives to manage risk and leverage opportunities. Kinross operates according to industry best practice and in compliance with all laws. Further information is available from: https://www.kinross.com, and in particular, Kinross Sustainability.

Within the framework, our goal for the Project is to develop and operate a world class gold mine, with associated facilities and infrastructure. Kinross is keenly aware that it is working in the traditional territory of the collective members of the Anishinaabe Nation in Treaty #3, and recognizes and respects the inherent and Treaty rights of Indigenous Nations. We will be responsible stewards of the land and respect the customs and traditions of those who have lived there for millennia.

A.3 SUMMARY OF ENGAGEMENT WITH STAKEHOLDERS

Maintaining transparent, meaningful and productive relationships with stakeholders is fundamental to our business. We engage formally and informally to build respectful and transparent relationships with our stakeholders. This engagement is essential to our business strategy and approach to sustainability, providing opportunities to explain company strategy and performance, while receiving feedback and guidance on matters of importance to stakeholders.

All of our sites, including development projects, maintain a stakeholder registry and engagement strategy. A core component of each site strategy is the stakeholder identification cycle, which is a continuous process that starts with known reference points and is further informed by the results of engagement. In particular, we seek to identify and understand the specific needs of stakeholder groups which may be vulnerable to negative impacts and potential exclusion from positive benefits arising from mining activity. Vulnerable groups commonly include women, children and youth.

We implement community grievance mechanisms to allow stakeholder concerns to be heard and resolved promptly following a transparent and well-established procedure. A mechanism has not as yet been established for the Project, but it is anticipated to include the following core elements:

- Establish and publish the preferred means of receiving feedback (such as an email address, phone number and/or individual to contact)
- Log comment / concern within tracking system
- Determine the actions required to respond or resolve the comment
- Provide a response.

We focus on developing strong relationships that build trust and lead to productive outcomes. This occurs through genuine dialogue based on active listening. Our goal is to understand our neighbours and their cultures, interests, needs and concerns while also being able to talk about our activities, goals and concerns, leading to mutual understanding.

We take a life of mine approach to our business and strive to meet local community expectations, so that the benefits from mining continue beyond mining operations. This approach is developed through a multi-stakeholder participative process in which the community sets out its vision and priorities. We promote an

inclusive approach which considers vulnerable groups and a long-term perspective which recognizes the estimated life of mine and eventual closure. Where possible, we propose alignment of local plans with existing government development plans to engage the strengths of different organizations.

A.3.1 IDENTIFYING STAKEHOLDERS

Kinross has completed an initial stakeholder analysis for the Project. Potentially interested stakeholders were identified to date using the following criteria:

- Proximity to the Project, including (but not limited to) considering residency, land ownership, land use and potential for Project-related effects
- Past or current interest in similar projects or developments in the region
- Guidance from government agencies, such as previous direction from the provincial Ministry of Mines related to exploration and advanced exploration program (AEX) on the Property.

The following is a list of key stakeholders and government ministries / agencies that Kinross has consulted (C) or intends to consult (I) during preparation of the Initial Project Description (Section A.4 describes engagement with Indigenous Nations):

- Municipality of Red Lake (C)
- Municipality of Ear Falls (C)
- Citizens from the Red Lake and Ear Falls areas (C/I)
- Potentially affected trapline holders (C)
- Lafarge Canada (C)
- Red Lake Forest Management and Domtar (C)
- Hydro One Networks Inc. (C)
- Independent Electricity System Operator (C)
- Enbridge Gas (C)
- Ministry of Mines (Ontario) (C)
- Ministry of Natural Resources and Forestry (Ontario) (C)
- Ministry of Environment, Conservation and Parks (Ontario) (C)
- Impact Assessment Agency of Canada (IAAC) (C)
- Other provincial ministries, and federal departments and agencies (I).

Locations of the communities referenced above are shown in Figure A.2.

Kinross intends to continue to engage with these and other stakeholders over the course of the Project. Kinross expects the list of stakeholders will expand as the Project progresses.

A.3.2 ENGAGEMENT TO DATE AND PLANNED

Kinross communicated Project information with stakeholders related to the Project during preparation of the Initial Project Description by means of:

- Presentations to local municipalities
- Project update meetings
- Information sharing by mail and email regarding proposed activities and works.

Key issues raised by stakeholders to date related to the Project include:

- Confidence that the mine will be built (there is cautious optimism about the Project, but the communities have had ups and downs with other mines and businesses coming and going)
- Open pit mining (mining in the Red Lake area has been traditionally underground)
- Reclamation and closure of the site
- Maximization of socioeconomic impacts, including potential for local hiring
- Social risks related to changing social structures as project direct and indirect employment expands
- Housing and accommodation supply constraints
- Road safety
- Consideration of flooding, forest fires or other natural disasters that may impact access to the communities and site.

Input received during the engagement conducted before and during preparation of the Initial Project Description is summarized in a tabular format in Appendix A.

Kinross will continue to engage with stakeholders as the Project progresses, to gather information on the current capacity / services of local municipalities and townships, and to determine potential impacts (positive and negative) of the Project. Engagement is expected to expand to other groups such as:

- Healthcare providers
- Social service providers
- Chambers of Commerce
- Employment and training organizations.

Kinross plans further engagements in 2023 to offer opportunities for dialogue and feedback, including the following:

- Meetings with our neighbours
- Presentations to local municipalities
- Project update meetings
- Information sharing by mail, email, social media and a Project newsletter, as appropriate
- A Project-specific website.

Kinross will adjust its engagement efforts based on feedback from stakeholders to be responsive to the interests and comments expressed.

A.4 SUMMARY OF ENGAGEMENT WITH INDIGENOUS NATIONS AND PEOPLES

Kinross' objective is to develop and operate mines in a manner that respects and strengthens Indigenous communities, and brings positive contributions the effects of which continue to be felt after mine closure. Specific engagement strategies are utilized to engage Indigenous communities, as it is recognized that they may be vulnerable to exclusion from the benefits of mining development. We believe that when mining is undertaken with appropriate safeguards, and in the spirit of cooperation and consultation, it can be a strong source of positive benefits for local Indigenous communities.

Engagement and consultation with Indigenous communities promotes the building of relationships through which Kinross can understand and evaluate the impacts of its mining operations, thereby taking action to avoid or mitigate such impacts. Engagement and consultation also enable us to identify social risks and to take corresponding actions to mitigate them.

Our values and culture respect the unique rights of Indigenous Peoples. We recognize:

- Their unique cultures and Indigenous knowledge
- Their connection with the land, water and nature
- The importance of Indigenous institutions in realizing the aspirations of Indigenous Peoples for their own development.

Kinross works with Indigenous communities to support their development goals:

- Engage with identified and potentially impacted neighbouring Indigenous communities to understand their economic, social and development aspirations, and to help attain those aspirations
- Encourage opportunities for training, employment and local business participation in the Project benefits
- Train employees and contractors interacting with Indigenous Peoples to promote cross-cultural understanding and respect for traditional languages, customs and practices
- Establish formal grievance mechanisms to resolve issues when they arise.

Kinross takes a legacy approach to its business, so that the benefits from mining continue well beyond the cessation of our operations. For Kinross, this means considering the potential socio-economic impacts of mine closure and working in partnership with local communities to help build a positive legacy for surrounding Indigenous Nations affected by our mining presence. This is in addition to the engineering and environmental rehabilitation activities that occur as part of our closure programs.

Kinross recognizes that the Project is within the traditional territory of the collective members of the Anishinaabe Nation in Treaty #3. Kinross acknowledges Métis as a distinct Indigenous people with a unique history, culture, language and way of life. Kinross is committed to regular, open dialogue and meaningful engagement with local Indigenous communities and their designated representatives through all phases of the Project.

A.4.1 IDENTIFYING INDIGENOUS NATIONS FOR ENGAGEMENT

Kinross has completed an initial analysis of Indigenous Nations to be engaged for the Project. Potentially interested Indigenous Nations were identified by Kinross using the following criteria:

- Proximity to the Project, including (but not limited to) known historic and current Indigenous traditional land use and occupation, location of Reserve lands and potential to be impacted by the Project
- Past or current interest in similar projects or developments in the region
- Guidance from government agencies, such as previous direction from the provincial Ministry of Mines related to exploration and AEX permitting activities on the Property.

Relationships with local First Nations have been fostered on the Project for a number of years. The following First Nations were engaged prior to and during preparation of this Initial Project Description:

- Wabauskang First Nation (since 2017)
- Lac Seul First Nation (since 2017)
- Grassy Narrows First Nation (since 2022).

Locations of the local First Nation Reserves are shown in Figure A.2.

Kinross recognizes that local Métis may also potentially be affected by the Project, and initiated engagement with the Métis Nation of Ontario.

Kinross is not aware of any other Indigenous Nation that may be materially affected by the Project. No other Indigenous Nation has identified an interest in being informed and engaged about the Project-related activities to date.

A.4.2 ENGAGEMENT TO DATE AND PLANNED

Kinross actively promotes dialogue with Indigenous Nations in relation to the Project. Engagement activities that have occurred to date (and are anticipated to continue in the future) include:

- Update meetings with community leadership and/or their designated representatives during the Project development phase
- One-on-one meetings
- Site visits and field inspections
- Notifications of activities, public releases and regulatory submissions
- Information about ongoing environmental baseline studies and involvement in field work
- Discussions about engagement and collaboration on Indigenous knowledge studies
- Discussions related to community events and community sponsorship opportunities.

Community-specific activities in addition to the above include, or are expected to include:

- Negotiation and establishment of agreements for participation and engagement
- Collaborative environmental monitoring
- Training and capacity building
- Efforts to promote jobs and contracts, and foster business development opportunities through Indigenous run businesses and/or joint ventures
- Sponsorship of community activities
- Participation in community events.

Key issues raised to date by Indigenous Nations related and/or applicable to the Project to date include:

- Desire to participate actively in environmental baseline studies, and in the Impact Assessment and environmental approvals processes (Wabauskang First Nation and Lac Seul First Nation)
- Consideration of Indigenous knowledge during the Impact Assessment (Wabauskang First Nation and Lac Seul First Nation)
- Maintenance of access to sites of interests (values) on the Property (Wabauskang First Nation and Lac Seul First Nation)
- Open pit mining (Wabauskang First Nation and Lac Seul First Nation)
- Reclamation and closure of the site (Wabauskang First Nation and Lac Seul First Nation)
- Potential for impacts on water quality, fish habitat and fish populations (Wabauskang First Nation and Lac Seul First Nation)
- Road safety (Wabauskang First Nation and Lac Seul First Nation)
- Consideration of flooding, forest fires or other natural disasters that may impact access to the communities and site (Wabauskang First Nation and Lac Seul First Nation)

- Opportunities for long-term careers for Indigenous youth (Wabauskang First Nation and Lac Seul First Nation)
- Changes to social structures of the communities (Wabauskang First Nation and Lac Seul First Nation).

Input received during the engagement with Indigenous communities conducted before and during preparation of the Initial Project Description is documented in a tabular format in Appendix B.

Kinross will continue to engage with Indigenous Nations in a culturally appropriate manner, respectful of engagement protocols and procedures, and will work with each Nation to understand appropriate methods of communication and engagement. Kinross will seek to understand the community perspectives on the Project, including from: leadership, elders, women, youth, men and other relevant perspectives. Kinross recognizes that diverse population groups may experience impacts and benefits differently, and will seek to understand those differences, including through collection of necessary information regarding subpopulation groups to complete a gender-based analysis plus (GBA Plus) assessment.

Kinross will follow good practices throughout all engagement activities. Main topics and objectives for the engagement activities planned in 2023 include:

- Involvement of Indigenous Nations in the environmental baseline studies process according to topics of interest and capacities
- Discussion with Indigenous Nations of the engagement activities planned in 2023 with adjustments as appropriate
- Discussion with Indigenous Nations regarding interpretation and use of Indigenous knowledge in the Impact Assessment documentation
- Information sharing such as by mail and email regarding proposed activities and works
- Newsletters.

A specific plan for future engagement in connection with the Impact Assessment process if applicable, will be developed with Indigenous Nations and the IAAC, if and when Tailored Impact Statement Guidelines are received.

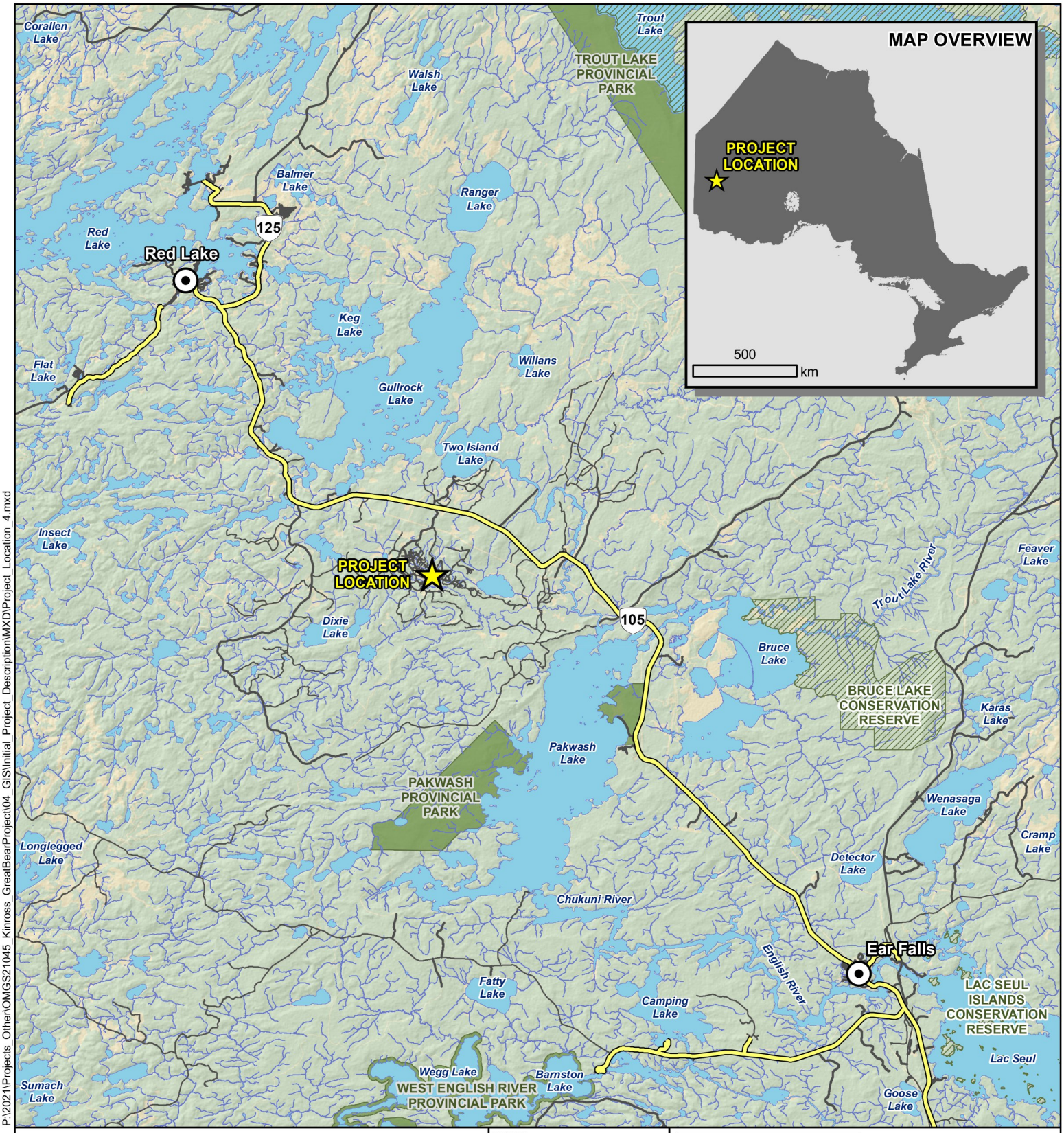
A.5 REGIONAL STUDIES AND ASSESSMENTS

Based on public sources, there are no regional studies or regional assessments close to the location, or otherwise pertinent to the proposed Project.

Project-specific environmental and engineering studies are ongoing to inform the design and approvals process for the Project.

A.6 STRATEGIC ASSESSMENTS

This Initial Project Description has considered the Strategic Assessment of Climate Change developed by Environment and Climate Change Canada (ECCC), including in the preliminary assessment of net greenhouse gas emissions for the Project (see Section E.5). Based on public information sources, there are no other applicable strategic assessments to the knowledge of Kinross.



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LEGEND

- Project Location
- Town
- Conservation Reserve
- Provincial Park
- Highway
- Local Road
- Resource / Recreation Road
- Watercourse
- Waterbody

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Road information provided by Kinross, August 2022.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.

Datum: NAD83
Projection: UTM Zone 15N

0 2.5 5 10 15 20 Kilometres

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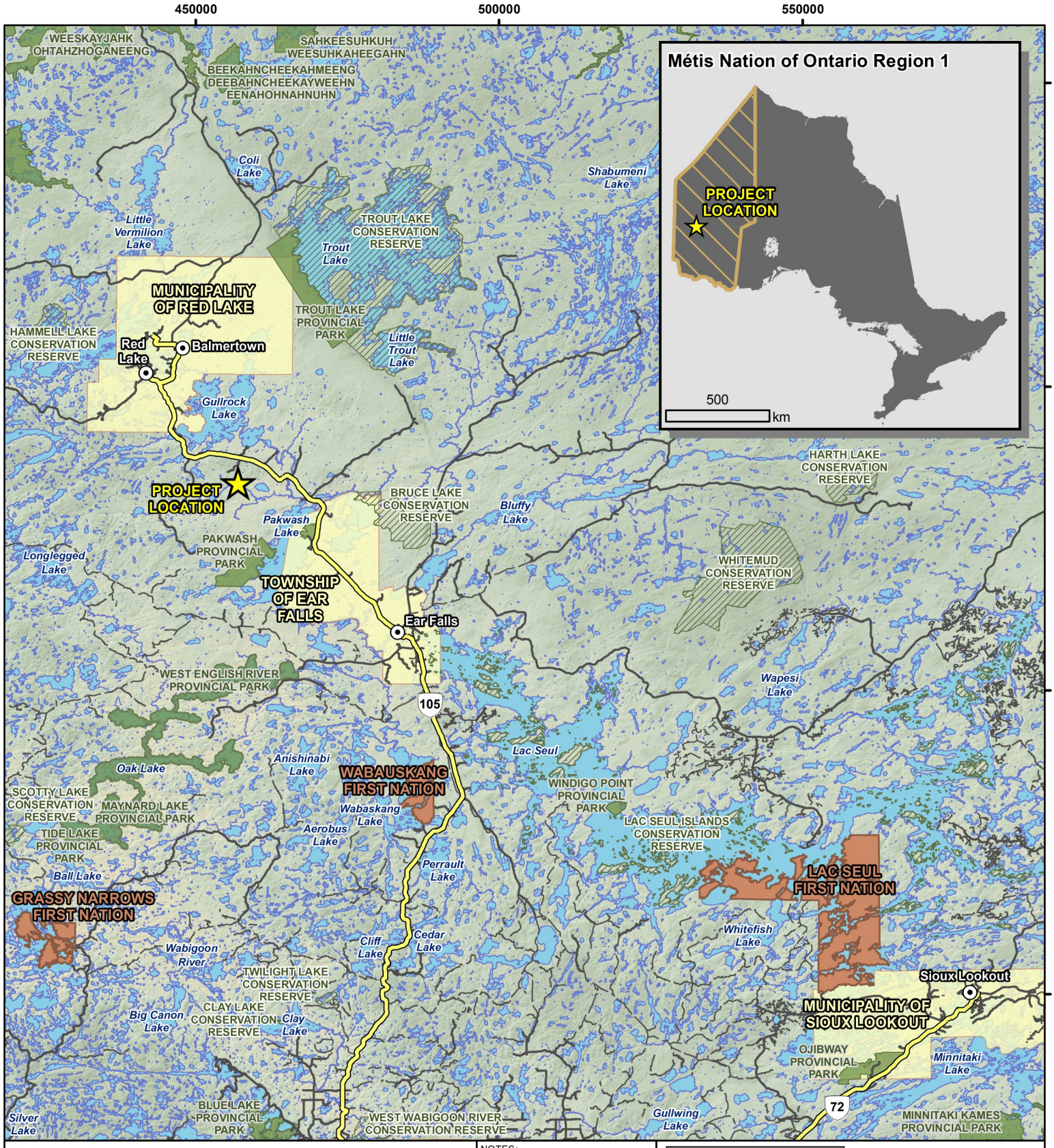
GREAT BEAR PROJECT

Project Location

PROJECT N°: OMEMA2303	**FIGURE: A.1**
SCALE: 1:320,000	DATE: July 2023



LEGEND

- Project Location
- Town
- First Nation Reserve
- Métis Nation of Ontario Region 1
- Lower Tier Municipal Boundary
- Conservation Reserve
- Provincial Park
- Highway
- Local Road
- Resource / Recreation Road
- Waterbody

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Métis Nation of Ontario Region 1 digitized from "MNO Regions" map. https://www.metisnation.org/about-the-mno/mno-regions/

Datum: NAD83
Projection: UTM Zone 15N

0 5 10 20 30 40 50 Kilometres

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GREAT BEAR PROJECT

Regional Communities and Indigenous Nations

PROJECT N°: OMEMA2303 | **FIGURE: A.2**

SCALE: 1:850,000 | DATE: July 2023

B. PROJECT INFORMATION

B.1 PURPOSE AND NEED FOR PROJECT, AND POTENTIAL BENEFITS

B.1.1 PURPOSE

The purpose of the Project is to produce gold doré bars on site, by constructing and operating an underground and open pit mine, process plant and associated facilities. A preliminary conceptual site plan is provided in Figure B.1 (Figure B.1A shows a satellite image background; Figure B.1B shows the existing topography). A cross section schematic of the proposed mine development and plan view of the open pits are provided in Figure B.2 and Figure B.3, respectively. This site plan is subject to change based on further data collection, technical and economic evaluation and engagement with Indigenous Nations and stakeholders.

Doré bars are semi-pure products of gold and silver that will be produced at the Project site, and periodically trucked off site for further purification. The purified products will be sold to meet global demands for gold and silver, and provide a return on investment, while supporting local employment and prosperity for the region.

B.1.2 NEED AND BENEFITS

Gold and silver are required for many applications including:

- To provide a sustainable store of value including for use as a monetary exchange medium
- Art, jewelry and tableware
- Electronic devices such as computers, cellular phones and televisions
- Medical equipment and devices
- Specialized medical treatments.

The strong global demand for gold and silver cannot be fully met by recycling of metals already produced, resulting in a need for additional mining and processing of ore containing these metals.

On a broader scale, metal mining is needed because it is a major economic driver for Canada. As detailed in Natural Resources Canada (2023), the minerals sector, which includes mining, primary processing and metal product manufacturing, directly employed 377,000 individuals in 2020. The document indicates that Indigenous People accounted for 12% of the mining industry’s labour force in the 2016 Statistics Canada census, which ranks mining among the leading industries for Indigenous representation.

Mining directly contributed an estimated annual total of $8.0 billion to gross domestic product, $2.9 billion in wages and salaries, and approximately 75,000 jobs in the Province of Ontario, via direct, indirect and induced channels in 2021. Direct employment by mining in Ontario totalled approximately 29,000 people during the same period. Ontario's leading-edge mine supply and service sector employs more than 40,000 people and Ontario produces more than $10 billion worth of mining supplies and services every year (Ontario Mining Association 2023). The Project is expected to have a positive effect on the local and

regional economy. Approximately 500 to 1,000 permanent jobs are anticipated from the Project, as well as establishment of a large number of contracts for qualified contractors in the region.

The objective of the Project is to provide a return on investment to shareholders of Kinross while operating in a socially and environmentally responsible manner following the Kinross Sustainable Development Policy, accessible at: Sustainability - Kinross Gold Corporation

The Project is not expected to result in a large change in regional or local populations but may contribute to modest growth in the base population within commuting distance from the site. Training and work experience may result in capabilities that are transferable for local residents and contractors.

If an Impact Assessment is required, potential changes / effects from the Project (both positive and negative) will be assessed, and plans to monitor, measure and mitigate the negative effects and enhance the positive effects will be identified.

B.2 APPLICABLE PHYSICAL ACTIVITIES REGULATION PROVISIONS

A federal Impact Assessment for the Project may be required under two scenarios:

- If the project meets the requirements under the *Impact Assessment Act*; or
- If the project is designated by the federal Minister of ECCC as requiring an Impact Assessment.

If the following provisions of the Physical Activities Regulations (SOR/2019-285) pursuant to the *Impact Assessment Act* are met (or others not listed below), documentation must be provided to IAAC to assess whether an Impact Assessment is required. The following conditions of the regulation may apply to the Project based on the current preliminary project design:

> *18 The construction, operation, decommissioning and abandonment of one of the following:*
>
> *(c) a new metal mine,…, with an ore production capacity of 5,000 tonnes per day (tpd) or more*
>
> *(d) a new metal mill, other than a uranium mill, with an ore input capacity of 5,000 tpd or more.*

Based on the current project design, the maximum average rate of ore mining and processing at the Project is expected to be up to 15,000 tpd. The Project is expected to meet the conditions listed above of the Physical Activities Regulations, and Kinross is submitting this Initial Project Description for review by the IAAC.

The Project is not part of a larger project that is not listed on the Project List.

B.3 ACTIVITIES, INFRASTRUCTURE, STRUCTURES AND PHYSICAL WORKS

B.3.1 OVERVIEW

Kinross is planning to develop, operate and eventually reclaim a new gold mine, comprising underground workings and three open pits with associated processing facilities and infrastructure, at the Project site. The underground mine and site infrastructure will expand on facilities being developed as part of the

proposed AEX program where practical, to mitigate and/or reduce potential environmental impacts. A preliminary site plan is presented in Figure B.1A, Figure B.1B and Figure B.1C.

B.3.2 ONGOING EXPLORATION-RELATED FACILITIES AND INFRASTRUCTURE

SURFACE EXPLORATION

There are no historical mine workings on the site, although there is a history of grass roots exploration as well as a planned AEX program. Localized areas have been previously hydraulically and/or mechanically stripped to expose bedrock. These disturbed areas and several small exploration trenches were recorded by the Ontario Geological Survey. Periodic surface drilling programs and technical investigations have been ongoing for many years at the Project site. These activities are expected to continue as needed to support resource delineation (exploration) and to collect technical information (geotechnical and hydrogeological information). There has been no prior ore production from the Property and there are no historic buildings or facilities on the Project site.

The Property is currently undergoing a surface exploration program to understand geological potential. Since 2017, there has been over 550,000 metres (m) of diamond drilling on the Property (to December 2022). Existing facilities and equipment present on the Property are associated with the early exploration program:

- Core storage
- Groundwater investigation wells
- Meteorological station
- Temporary contractor mobile drilling equipment and trailers
- Other mobile equipment.

The background image shown in Figure B.1A reflects past forestry activities and tree clearing at the site related to exploration activities.

ADVANCED EXPLORATION (AEX)

Kinross is currently preparing and has environmental applications in progress with provincial (Ontario) ministries for an AEX program. The AEX program is separate from the proposed (mining) Project and includes extraction of an up to 60,000 tonnes (t) bulk (ore) sample using underground mining methods. The work is to be initiated in 2024, pending consultation, regulatory approvals and a corporate decision to proceed. Figure B.2 shows the planned surface facilities associated with the AEX program.

The goal of the AEX program (and ongoing exploration drilling from surface), is to collect additional information to support a decision on whether to proceed to develop a mine and to support engineering design. The AEX bulk ore sample will be trucked off site over the existing provincial road network to an existing mineral testing facility (yet to be determined). Onsite processing of the bulk sample to produce a product for sale is not proposed.

Kinross proposes to collar two portals from surface (openings of approximately 6 m by 6 m) and to develop associated decline ramps of approximately the same dimension. Secondary egress and ventilation may be provided through a raise. The ramps have been designed to provide access to the investigation areas to extract the bulk sample and to support underground exploration drilling. The ramp is projected to extend to a vertical depth of approximately 600 to 800 m below surface and length of approximately 9,000 m during the program. The majority of the surface facilities associated with the AEX program will be located on a constructed pad having an area of approximately 42 hectares (ha).

Facilities required to support the AEX program are planned to include:

- Surface exploration portals and ramps (2) to access the underground workings
- Underground workings
- Mine rock stockpiles
- Overburden stockpiles
- Ore stockpile (up to 60,000 t)
- Bulk sample crusher with a capacity of approximately 400 to 1,000 tpd
- Explosives magazine / storage (temporary on surface and underground)
- Truck shop and wash bay
- Various trailers (administration, first aid, security and change room / mine dry)
- Temporary camp
- Material laydown and covered storage
- Parking
- Utilities area
- Groundwater (freshwater) well
- Potable water treatment
- Fire water tank
- Water treatment system and associated ponds
- Treated effluent discharge pipeline to the Chukuni River
- Ventilation and mine air heating
- Power supply facilities (see below)
- Diesel, gasoline and propane, storage and dispensing.

Power supply for the AEX program is expected to initially include diesel-fired generators (less than 5 megawatts; MW), followed by either:

- A natural gas supply and onsite power generation, supported by a spur natural gas pipeline to Enbridge main line located along Highway 105 (or compressed gas tanks)
- A 115 kilovolt (kV) transmission line or a power distribution line connected to the regional electric grid, at Highway 105 if capacity is available.

Ongoing activities related to surface exploration and the AEX program are expected to include:

- Consultation and engagement regarding the AEX program
- Obtaining required provincial environmental approvals for the AEX program
- Obtaining appropriate land tenure from the provincial Crown
- Completion of engineering and environmental-related field investigations
- Hiring of individuals and contractors
- Development of portals and ramps for access to the ore body at depth
- Use of explosives underground to break up rock to allow removal to the surface
- Development of raises and ventilation infrastructure to provide safe working conditions underground
- Dewatering of the exploration ramps to allow safe access
- Extraction and transport of mine (waste) rock to the surface for storage

- Extraction of a bulk ore sample from underground workings and transport to the surface
- Crushing of the ore for temporary stockpiling or shipment off site
- Completion of exploration drilling from underground
- Maintenance of above ground and below ground, equipment and facilities
- Circulation of warmed air to, and ventilation of air from, the underground workings
- Collection and treatment of water from the underground workings and surface area
- Discharge of excess treated effluent by pipeline to the Chukuni River
- Control of emissions of dust and noise
- Environmental monitoring, including as required by environmental approvals
- Maintenance of site security
- Final reclamation of the site in accordance with a filed AEX Closure Plan with the Province if a decision is made to not proceed to develop a mine.

There will be no processing of the bulk sample ore extracted from underground during the AEX program on site apart from crushing to support sampling and shipment, and no tailings will be produced or stored on the site.

The proposed onsite camp is an approximately 100-bed, modular trailer camp. Domestic sewage and grey water will be managed, such as with temporary holding tanks for onsite treatment and/or an onsite package plant treatment system. Freshwater will be provided from an onsite well for most needs. Potable water will be provided either via onsite treatment or trucked to site.

B.3.3 PROPOSED MINE FACILITIES AND INFRASTRUCTURE

Kinross is planning to develop, operate and eventually reclaim a new underground and open pit, gold mine and processing facility at the Project site. The mine and associated surface facilities are proposed to be placed on lands held or anticipated to be held by Kinross, utilizing and/or expanding on the AEX program facilities as practical to minimize environmental effects. Table B.1 lists the major facilities for the proposed mine, and provided comparison to the planned AEX program facilities, based on the current preliminary design and subject to change with additional engineering. AEX facilities not required or modified for the mine, are anticipated to be reclaimed during the mine operation phase.

Table B.1 Preliminary List of Designated Project (Mine) Facilities in Comparison to AEX Program Facilities

TYPE OF FACILITY	PART OF AEX PROGRAM	GREAT BEAR GOLD PROJECT (MINE)
Underground and Open Pit Mine		
Surface portals	Yes	– AEX portals will continue to be used – Additional portal (potentially three) to access new areas
Ramps and underground workings	Yes	– Extension of ramps and expansion of AEX workings – New ramp and workings from additional portal(s)
Shaft, headframe and hoist room	No	– New facility
Ventilation raises (exhaust and intake)	No	– Raises (potentially four total) to be developed for fresh air and exhaust
Compressor facility	Yes	– Modifications to AEX facility – New facility for each portal developed
Mine dry	Yes	– AEX dry will continue to be used – New facility
Open pits	No	– Three new open pits
Mine air heating	Yes	– AEX facilities will continue to be used – New facility or expansion to AEX facilities
Stockpiles		
AEX stockpiles	Yes	– AEX stockpiles may continue to be used
Mine rock stockpile	Yes	– New stockpile(s) at different location / scale
Overburden stockpile	Yes	– New stockpile(s) at different location / scale
Organic soil / organics stockpile	Yes	– New stockpile(s) at different location / scale
Ore (run of mine) stockpile	Yes	– New stockpile(s) at different location / scale
Low grade ore stockpile	No	– New stockpile
Primary Buildings / Facilities		
Crushing facilities and conveyors	No	– New facility
Crushed ore facility, potentially covered	No	– New facility
Process plant	No	– New facility
Paste / backfill plant	No	– New facility
Consolidated rockfill	No	– New facility
Laboratory	No	– New facility
Electrical / mechanical shop	No	– New facility
Trade / maintenance shop / wash bay	Yes	– AEX facilities may continue to be used – New facilities will be established
Warehouse / storage building(s)	Yes	– AEX facilities may continue to be used – New facilities will be established
Offices	Yes	– AEX facilities may continue to be used – New facilities will be established
Laydown areas and parking	Yes	– AEX facilities may continue to be used – New facilities will be established
Contractor office / area	Yes	– New facility
Explosive storage – surface	Yes	– New facility may be established and/or AEX facility will continue to be used
Explosive storage – underground	Yes	– New facilities may be established and/or AEX facility will continue to be used
Explosive manufacturing	No	– Not part of the Designated Project (i.e., if developed will be vendor owned and operated)
Tailings and Water Management		
Tailings management facility and related infrastructure	No	– New facility
Water management pond	No	– New facility
Ditching and runoff management ponds	Yes	– AEX facilities may continue to be used – New facilities will be established
Underground sumps	Yes	– AEX facilities may continue to be used – AEX facilities may continue to be used

TYPE OF FACILITY	PART OF AEX PROGRAM	GREAT BEAR GOLD PROJECT (MINE)
		– New sumps will be established
Open pit sumps	No	– New sumps as needed
Other water ponds, pumps and pipelines	Yes	– AEX facilities may continue to be used – New ponds, pumps and pipelines will be established as needed
Effluent treatment plant	Yes	– AEX facilities may continue to be used – New facility will be established
Effluent discharge pipeline	Yes	– AEX facilities may continue to be used for discharge to Chukuni River – New facility may be established
Water supply well(s)	Yes	– AEX facilities may continue to be used or new well(s) may be established
Freshwater pumphouse and pipeline	No	– New facility
Potable water treatment plant	Yes	– New facility
Waste Management		
Temporary solid waste storage / waste transfer facility	Yes	– New facility may be established or AEX facilities may continue to be used
Domestic sewage treatment	Yes	– New facility may be established or AEX facilities may continue to be used and expanded
Domestic landfill	No	– Potential new facility
Demolition landfill	No	– Potential new facility
Power Supply		
Emergency diesel-fired generator(s)	Yes	– Continued use of AEX generators – Potential additional generators
Natural gas power supply (pipeline and metering station and/or tanks and gasification unit, and generation facilities)	Yes*	– Continued use of AEX facilities – Potential upgraded facilities with additional capacity for emergency use or power generation (*if natural gas generation established as part of the AEX program)
Onsite electrical distribution lines	Yes	– New facilities will be established – AEX facilities may continue to be used
Electrical substation and transmission line to E2R	Yes**	– Continued use of AEX facilities and new facilities as needed (**if grid power is able to be established as part of the AEX program as preferred)
Fuel and Reagents		
Reagents / chemicals	Limited	– New storage will be required at process plant and equipment maintenance facilities – AEX facility may continue to be used
Propane tank farm	Yes	– New facilities will be established – AEX facilities may continue to be used
Compressed natural gas tanks	Potential	– Not currently proposed, but may be used
Diesel and gasoline fuel tanks	Yes	– New facilities will be established – AEX facilities may continue to be used
Other Onsite Infrastructure		
Access road within Property	No (existing road to be used)	– Upgrade of existing access road and/or potential minor route changes (to be determined)
Haul roads	Yes	– New facilities will be established – AEX facility will continue to be used
Scale	No	– New facility
Existing Dixie Creek bridge crossing	No	– Potential upgrade to existing bridge
Other pipelines / utility corridor(s)	Yes	– New facilities will be established – AEX facility may continue to be used
Communications infrastructure (such as towers, fibre optic cable)	Yes	– New facilities will be established – AEX facility may continue to be used
Security gatehouse / fencing	Yes	– New facility

TYPE OF FACILITY	PART OF AEX PROGRAM	GREAT BEAR GOLD PROJECT (MINE)
Core shack	Yes	– New facilities will be established – AEX facility will continue to be used
Accommodations	Yes	– New facilities may be established – AEX facility may continue to be used
Infrastructure Off Property		
Access road to site	No (existing road to be used)	– Upgrade of existing access road and/or potential minor route changes (to be determined)
Pipeline and connection to regional Enbridge pipeline at Highway 105	Potential	– Tie-in to metering station to be developed / owned by Enbridge
115 kV transmission line and related infrastructure	No	– Potential new line connected to regional grid if sufficient grid power not available at Highway 105
Explosive manufacturing	No	– New facility not expected; if developed will be Vendor owned (on site or off site)

The underground and open pit mine are proposed to operate year-round on a continuous (24-hour) basis, except for periodic maintenance and similar disruptions. Extracted ore from the mine will be transported to the surface for processing in an onsite facility. Based on the proposed processing rate and current information regarding the ore body, a mine life of up to 25 years is expected. This timing may be extended with additional ore resources which are not currently confirmed.

UNDERGROUND MINE

The underground mine will extend the AEX ramps and expand the underground workings. Additional portals may be developed to support development of the underground workings in the Discovery and Viggo development areas, and potentially other areas (not shown on Figure B.3). The depth of the underground mine will depend on the results of the AEX program. While the known ore Resource currently extends to about 600 m vertical depth below surface, there are drill holes down to below 1000 m with strong gold grades, providing confidence that the Resource will continue to extend at depth with additional drilling from surface and the AEX underground workings. Figure B.3 shows potential conceptual deeper development when a shaft is developed to access deeper ore zones underground, depending on the results of ongoing and planned exploration.

Ore will be extracted from underground stopes (rooms) by conventional drilling and blasting using explosives. Oversized rocks will be managed through secondary blasting, use of a rock breaker and/or at an underground crushing facility, if developed. Ore will be trucked to the surface via the ramp. Personnel will also access the underground workings by means of the ramp. If a shaft is developed, it may be used for personnel, equipment and rock movement.

Mine development rock (mine rock) will be re-used to backfill mine stopes and ramp areas as needed and practical. A cemented backfill / backfill plant on surface will support this activity. Excess mine rock that cannot be re-used underground immediately or otherwise retained underground, will be transported to surface and stored in a stockpile. Mine rock from underground development may be returned underground as needed for support, re-used as aggregate on surface if warranted by the rock geochemistry, or will remain in the surface stockpile for eventual reclamation in place.

Ventilation requirements to maintain a safe working environment underground will be met through the portals and raises to surface, with additional raises developed to support the underground mine operations if needed. The ventilation system for the AEX will be expanded as the underground mine is developed, with additional booster and auxiliary fans installed underground as needed. Intake air will be heated during the winter months with a propane-fired air heater or equivalent.

Surface diamond drill holes that intersect the underground workings will be grouted in advance of underground development. Grouting in the underground workings (such as along the walls) will be conducted on an as-needed basis where practical to minimize groundwater inflows and as a safety measure. This will minimize withdrawals from the local groundwater resource, reducing the effluent discharge volume, as well as contributing to a safe and efficient working environment.

Underground mining will occur at a rate of up to approximately 10,000 tpd of ore as an annual average. The final mining rate will be confirmed through ongoing engineering and design activities. Underground mining operations will be supported by a surface and/or underground explosives storage facility.

OPEN PITS

A portion of the ore body is located at relatively shallow depth and is more suitable for open pit mining than underground mining. The open pits and underground mine are expected to operate during the initial years of the mine life. The underground mine is expected to continue to operate after the open pits are depleted. Kinross proposes to develop open pits of approximately the following scale, subject to ongoing exploration and technical work:

- Discovery Pit: 170 m depth, 60 ha (surface footprint)
- Main Pit: 280 m depth, 210 ha
- Viggo Pit: 70 m depth, 25 ha (see Figure B.4).

The benches in rock will be developed by blasting using an ammonium - nitrate / fuel oil explosive and/or an emulsion explosive. The slopes of the pit walls will be designed for safety based on industry standards. Water in the open pits will be managed by sump(s) and pumping station(s) that will keep the working area dry. Excess water will be pumped to the surface for management.

Once exhausted, the open pit(s) may be used for future mine rock storage, to reduce the quantity of mine rock stored on surface.

STOCKPILES

Stockpiles will be created on the surface near the mine to store ore, mine rock, and overburden / organics resulting from site and mine development. Preliminary storage capacities of the stockpiles for the Project are the following, subject to revision as a result of ongoing exploration and technical studies:

- Run of mine (i.e., uncrushed rock as transported from the mine) ore stockpile: approximately 0.1 to 0.5 million tonnes (Mt)
- Low grade ore stockpile: approximately 5 to 20 Mt
- Mine rock stockpile(s): approximately 210 Mt
- Overburden / organics stockpile: approximately 40 Mt.

Runoff from the stockpiles will be collected in ditches and directed to local runoff collection ponds and directed to the integrated site water management system. Additional details will be available regarding the stockpile designs as the engineering studies progress and a better estimation of stockpiling requirements becomes available. Based on the scale of the stockpiles and the environmental baseline studies which are in progress, it is expected that one or more of the Project stockpiles will overprint minor creeks which may contain fish.

ORE PROCESSING

Ore processing will occur at a rate of up to approximately 15,000 tpd of ore as an annual average. This rate includes a contingency and is above the planned output. Ore from the run of mine and low grade ore stockpile will be transferred by conveyor (or potentially loader / truck) to an onsite crushing facility. Once

the ore is crushed, it will be conveyed to an ore stockpile. From there, the ore is conveyed to the process plant for gold recovery.

Ore processing will entail several stages of conventional mineral processing such as grinding and classification, and cyanide leaching to separate the gold / silver from the gangue leading to production of doré bars. The bars will be periodically trucked off site for sale, equivalent to a few trucks per year in volume.

TAILINGS MANAGEMENT

The primary by-product of ore processing is tailings. Tailings consist of ground rock and associated process effluents that result from the processing of ore. Tailings will be treated for cyanide destruction before storage. The majority of the tailings will be transferred to an onsite surface tailings management facility. The tailings may be transferred to the surface storage facility as a slurry, or potentially as a filtered cake. A quantity of the tailings will also be sent to a paste backfill plant where they will be mixed with a binder (such as cement) to increase their strength, so that they can be returned to the underground workings to provide additional underground stability.

Further detail on tailings management facility, including dam designs as applicable, will be developed as engineering progresses for the Project. The facility will be designed in accordance with all regulatory requirements and the Canadian Dam Association Dam Safety Guidelines.

BUILDINGS AND YARD AREAS

The following new permanent facilities are planned for the Project:

- Process plant and crusher / conveying system
- Mine office / dry / maintenance complex
- Cold and warm storage buildings
- Reagent storage facilities
- General laydown areas
- Additional core shack, laboratory and outbuildings
- Accommodations
- Explosives storage facilities.

These will be supported by related road, piping and power infrastructure as needed.

The preliminary site layout has been developed to take advantage of the existing regional infrastructure and AEX program facilities, as well as accommodate existing geotechnical conditions and avoidance of potential ore resources. A primary consideration was to minimize new land disturbance and to provide adequate setbacks from existing watercourses where practical. The final site plan will be determined during the environmental approvals process and detailed engineering design. Lighting will be provided as appropriate to ensure a safe working environment.

Where applicable, exterior and interior tankage including for storage of chemicals, will be designed to ensure that any spillage is captured. Special equipment and handling procedures will ensure that cyanide and other reagents are stored and used safely.

Kinross anticipates that some workers will commute daily from the existing communities of Red Lake and Ear Falls, and other residences located within about a one hour drive. An accommodations complex (or similar) may be developed as part of the Project if there is insufficient housing available and given the competitive nature of the hiring market. The accommodation complex is expected to be built to support the construction period at a larger temporary size and then scaled down for the permanent, long-term

camp to support operations. Expansion of the AEX camp is also under consideration. Further information will be provided in the Detailed Project Description.

Explosives needed for underground and open pit mining, as well as potentially for site preparation, will be prepared by a licensed contractor in a manufacturing facility, and delivered to the location where they are needed as required. Explosives storage areas will be maintained on surface and underground. All explosives-related manufacturing and storage facilities will be sited and managed to meet federal regulatory requirements. Explosives manufacturing, transport, storage and use will be under the care and control of an external company.

WATER MANAGEMENT FACILITIES AND DRAINAGE WORKS

Kinross proposes to establish an integrated water management system for the site to manage contact water from the underground mine, open pits and surface facilities. The underground mine will intercept groundwater, while the open pit will collect groundwater, runoff and direct precipitation. Mine water from the required dewatering of the underground mine and open pit, to enable mining to occur will be collected in sumps and pumped to the surface for additional management. The mine water management and treatment infrastructure developed for the AEX program is expected to be re-used at the beginning of operations and will potentially be incorporated into the overall integrated water management system for the operating mine.

Precipitation and surface runoff that comes into contact with mine-related facilities on surface will be collected in ditches / runoff collection ponds. Two larger ponds are currently envisioned to receive these inputs (although these may be combined or additional ponds developed): a primary water management pond anticipated to be located near the tailings management facility, and potentially a secondary water management pond closer to the main pit and stockpile areas. The primary water management pond will be designed with sufficient capacity to support the retention and treatment of excess water from the tailings management facility and to provide water for processing operations. If a secondary water management pond is developed (currently proposed for near the open pits), it will primarily manage runoff and contact waters from the open pits and stockpiles, potentially for direction to the water management pond, or for treatment and discharge with other site contact water.

The integrated water management system and associated effluent treatment plant will be designed and operated to ensure that excess water meets all regulatory requirements and can be discharged to the environment. A preliminary effluent discharge location has been identified on the Chukuni River, which will allow continued use of the pipeline corridor established for the AEX program. The precise discharge location and additional infrastructure required for the mine has not yet been determined.

Freshwater for domestic needs is expected to be provided from an onsite well (potentially the well established for the AEX program) or the Chukuni River. A potable water treatment plant will be constructed to treat this water for domestic use on site. Most of the industrial water needs for the Project will be met by water recycling, including within the process plant, and re-use of water returned from the tailings management facility. Fresh water required for other site needs and potentially for process plant start up / ore processing, is expected to be pumped from and onsite well and/or the Chukuni River.

The firewater tank (or pond) established for the AEX Program along with other planned site ponds are anticipated to provide sufficient water to respond to a potential Project fire.

ACCESS AND SITE ROADS

The Project site is accessible by Highway 105, which provides year-round access and connection to Red Lake (to the northwest) and Ear Falls (to the southeast). There is existing all-weather access road (Tuzyk's Road) from the highway that provides access for forestry and existing commercial aggregate

operations. Portions of the road are expected to require upgrading for the mine development. This may include minor re-routing, widening or strengthening the road base, and replacement of existing culverts.

A network of roads of will be established within the site as needed, minimizing water crossings. New roads will be constructed of aggregate or non-potentially acid generating mine rock. New major road and watercourse crossings are not expected for the Project, although minor crossings and cross drainages may be needed. The water pipeline corridor which will be developed for the AEX program, and potentially expanded with additional pipelines for the mine, includes an access road to allow for pipeline inspections, environmental monitoring and maintenance, and is expected to cross four headwater creeks / low-lying swales, likely as culverts (Figure B.1A and Figure B.1B). The existing prefabricated truss bridge across Dixie Creek may be upgraded.

DOMESTIC AND INDUSTRIAL WASTES

A domestic and/or demolition landfill may be established on the site for disposal of non-hazardous wastes. Special management / hazardous materials resulting from the construction and operation of the Project will be periodically shipped off site to appropriate facilities.

Domestic sewage during the construction and operating phases will be treated by an appropriately sized, technically acceptable method, such as a sewage treatment plant, including potential expansion of the AEX system. A different method, including potential use of tanks for transport and treatment off site, may be used during early construction and later in the closure phase, when there are fewer people on site.

POWER SUPPLY

Power infrastructure will be established for the AEX program and is anticipated to including the following:

- Diesel generators with a maximum name plate capacity of less than 5 MW, to act as standby generators once a permanent power source is ready
- A pipeline connection to the existing natural gas pipeline (Enbridge) located along Highway 105 with onsite natural gas generation (<10 MW total capacity currently anticipated).
- Establishment of a 115 kV transmission line connection to the existing regional electrical grid (115 kV E2R transmission line) where it crosses the Property, if grid capacity is available

The total electrical demand for the Project is expected to peak at a maximum of 50 to 60 MW but may be higher if additional electrification of the mine occurs.

AGGREGATE OPERATIONS

Aggregate will be required to develop the Project. The primary source of material is proposed to be non-reactive mine rock and overburden from stripping and other construction activities within the site. There are licensed commercial aggregate pits nearby (along Tuzyk's Road) that also represent a potential source of aggregate for the Project. Discussions with the owners of these aggregate facilities are planned to explore potential commercial arrangements.

A new source under the care and control of Kinross, such as an aggregate / clay pit for low permeability material, may be established on the Property if needed.

B.3.4 PRELIMINARY LIST OF MINE ACTIVITIES

The following (and other) activities will occur prior to construction:

- Completion of engineering studies
- Completion of environmental baseline studies

- Development and implementation of environmental protection and monitoring plans for construction
- Ongoing engagement and consultation, with stakeholders and Indigenous Peoples
- Application for, and receipt of environment-related permits (or amendments to AEX permits)
- Corporate decision to proceed to develop a mine
- Hiring of individuals and contractors, and procurement of material and equipment.

Table B.2 provides a preliminary listing of activities associated with the construction, operation, decommissioning and closure phases of the Project.

Table B.2 Preliminary List of Activities for the Great Bear Project

Construction Phase
– Implementation of site-specific erosion and sediment control, and water management plans
– Movement of construction equipment and materials to site
– Excavation and site grading as needed
– Construction of new site facilities and/or expansion of existing AEX facilities (see Table B.1)
– Development of habitat compensation features as needed
– Mitigation for heritage resources and other effects if needed
– Stripping and stockpiling of overburden and organic material
– Initiation of open pit mine development
– Additional development of underground mine and infrastructure, including expansion of existing AEX facilities
– Establishment of additional water management and treatment works
– Established of new mine waste management facilities including tailings management facility dams
– Environmental monitoring and reporting, including work by Indigenous monitors as applicable

Operations Phase
– Receipt of outstanding environment-related permits if any
– Development and implementation of environmental protection and monitoring plan(s) for operation
– Ongoing engagement and consultation with stakeholders and Indigenous Nations
– Overburden and organic material from the open pits will be either stockpiled or used for progression reclamation
– Mine rock extracted from the underground workings and open pits will be stockpiled, re-used as aggregate, or potentially re-used a consolidated rockfill underground
– Ore will be extracted from the underground workings and open pits, and will be either temporarily stockpiled, or will be transported directly to the crushing system for sizing
– Sized ore will be processed to recover the gold in a processing facility, and produce gold doré bars that will be periodically shipped off site for sale
– Low grade ore will be extracted from the underground workings and open pits, and will be stockpiled or transported directly to the crushing system
– Tailings resulting from the processing of ore will be stored in a surface tailings management facility or used as backfill underground
– As operations continue the underground mines will become progressively deeper and wider below the ground surface
– As operations continue the open pit will have a progressively larger surface area and will become deeper
– Progressive reclamation will occur of facilities when no longer needed / depleted as practical
– Ongoing management and treatment of mine water and contact waters for discharge of excess waters that meet regulatory requirements
– Ongoing management of chemicals and wastes, including remediation of incidental spillage if any
– Environmental monitoring and reporting, including work by Indigenous monitors as applicable
– Follow up environmental studies
– Periodic updates / amendments to the regulatory Closure Plan to reflect changes to the Project and site activities

Decommissioning and Closure Phase

– Development and implementation of environmental protection and monitoring plan(s) for closure
– Ongoing engagement and consultation with stakeholders and Indigenous Nations
– Removal of reagents and chemicals for disposal off site
– Demolish facilities as no longer needed
– Removal of equipment / facilities as applicable, and allow the underground mine and open pits to fill with water
– Seal openings to underground for long-term site safety
– Management of demolition waste in accordance with all regulatory requirements; potential establishment of onsite demolition landfill for inert waste
– Break concrete foundations down to near grade
– Break up concrete, puncture liners, scarify compacted grounds etc. to establish free drainage
– Investigate and remediate affected ground from spillage if any, such as near liquid fuel storage areas
– Regrade as needed for long-term stability and establish final surface drainage
– Remove power infrastructure when no longer needed
– Place growth material over affected areas as needed for long-term vegetation success
– Environmental monitoring and reporting, including work by Indigenous monitors as applicable
– Revocation of approvals to operate when no longer required
– If appropriate, connect the water-filled pit lakes to the Dixie Creek / Chukuni River system once the pit lake quality meets regulatory requirements
– Return of reclamation financial assurance

B.3.5 PRELIMINARY DECOMMISSIONING APPROACH

Decommissioning and final closure of the Project site will be governed by the Ontario *Mining Act*, and its associated Regulations and Codes, and will be informed by ongoing engagement with Indigenous Nations and potentially affected stakeholders. The Act requires that a Closure Plan be filed for mining project before construction, and that financial assurance be provided so sufficient funds are in place to carry out the decommissioning activities.

A preliminary description of the proposed decommissioning and reclamation measures is provided in the text that follows. The preliminary measures are subject to consultation, additional engineering and regulatory review. The active phase of decommissioning and reclamation is expected to be completed within approximately three years of the end of operations. Environmental monitoring will continue after reclamation is completed, until such time as the closure objectives as determined in the Closure Plan have been achieved.

UNDERGROUND MINE

Equipment (heavy equipment, pumps, pipelines, ductwork etc.) remaining underground at the time of closure will be purged of any hazardous fluids and materials (removed to surface for handling). Equipment will be left in an inert state underground or removed and managed according to regulations at the time.

All openings to the underground from surface (portals, raises and shaft if developed) will be secured in accordance with the Mine Rehabilitation Code of Ontario. The portals are anticipated to be backfilled securely with rock; raises / shaft will be capped with an engineering cover (typically reinforced concrete keyed to bedrock).

Underground workings will be allowed to fill with water naturally through gradual groundwater seepage. The workings are expected to flood to below the final ground surface based on the local topography and natural groundwater levels. No long-term discharge from the workings is expected from any location (backfilled portals or capped raises / shaft).

OPEN PIT

Open pits will naturally fill with water from direct precipitation, groundwater and localized runoff to create pit lakes. There is the potential that enhanced filling could occur, such as by transferring a limited portion of the spring melt water from the Chukuni River system into the pit at closure, pending regulatory approval to expedite completion of filling. The approach to refilling the pits with water will be assessed further through the regulatory processes and detailed in the future regulatory Closure Plan.

Pit slopes above and near the final pit lake level will be reclaimed to reduce the potential for erosion. Measures will be put into place in accordance with the Mine Rehabilitation Code of Ontario, to ensure public / wildlife safety while the pit lakes are filling. Pit lake water quality will be monitored during filling and management including by treatment as needed. Once the pit lakes are at their final level and the water quality meets all regulatory requirements and is protective of the environment, the pit lakes will be allowed to overflow by gravity through constructed channel(s), likely to Dixie Creek.

STOCKPILES AND TAILINGS MANAGEMENT FACILITY

The primary potential closure concern with respect to the mineral wastes (mine rock, tailings and overburden) is stability, and the quality of runoff and seepage from the facilities. Geochemical investigations are ongoing for the Project. Reclamation measures will be designed to mitigate acid mine drainage / metal leaching concerns as needed. This may include design and placement of engineering covers, or a water cover (tailing storage facility only) over the mineral waste. The mineral waste storage areas will be reclaimed, reshaped as needed for stability and to reduce potential for erosion, and revegetated to improve long-term aesthetics.

WATER MANAGEMENT FACILITIES

Once dewatering of the underground workings and open pit ceases and surface contact water no longer needs to be treated or managed, the integrated water management system will be decommissioned. The pipelines to the Chukuni River and water intake / discharge structure, will be decommissioned and removed, and the pipeline corridor reclaimed in accordance with the provincial Closure Plan. Ponds will be sampled to verify acceptable water quality and will then be drained. Bottom settled solids in the ponds will be tested, and if appropriate will remain in place, or will be otherwise managed. Pond liner(s) if any, will be punctured to allow for natural drainage. Surrounding dams will be breached and recontoured to allow natural drainage to the environment. Berms and ditches used on site will also be breached or regraded as needed to allow for natural drainage to the environment.

GENERAL SITE AREA AND INFRASTRUCTURE

Kinross will pursue opportunities to sell, re-use or recycle equipment, tankage, machinery, pipelines, building and infrastructure waste materials generated through demolition. Building demolition wastes and equipment wastes that cannot be sold for reuse, or scrap, will be handled according to environmental regulations at that time, potentially within an onsite demolition landfill or alternatively, transported to an offsite waste management facility. Concrete building foundation(s) will be broken up and reduced to near grade to allow drainage, and will be covered with overburden, graded and seeded. Where practical, clean demolition concrete will be used as a filling resource or will be recycled as crushed aggregate. Onsite roads not required for long-term site maintenance and environmental monitoring will be scarified (broken up). If a dedicated transmission line is developed that remains under the care and control of Kinross, it will be de-energized, and above ground equipment removed for sale, re-use or disposal.

The Project site will be revegetated, potentially as a combination of active seeding and passive revegetation.

B.4 CAPACITY ESTIMATE

The anticipated size or production capacity of the Project, with reference to the thresholds set out in the Physical Activities Regulations, is as follows:

- Metal ore extraction from the open pit and/or underground mine is planned at a nominal rate up to 15,000 tpd or less. When the open pit(s) and underground mine are operating, there may be daily peaks of ore extraction (maximum rate of extraction) reaching up to 60,000 tpd. This peak extraction rate could occur occasionally for a few days when mining is only within the ore zone of the open pit. These peak ore production days would generally be followed by up to several days of mining of only mine rock. These relatively brief periods of where the full day mine production is ore, are expected for open pit mines within high grade ore deposits.
- Processing of metal ore extracted from the Project is planned at a maximum rate of up to 15,000 tpd as an annual average over the life of the mine. During periods of high ore production from the mine, mined ore will be temporarily stockpiled on surface until there is capacity in the plant.

B.5 PRELIMINARY SCHEDULE

The Project includes the potential development, operation, and decommissioning and closure of an underground and open pit, gold mine. The Project is expected to build on facilities and infrastructure established from the proposed AEX program.

Kinross is initiating the potential approvals process for the mining project through submission of this Initial Project Description.

The stages envisioned for overall Property development are as follows:

	Development Phase / Activity	**Timing**
	Environmental Baseline Studies and Investigations	2021 to 2024
	Engineering and Other Technical Studies	2022 to 2024
	AEX Environmental Approvals / Procurement	2023 to 2024
	AEX Development and Bulk Sample Extraction	2024 to 2028
	Impact Assessment Process	2023 to 2026
	Environmental Approvals* and Pre-construction Activities	2024 to 2027
	Construction	2027 to 2029
	Operation (mining and processing)	2029 to 2054
	- Underground mine	2029 to 2054
	- Open pit mine	2029 to 2042
	- Ore processing	2029 to 2054
	Decommissioning and Closure	2055 to 2058
	Post-closure and Monitoring	2059+

Designated Project
Other Site Activities

* Kinross intends to initiate the federal and provincial environmental approvals processes concurrently with the Impact Assessment process.

B.6 LIST OF POTENTIAL ALTERNATIVES

Alternatives to the Project, and alternative means of completing the Project, are typically considered during regulatory reviews. Kinross proposes to develop and operate the Project to provide a reasonable return on investment to their shareholders. The underlying rationale for the Project is the strong demand for metals in the global marketplace. The alternative of abandoning the Project does not meet this purpose. Delaying Project development also does not meet the purpose of the Project, because metal prices are at a sustained high level, and capital and operating costs are only expected to increase over time. Accordingly, there are no functionally different alternatives to the Project that meet to needs and purpose of the Project, and are technically and economically feasible.

Future engineering studies and regulatory documentation will consider and document alternative means of completing the Project that are technically and economically feasible. A preliminary list of alternatives that may be considered is provided below, subject to the results of ongoing engagement, regulatory advice and engineering studies:

- Mine rock storage (re-use as construction and reclamation material, various stockpile locations based on geotechnical and geochemical properties, and storage in depleted open pit)
- Tailings management methods and locations (conventional slurry, thickened, filtered tailings; various surface storage locations and re-use as backfill underground)
- Solid waste management location (approved onsite facility and existing approved offsite facility)
- Water supply source (Chukuni River and groundwater well)
- Aggregate supply source (re-use mine rock, purchase aggregate from suppliers and develop onsite quarry and/or pit)
- Power supply (diesel generators, natural gas power generation and electrical grid power; note that a dedicated regional transmission line for the project is not being considered)
- Mine decommissioning and closure methods (open pits, mineral waste storage facilities and demolition waste management).

Currently, no alternative methods that are economically viable have been identified for:

- Mining methods (constrained by orebody location and geometry)
- Ore processing methods (controlled by laboratory testing and analyses to obtain optimal recovery utilizing full scale proven technologies)
- Type and location of explosive storage and siting (strictly controlled by federal regulations and rock type / blast requirements).

452000 454000 456000 458000 460000 462000 464000 466000

5638000 5636000 5634000 5632000

Natural Gas Pipeline
TUZYK'S ROAD
105
Mine Water Pond
Tailings Management Facility
Mine Rock Stockpile
Low Grade Ore Stockpile
Genessee Lake
Tear Drop Lake
Discovery Pit
Advanced Exploration Site
Effluent / Fresh Water Pipeline Corridor
Existing 115 kV E2R (Ear Falls to Red Lake)
Overburden Stockpile
Main Pit
Explosive Magazine
Viggo Pit
Rice Lake
Conceptual Effluent Discharge Location
Dixie Creek
Chukuni River
Dixie Lake

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LEGEND

- Property Boundary
- Highway (Including Natural Gas Pipeline)
- Existing Transmission Line
- Watercourse
- Waterbody

Proposed Mine Features

- Open Pit
- Mine Rock Stockpile
- Ore Stockpile
- Overburden Stockpile
- Mine Facilities / Infrastructure
- Tailings Management Facility
- Pond
- Advanced Exploration Site
- Road
- Transmission Line
- Natural Gas Pipeline
- Effluent / Fresh Water Pipeline Corridor

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Aerial imagery provided by Kinross (scene date: September 2022)
- Property boundary provided by Kinross, March 2023.
- Roads information provided by Kinross, August 2022.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.
- Site plan based on information provided by Kinross, January 2023.

Datum: NAD83
Projection: UTM Zone 15N

0 1 2 4 6 8 10 Kilometres

N W E S

KINROSS

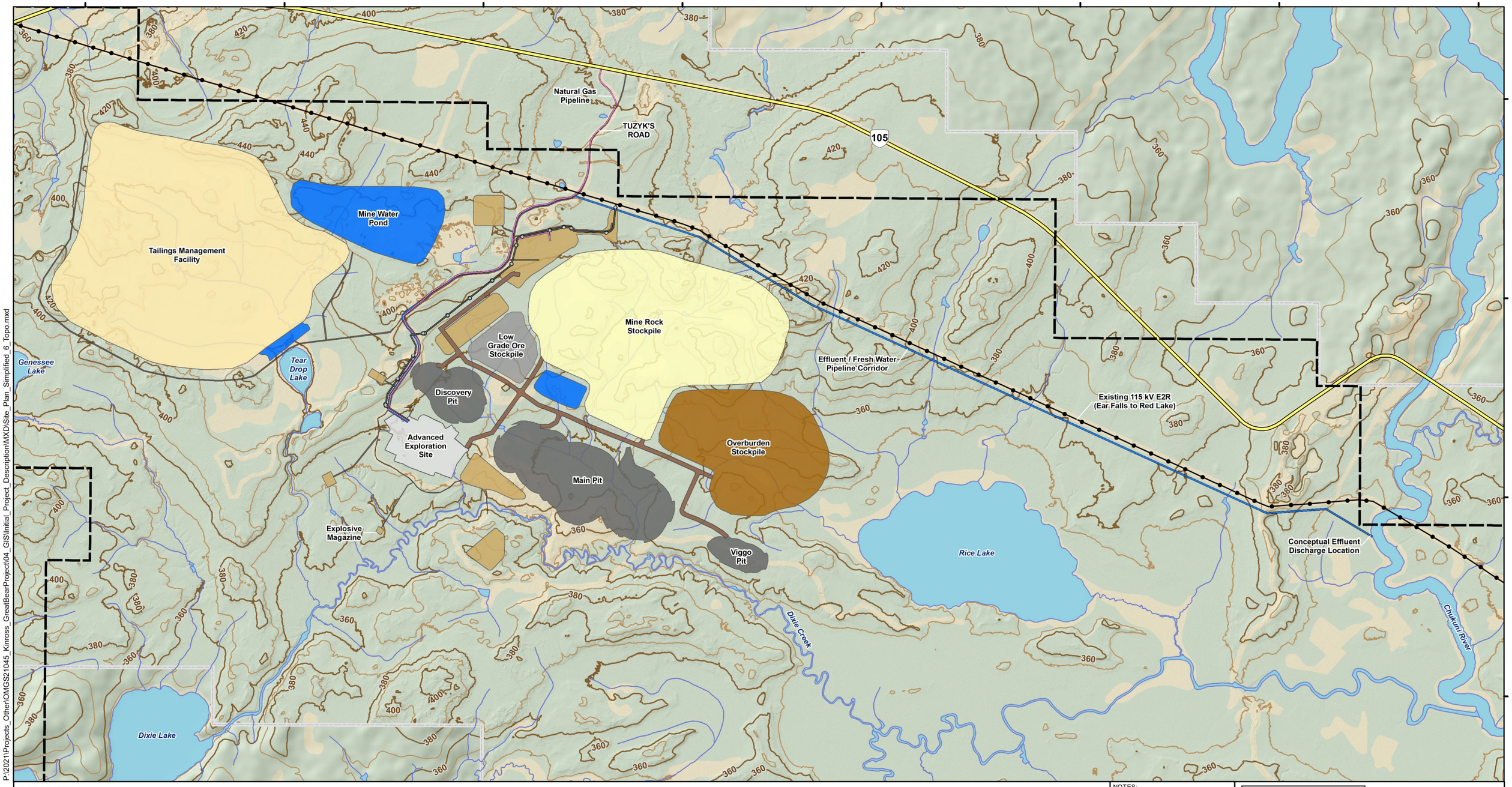
wsp

GREAT BEAR PROJECT

Conceptual Site Plan (satellite)

PROJECT N°: OMEMA2303 | **FIGURE: B.1A**

SCALE: 1:36,000 | DATE: July 2023



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LEGEND

- Property Boundary
- Highway (Including Natural Gas Pipeline)
- Existing Transmission Line
- Watercourse
- Waterbody
- Major Contours (20 m interval)
- Minor Contours (10 m interval)
- Extent of Lidar Survey

Proposed Mine Features

- Open Pit
- Mine Rock Stockpile
- Ore Stockpile
- Overburden Stockpile
- Mine Facilities / Infrastructure
- Tailings Management Facility
- Pond
- Advanced Exploration Site
- Road
- Transmission Line
- Natural Gas Pipeline
- Effluent / Fresh Water Pipeline Corridor

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Contours acquired from Land Information Ontario (MNRF), 2022 and 2022 LiDAR survey.
- Property boundary provided by Kinross, March 2023.
- Roads information provided by Kinross, August 2022.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.
- Site plan based on information provided by Kinross, January 2023.

Datum: NAD83
Projection: UTM Zone 15N

0 1 2 4 6 8 10 Kilometres

KINROSS

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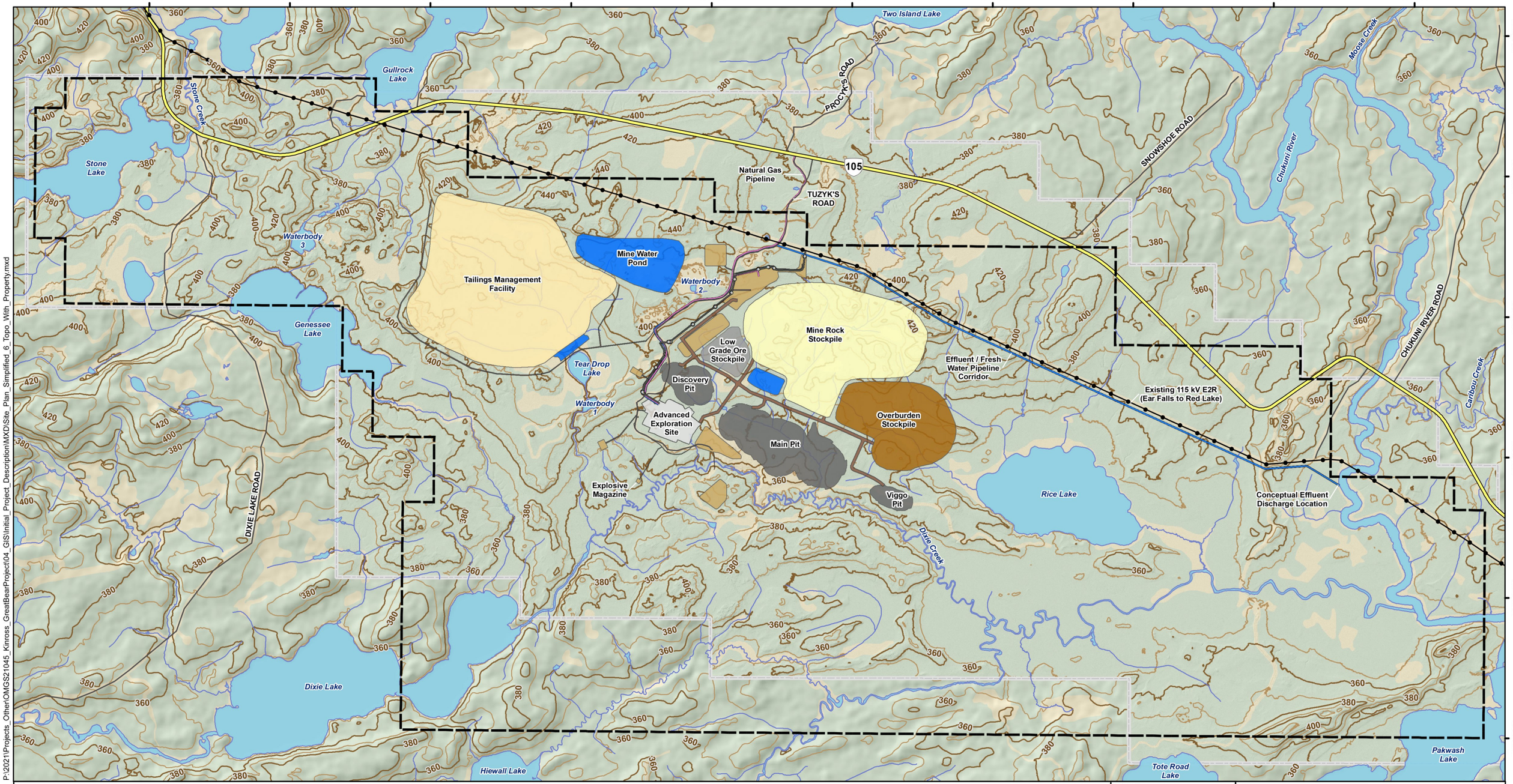
GREAT BEAR PROJECT

Conceptual Site Plan (topography)

PROJECT N°: OMEMA2303 | **FIGURE: B.1B**

SCALE: 1:36,000 | DATE: July 2023



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LEGEND

- Property Boundary
- Highway (Including Natural Gas Pipeline)
- Local Road
- Existing Transmission Line
- Watercourse
- Waterbody
- Major Contours (20 m interval)
- Minor Contours (10 m interval)
- Extent of Lidar Survey

Proposed Mine Features

- Open Pit
- Mine Rock Stockpile
- Ore Stockpile
- Overburden Stockpile
- Mine Facilities / Infrastructure
- Tailings Management Facility
- Pond
- Advanced Exploration Site
- Road
- Transmission Line
- Natural Gas Pipeline
- Effluent / Fresh Water Pipeline Corridor

0 1 2 4 6 8 10 Kilometres

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Contours acquired from Land Information Ontario (MNRF), 2022 and 2022 LiDAR survey.
- Property boundary provided by Kinross, March 2023.
- Roads information provided by Kinross, August 2022.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.
- Site plan based on information provided by Kinross, January 2023.

Datum: NAD83
Projection: UTM Zone 15N

KINROSS

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GREAT BEAR PROJECT

Conceptual Site Plan and Property Boundary (topography)

PROJECT N°: OMEMA2303	**FIGURE: B.1C**
SCALE: 1:51,000	DATE: July 2023

455000 455250 455500 455750 456000 456250 456500

5635000 5634750 5634500 5634250

Transmission Line
Natural Gas Pipeline
Effluent Pipeline Corridor
Overburden Stockpile
Ore Stockpile
Mine Rock Stockpile
Potential Overburden Stockpile
Mine Rock Stockpile
Portal
Settling Pond
Sludge Cells
Storage / Snow Stockpile
Polishing Pond
Mine Water Pond
Mine Water Pond
TUZYK'S ROAD

Site Plan Overview

Natural Gas Metering Station
Natural Gas Pipeline
Chukuni River
Transmission Line
105
Tear Drop Lake
ENLARGED AREA
Effluent Pipeline Corridor
115 kV E2R (Ear Falls to Red Lake)
Dixie Creek
Rice Lake
Chukuni River
1 Km

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LEGEND

- Property Boundary
- Highway
- Local Road
- Resource / Recreation Road
- Existing Transmission Line
- Watercourse
- Waterbody

Advanced Exploration Site Plan

- Portal
- Ore Stockpile
- Mine Rock Stockpile
- Overburden Stockpile
- Potential Overburden Stockpile
- Storage / Snow Stockpile
- Pond / Sump
- Potential Sump
- Sludge Pond
- Access Road
- Building
- Parking
- Footprint
- Ditch
- Natural Gas Pipeline
- Natural Gas Metering Station
- Transmission Line
- Effluent Pipeline Corridor
- Fence

Advanced Exploration Site Features

1: Administration / Dry Building
2: Sewage Tanks / RBC
3: Bus Loop Parking
4: Compressor
5: Crusher
6: Camp
7: Effluent Treatment Plant
8: Emergency Vehicles
9: Water Tanks
10: Fuel Storage
11: Gas
12: Generators / Electrical House
13: Ventilation Fans and Heaters
14: Kitchen / Recreation
15: Natural Gas
16: Office / First Aid
17: Security
18: Storage
19: Truck Shop
20: Wash Bay
21: Waste
22: Fresh Water Well

NOTES:
- Aerial imagery provided by Kinross (scene date: September 2022)
- Property boundary provided by Kinross, March 2023.
- Roads information provided by Kinross, August 2022.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.
- Advanced exploration site plan provided by Kinross, May 2023.
- Water corridor pipeline provided by Kinross, June 2023.

Datum: NAD83
Projection: UTM Zone 15N

0 100 200 400 600 800 1,000 Metres

KINROSS

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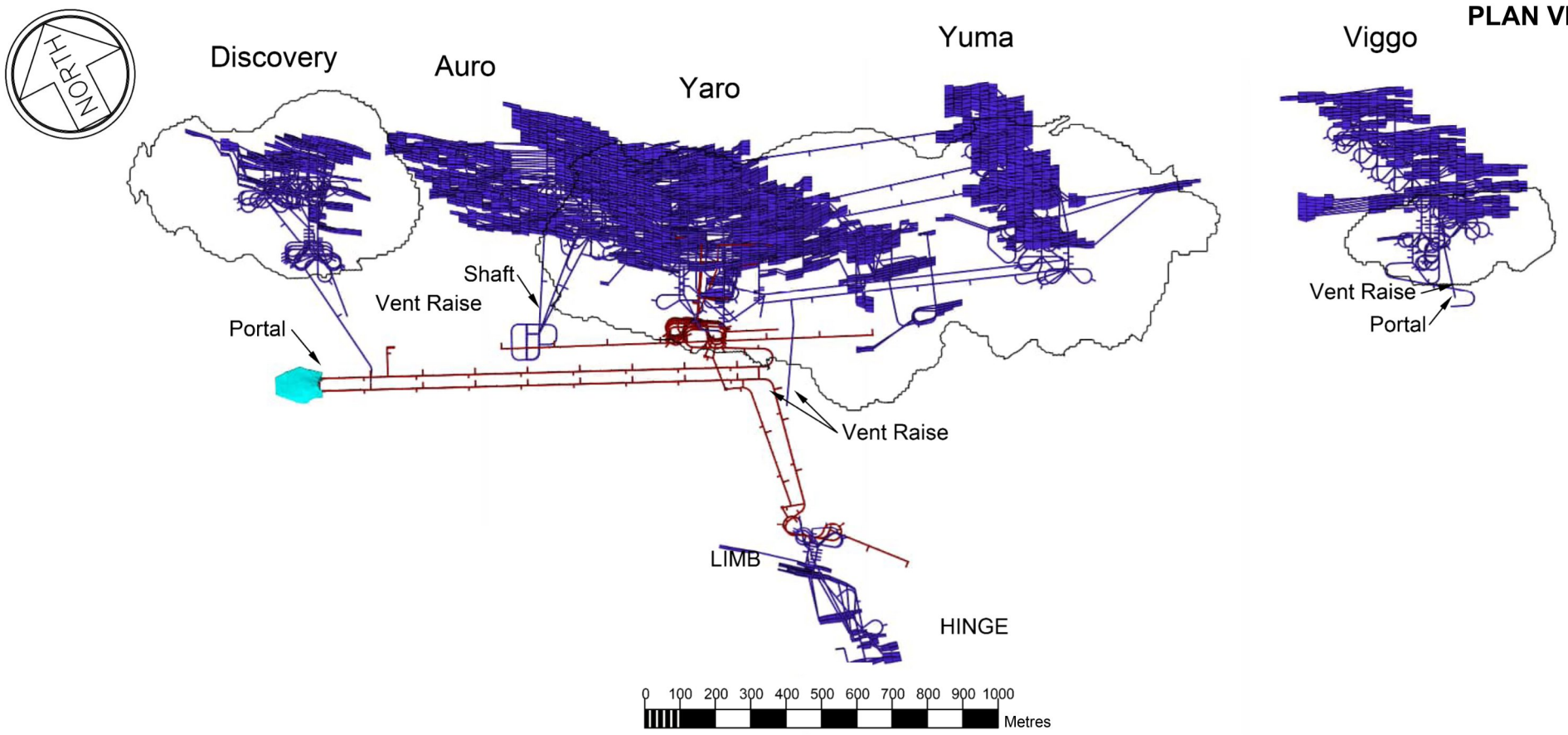
GREAT BEAR AEX PROGRAM

AEX Site Plan (Satellite)

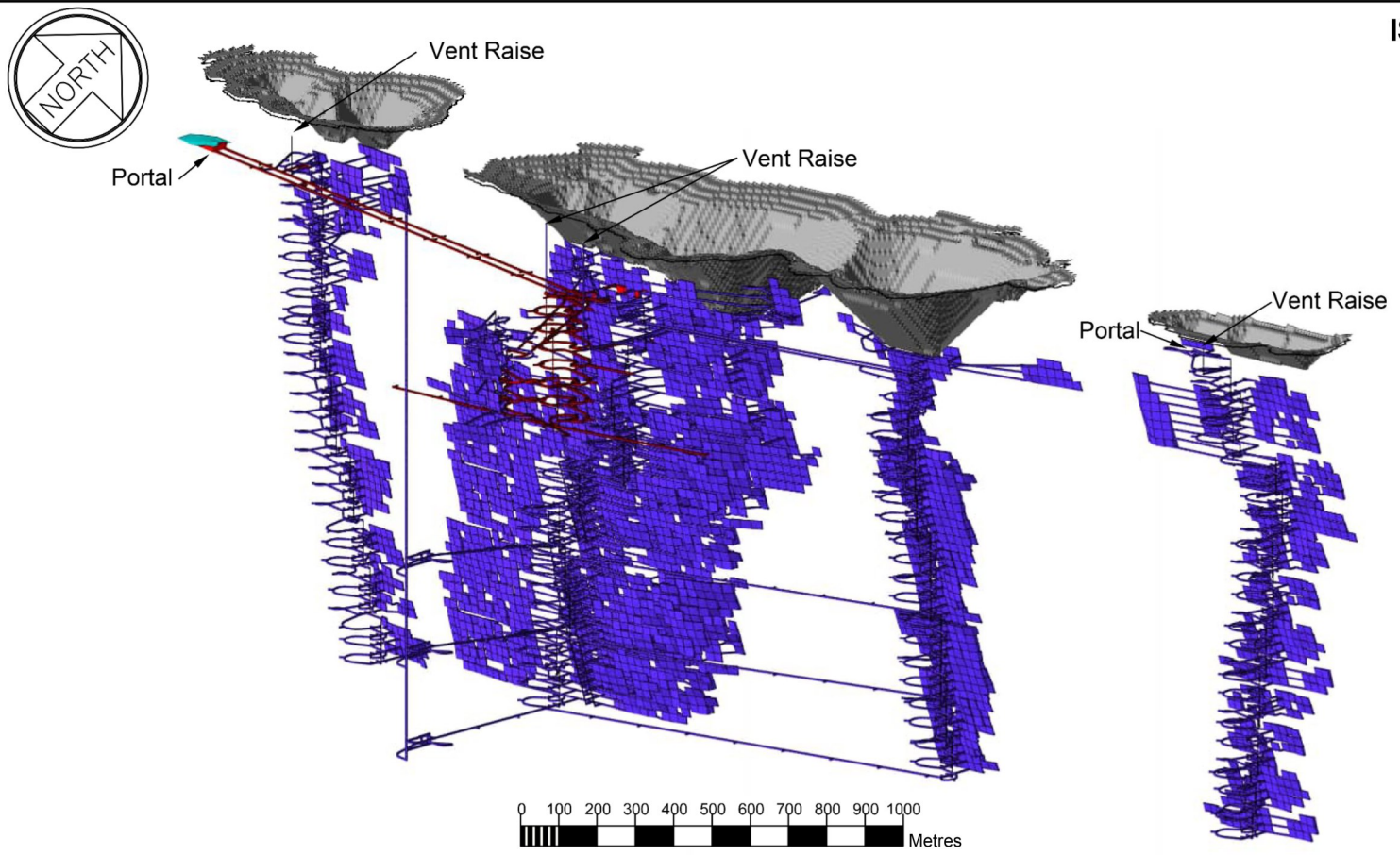
PROJECT N°: OMEMA2303 | **FIGURE: B.2**

SCALE: 1:4,500 | DATE: July 2023

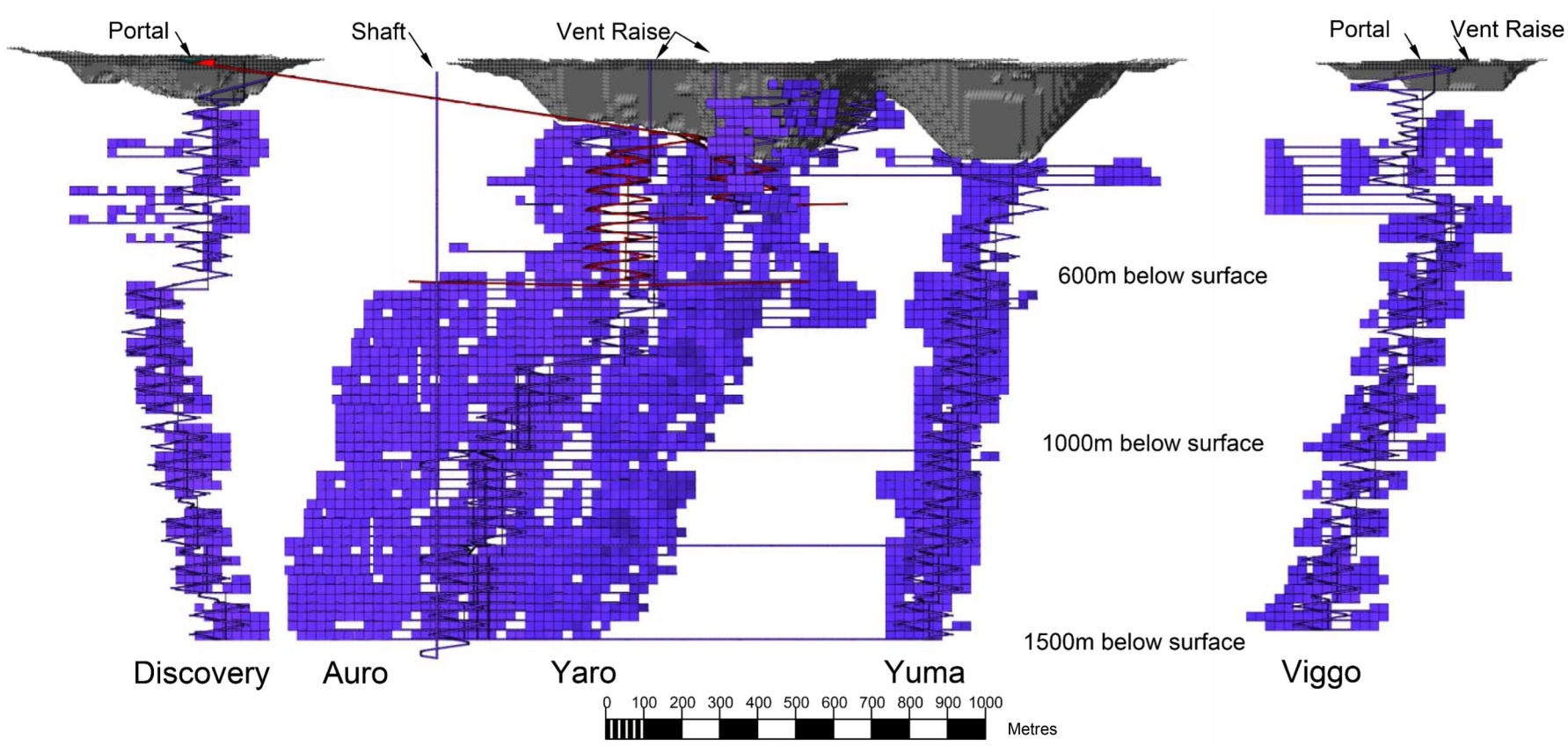
PLAN VIEW



ISOMETRIC VIEW



SECTION VIEW



LEGEND

- AEX
- Life of Mine
- Open Pit

NOTES:
- Preliminary underground mine plan provided by Kinross, July 10, 2023.
- Schematic is based on potential future mine development and not proven resources.

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GREAT BEAR PROJECT

Conceptual Underground Mine Plan

PROJECT N°: OMEMA2303 | **FIGURE: B.3**

SCALE: AS SHOWN | DATE: July 2023

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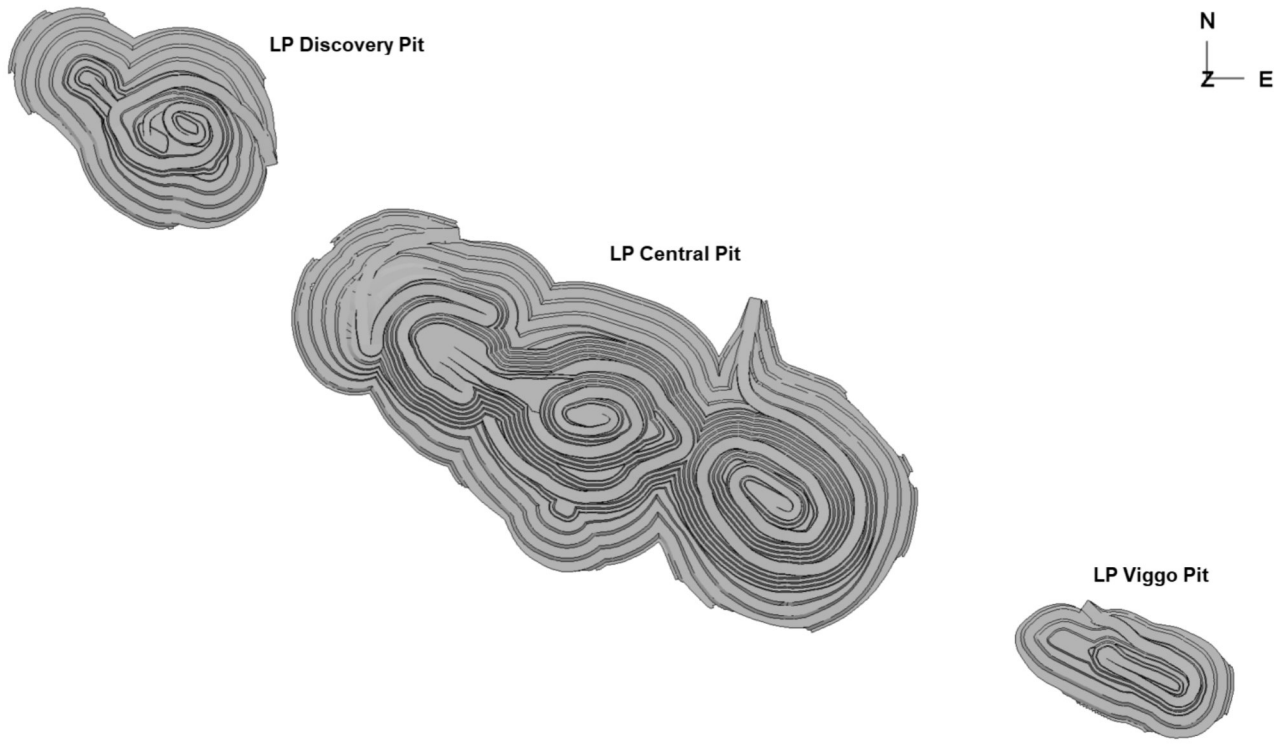
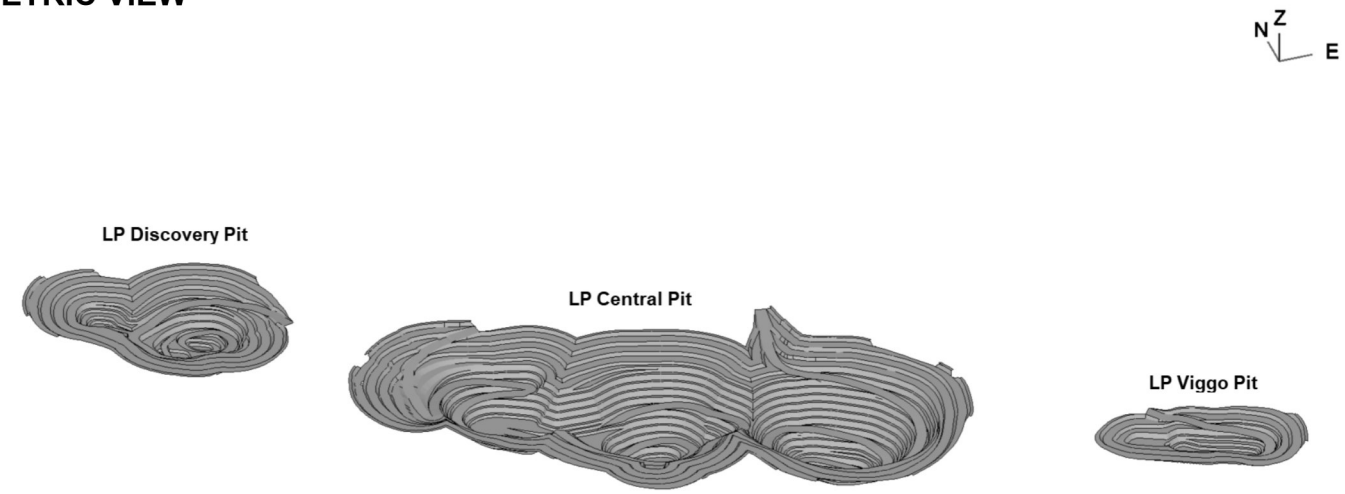
PLAN VIEW



ISOMETRIC VIEW



2 Kilometres

LEGEND

NOTES:
- Preliminary open pit mine plan provided by Kinross, February 7, 2023.
- Schematic is based on potential future mine development and not proven resources.

KINROSS

wsp

GREAT BEAR PROJECT

Conceptual Open Pit Mine Plan

PROJECT N°: OMEMA2303	**FIGURE: B.4**
SCALE: AS SHOWN	DATE: July 2023

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C. LOCATION AND CONTEXT

C.1 GEOGRAPHIC COORDINATES

The Project is located in the Red Lake Mining District which has a long history of exploration and mining. The Property is located southeast of the Municipality of Red Lake and northwest of the Township of Ear Falls.

The site is accessed via Tuzyk's Road which is connected to Highway 105.

The centroid of the main Project site is approximately 455665E 5633910N, Zone 15N NAD 83 (see also Figure B.1A). Coordinates of other major Project facilities (Zone 15N NAD 83) are as follows:

- Ore stockpile; 456235E, 5635504N
- Mine rock stockpile; 457703E, 5635680N
- Overburden stockpile; 458668E, 5634506N
- Tailings management facility; 453027E, 5636459N
- Main Pit; 457029E, 5634159N
- Discovery Pit; 455675E, 5635060N
- Viggo Pit; 458563E, 5633427N
- Effluent / freshwater pipeline corridor (at AEX site); 455241E, 5634757N
- Effluent / freshwater pipeline corridor (at Chukuni River); 464960E, 5633585N.

C.2 SITE MAPS

The preliminary site layout (shown in Figure B.1A,B,C) will be refined further as a result of ongoing engineering studies and engagement activities. This plan suggests areas of proposed development, rather than actual design features. Additional mapping provided in this Initial Project Description includes:

- Project location (Figure A.1)
- Location of local communities and First Nation Reserves / communities (Figure A.2 and Figure C.1)
- Local infrastructure (Figure C.1)
- Land tenure and nearby cottages (Figure C.2 and Figure C.3)
- Watershed, watercourses and waterbodies (Figure C.4 and Figure C.5).

C.3 DESCRIPTION OF LANDS

Kinross is the 100% owner of the 11,780 ha Great Bear Property consisting of boundary cells and single cell mining claims located in the unorganized townships of Faulkenham Lake, South of Byshe, Dixie Lake and Bruce Lake (Figure C.2). The process to lease surface and mining rights for a portion of the Property was initiated in June 2021 and is ongoing.

There are three regional infrastructure facilities that cross parts of the Property (Figure C.1 and Figure C.2):

- Highway 105, Ontario Ministry of Transportation
- Regional natural gas pipeline, Enbridge
- 115 kV transmission line and local distribution line, Hydro One Networks Inc.

These facilities are not in conflict with the proposed Project, and lands associated with these facilities and land tenure held by others will be avoided by the Project.

C.4 PROXIMITY TO RESIDENCES AND COMMUNITIES

The Property is located in an area of very low population density. Figure C.3 shows the known residences and camps in the local area, including: at the mouth of the Chukuni River (three cottage or residential sites), on Pakwash Lake, along Highway 105 and upstream lakes as shown.

The nearest larger communities, as shown on Figure C.1, are the Municipality of Red Lake (population 4,094) located about 23 km to the northwest (cross country; 31 km by road), and the Township of Ear Falls (population 924) located 37 km to the southeast (cross country; 49 km by road). Distances provided in this document are cross-country distances unless otherwise noted. It is expected that workers may live in these communities. Both communities are located a reasonable driving distance of the site for commuting (i.e., less than about 45 minutes).

The Project is located within Treaty No. 3, also known as the North-West Angle Treaty, which was signed in 1873 by some Ojibwe Peoples and representatives of the Crown, placing a large area of northwestern Ontario (primarily the Lake Winnipeg drainage) under the Treaty. The nearest Reserve lands are associated with the Wabauskang Reserve First Nation, located approximately 56 km southeast of the Project site (Figure A.2). No facilities related to the Project will be located on or near First Nation Reserves.

The Project is located within Métis Nation of Ontario Region 1 which covers northwestern Ontario (Figure A.2). Emerging as an outgrowth of the fur trade, Métis settlements grew along freighting waterways and watersheds. In Ontario these Métis settlements were part of larger regional communities, interconnected by the mobile lifestyle of the Métis and a shared collective history and identity (Métis Nation of Ontario 2021a).

Publicly available information regarding ongoing land claims and assertions by Indigenous Nations is provided in Table C.1. This information will be validated with Indigenous Nations through engagement in the Impact Statement if an Impact Assessment is required.

Table C.1 Ongoing Claims and Assertions by Indigenous Nations

INDIGENOUS NATION	ONGOING CLAIMS AND ASSERTIONS
Lac Seul First Nation	Lac Seul First Nation is negotiating a 2014 claim relating to the failure to set aside lands selected by the Nation around Bruce Lake as Reserve lands pursuant to Treaty 3.
Wabauskang First Nation	Wabauskang First Nation and Grassy Narrows First Nation submitted a joint claim to the provincial and federal governments in 1993, asserting that they did not receive all the land to which the Nations were entitled under Treaty 3. Ontario accepted the claim for negotiation in March 2011 and proceeded with negotiations. The federal government accepted the claim in October 2019, and negotiations between the four parties began in early 2020.
Grassy Narrows First Nation	
Métis Nation of Ontario – Region 1	The Métis Nation of Ontario assert their right to harvest in large areas of Ontario. The government has accommodated Métis rights on a regional basis within the Métis harvesting territories identified by the Métis Nation of Ontario. An interim agreement between the Métis Nation of Ontario and the Ontario government recognizes the Harvester Card system. On April 30, 2018, the Métis Nation of Ontario and Ontario signed a new Framework Agreement on Métis Harvesting that advanced the recognition of Métis' rights in Ontario.

Source: Government of Canada (2023a), Government of Ontario (2023), Métis Nation of Ontario (2021b).

Kinross is not aware of any land codes currently in progress for potentially affected Indigenous Nations. Through continuing engagement activities with Indigenous Nations, Kinross will determine whether the Project will affect any Indigenous land codes and will support the framework set out in the land code / Community Land Use Plans, as applicable.

C.5 PROXIMITY TO FEDERAL LANDS

There are no federal lands near the proposed developments for the Project or in the local area surrounding the Project. The closest federal land is the Ear Falls Airport located approximately 24 km to the southeast. The nearest First Nation Reserve lands located more than 55 km away cross-country: Wabauskang Reserve - 56 km; Grassy Narrows Reserve - 77 km; and Lac Seul Reserve - 101 km.

The Project site is located inland, and there are no related marine or port aspects.

C.6 PHYSICAL AND BIOLOGICAL ENVIRONMENTAL SETTING

Kinross and its predecessors have been conducting environmental investigations on the Project site since 2018, with greatest focus starting in 2022 to present. A much larger area has been investigated than the anticipated area of influence of the Project on the physical and natural environment to gather sufficient background information for future comparison. Kinross will incorporate Indigenous knowledge as available when describing baseline conditions (i.e., physical and biological existing conditions) in the Impact Statement if required for the Project, while respecting confidentiality as provided for in *IAAC Guidance: Protecting Confidential Indigenous Knowledge under the Impact Assessment Act* (Government of Canada 2023b). Indigenous knowledge will also be used to inform Project design decisions, review alternatives methods and to support development of mitigation measures for the Project.

Members of the Wabauskang First Nation and Lac Seul First Nation have participated in baseline field programs to date, including surface water sampling, groundwater sampling, aquatic studies and ambient air monitoring. Both communities have also been offered to participate in the summer 2023 Stage 2 archaeological field program.

C.6.1 CLIMATE, AIR QUALITY, NOISE AND LIGHT

The nearest ECCC climate station for which long-term, current records are available, is RED LAKE A located in Red Lake, Ontario. This station is located at the Red Lake Airport approximately 18 km north-northwest of the Property. For the 1981 to 2020 climate normals, daily average temperatures range from a low of -18.3 degrees Celsius in January to a high of 18.1 degrees Celsius in July. The mean annual precipitation for Red Lake is 686 millimetres. May to September is typically the wettest period.

The Project is located in a remote part of northwestern Ontario, although there is a long history of mining and forestry in the region. There are no major nearby anthropogenic sources of air emissions or noise with the exception of the commercial aggregate operations on Tuzyk's Road which are anticipated to generate fugitive dust emissions. There are no appreciable continuous emissions currently from the Project site, although there may be periodic emissions associated with exploration and the AEX program (once approved). Baseline air quality may be influenced by industrial activities in Red Lake northwest of the Property, traffic along Highway 105, and natural sources such as volatile organic emissions from vegetation, pollen and wildfires. Baseline air quality may also be influenced by long-range transport of air emissions.

Collection of baseline air quality data began in 2022 at three onsite monitoring stations and is ongoing. The following is the preliminary air quality data:

- Average total dustfall concentration was 0.5 grams per square metre (g/m^2)/30 days with a maximum recorded of 1.6 g/m^2/30 days
- Average 24-hour suspended particulate matter concentration of 8.8 micrograms per cubic metre ($\mu g/m^3$)
- Average 24-hour particulate matter <10 µm in diameter concentration of 6.1 $\mu g/m^3$
- Average 24-hour respirable silica concentrations of 0.1 $\mu g/m^3$ (cristobalite), 0.5 $\mu g/m^3$ (quartz) and 0.2 $\mu g/m^3$ (tridymite)
- Average 30-day sulphur dioxide and nitrogen dioxide concentrations of 0.15 and 0.10 parts per billion, respectively
- Average 24-hour benzene concentration of 0.28 $\mu g/m^3$.

Data are also being collected for trace metals and polycyclic aromatic hydrocarbons.

Ambient noise surveys were initiated at the site in 2022 at four monitoring locations. The monitoring results showed an average of the hourly equivalent continuous A-weighted noise level ranging between 23 to 36 decibels A with lower levels generally recorded at night. There are no existing permanent industries or developments in the immediate area of the Project site, although there will be periodic noise nearby from traffic on Highway 105, the aggregate operations on Tuzyk's Road, as well site exploration activities. The existing wilderness areas surrounding the Project site may be considered as Class 3 (rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic).

A night-time light level monitoring program is in progress for the Project. The primary light sources at night identified to date are celestial objects (e.g., moon, stars and planets), intermittent vehicle travel along Highway 105, and localized lighting at exploration drilling sites. There will also be night-time lighting at the AEX program when approved and developed.

C.6.2 PHYSIOGRAPHY AND GEOLOGY

The Property is gently sloping generally from the west to east, with an elevation range of approximately 350 to 460 m above sea level (asl; Figure C.4). The Project site has an elevation averaging approximately 370 m asl. Nearby lakes and creeks are an elevation of approximately 350 m asl.

Based on current exploration drilling information, overburden thickness at the Property is expected to range between 0 to 40 m. Overburden encountered to date is a mix of sand, gravel and clay. There are limited bedrock exposures within the Project area.

The Property is located within the Red Lake greenstone belt of the Uchi Subprovince of the Archean Superior Province of the Canadian Shield. As described in Great Bear Resources (2021), the rocks of Red Lake greenstone belt (east trending) and Birch-Confederation greenstone belt (north trending) of the Uchi Subprovince are interpreted to have evolved by eruption and deposition of volcanic sedimentary sequences on the active continental margin, followed by subduction related arc volcanism. Continental collision led to subsequent crust thickening and metamorphism. The Project is targeting gold mineralization, currently identified within three mineralized zones:

— LP Fault Zone, disseminated gold within high strain
— Limb Zone (previously known as the Dixie Limb), silica-sulphide replacement
— Hinge Zone, quartz veining.

Geochemical characterization work was initiated to support potential future development. Ongoing work includes static testing (acid base accounting, short-term leaching), mineralogy and metal content. Humidity cells and rain barrel tests are proposed to be started in 2023. Currently available data suggest that a large proportion of the ore and mine rock is potentially acid generating. This will be confirmed through a comprehensive testing program which is ongoing, and further assessment.

C.6.3 SURFACE WATER AND GROUNDWATER

The Project is located primarily within the watershed of the Dixie Creek and associated tributaries (Figure C.5). Dixie Creek crosses the southern portion of the Property and flows into the Chukuni River to the east. The Chukuni River is a relatively large water system that flows into Pakwash Lake. In addition to the Chukuni River, Pakwash Lake receives inflows from the Trout Lake River, Lac Seul and Cedar River (Figure C.6). Pakwash Lake discharges into the English River system through the Manitou Falls generating station.

Flows for Dixie Creek have been estimated based on the Water Survey of Canada Station on the Long-Legged River below Long-Legged Lake Station (05QE012) which was selected as the preferred analogue (Table C.2). Flows for Chukuni River have been summarized based on the Water Survey of Canada Station on Chukuni River near Ear Falls (05QC001). Note that the Chukuni River is a regulated system. Flows are controlled by the Snowshoe Rapids Dam which is managed by the Provincial Ministry of Natural Resources and Forestry. Water levels and flow releases at the dam are controlled in accordance with a manual, with a single concrete structure consisting of four stop log bays and a sheet pile weir.

Table C.2 Predicted Flow in the Chukuni River and Dixie Creek

	CHUKUNI RIVER (UPSTREAM OF DIXIE CREEK)	DIXIE CREEK (AT CHUKUNI RIVER)
Drainage Area (ha)	439,752	21,581
Annual Average Flow (m^3/day)	2,363,066	115,199
High Flow Period Average Inflow (May - July) (m^3/day)	3,989,927	219,518
Low Flow Period Average Inflow (March) (m^3/day)	1,088,864	55,304

The characteristics of number of the lakes near the proposed Project are summarized in Table C.3.

Table C.3 Hydrology Characteristics of Local Lakes

NAME	SURFACE AREA (ha)	APPROXIMATE TYPICAL DEPTH (m)	DRAINAGE AREA (ha)
Genessee Lake	175	4	1,088
Rice Lake	218	1.2	1,533
Tear Drop Lake	9.9	0.3	810
Pakwash Lake	9,000	7	4,864,800 (1)

Note(s):

1 Drainage area at Manitou Falls generating station (includes Lac Seul and Cedar River watersheds)

Surface water quality sampling has been completed over a number of years to characterize existing conditions of lakes, rivers and streams in the area around the Project. Sampling has been completed in accordance with industry standards and applicable provincial guidelines / standards. Waterbodies sampled as part of the baseline surface water quality program include the following and others:

- Genesee Lake
- Rice Lake
- Tear Drop Lake
- Dixie Creek
- Chukuni River.

Overall, results indicate that surface water quality of monitored waterbodies is typical of northern Ontario, including circumneutral pH, low concentrations of nutrients (nitrate, nitrite and ammonia) and low concentrations of anions (sulphate and chloride). Several of the small streams feeding Dixie Creek, Chukuni River and Rice Lake are tea-stained, with high concentrations of dissolved organic carbon and naturally low dissolved oxygen concentrations.

Laboratory analyses to date indicate that concentrations of total and dissolved metals are low in waterbodies around the Property, generally at or below the detection limit for laboratories. Measured concentrations greater than the range established by water quality guidelines were occasionally observed for: aluminum, arsenic, cobalt, iron, phosphorus and zinc. Naturally occurring greater concentrations are commonly observed in regions of proposed mining activities across Ontario and are expected in the Project area based on regional geology and naturally high dissolved organic carbon levels of surface waters.

A baseline groundwater investigation is in progress to obtain hydrogeologic data (such as groundwater flow, hydraulic gradient and hydraulic conductivity information), as well as groundwater quality data

(overburden and bedrock aquifers) for the Property. Existing background information including surficial geology mapping, water well records, and data from diamond drilling programs have been included in the review. Multi-level monitoring wells have been installed to assess both groundwater conditions close to the anticipated main portal entrance and in the wider area. These monitoring wells target the overburden units and the shallow bedrock, while groundwater conditions in the deep bedrock have been assessed through packer testing of deep geotechnical boreholes. Programs to collect seasonal groundwater level and quality information are underway. The combined historical information and field investigation results will provide an understanding of important aquifers and aquitards, groundwater flow, groundwater-surface interaction and groundwater chemistry under baseline conditions.

The local geology consists of organic soils, glaciolacustrine clays, glaciofluvial sands and silty sand tills, over an undulating bedrock surface. The bedrock is generally tight with some potential for limited groundwater flow in the upper fractured bedrock and a few deep structures. The bedrock is overlain at almost all locations near the Project site by a silty sand till. The sand till thickness varies from almost absent in areas with a large number of bedrock outcrops to greater than 40 m over bedrock lows. The sand till is in places overlain by glaciofluvial sands, which are found on surface to north of the proposed main portal location. There may be sand layers within the sand till. The main local aquifer is formed by sand layers within the till, the more permeable sections of sand till and glaciofluvial sands. This aquifer likely accepts recharge to the north of the portal, where it is exposed on surface. In low-lying areas that surround the portal and over the proposed ramp located at depth, the sandy overburden material is overlain by glaciolacustrine clays and silts, and/or organic soils. These materials form an aquitard that cap the sand aquifer, preventing significant groundwater interaction between the sand aquifer and most local creeks in low lying areas. There is a small bedrock at a higher elevation and bedrock is exposed on surface at the proposed portal location.

A review of the Ontario water well record database found few water wells in the region. The nearest to the portal is described in the database as a test well, located at an aggregate operation approximately 2 km north of the portal. Kinross representatives have visited the well and determined that it is not equipped with a pump or a power supply and does not appear to be in active use.

Both shallow and deep groundwater wells have been installed on the Project site and groundwater quality sampling is in progress.

C.6.4 TERRESTRIAL ENVIRONMENT

Excluding locations of recent forest harvesting activity, coniferous and mixed forests cover the majority of Property. There are some limited non-forested upland habitats such as rock barrens, particularly in the northwestern portion of the Property. Dominant species include jack pine, black spruce, trembling aspen, and white birch, with lesser amounts of balsam fir and white spruce. Tamarack, eastern white cedar, and balsam poplar are largely restricted to wetland communities. Some red pine has also been planted. There are several small occurrences of black ash hardwood swamps. Black ash has been listed as Endangered under the provincial *Endangered Species Act* (ESA), but a provincial approach for protection is still evolving. Thicket swamps, fens, and open wetlands are most common along the shores of Rice Lake and Teardrop Lake, as well as along Dixie Creek and other riparian habitats. Teardrop Lake and Rice Lakes contain wild rice marshes. Provincially rare floating marsh marigold has been found along several and streams and ditches locally.

Based on aerial surveys, trail camera monitoring, and other fieldwork to date, common wildlife species in the Project area include moose, black bear, and furbearers such as grey wolf, coyote, Canada lynx, American marten, fisher and snowshoe hare. Beaver, muskrat, American mink and river otter are found

along waterbodies and waterways. Note that use of the Property by wolverine (a Species at Risk) was confirmed during 2021 to 2022 field investigations. The Property has no evidence of current use by the threatened Boreal caribou, although the area has formerly supported the species. Little brown myotis and potentially another Endangered bat species (tri-colored bat) use the area for foraging. No evidence of roosting or hibernacula has been found on the Property to date.

At least 144 species of birds have been observed in or near the Property, with common boreal bird species predominating. Threatened eastern whip-poor-will have been detected to the northwest of the Project footprint. Special Concern bird species confirmed at the Project site during breeding season include bald eagle, Canada warbler, common nighthawk, eastern wood-pewee, evening grosbeak, olive-sided flycatcher and rusty blackbird. Likely Special Concern migrants include yellow rail and short-eared owl. Significant wildlife habitat viewed during investigations to date include a Bonaparte's gull nesting colony on a small waterbody west of Dixie Road N, several raptor nests, and a sharp-tailed grouse lek.

A small number of reptile and amphibian species are present in the locale. Common snapping turtles (a species of Special Concern) have not been observed, nor have any Species at Risk insects.

C.6.5 AQUATIC ENVIRONMENT

Field studies to measure attributes of the fish community and fish habitat were completed during 2022 to determine existing conditions within the lakes, ponds and watercourses in the area of the Project. Additional investigations are proposed for 2023. Sampling to date has included multi-season fish community surveys utilizing passive and active capture gear, as well as sediment quality and benthic invertebrate community sampling completed in the fall. An assessment of potential contaminants of concern in fish tissue was also completed in fall of 2022, assessing small-bodied forage (baitfish) species and large bodied sportfish species. Fish habitat was assessed during each seasonal sampling event, with field biologists measuring bankfull and wetted depths and widths, as well as channel morphology and documenting differences between visits from consistent vantage points. Identification of critical habitat (e.g., potential spawning areas) was also included in these field surveys. In-field surface water quality measurements were recorded at each sample location contributing to the surface water quality data set being collected under a separate program.

Locations sampled as part of the fish and fish habitat assessment program to date include:

- Dixie Creek
- Chukuni River
- Rice Lake
- Genessee Lake
- Tear Drop Lake
- Other unnamed inland waterbodies.

The fish communities within these locations represent cool to coldwater species typical of northern Ontario. No fish Species at Risk were expected or encountered during these studies. Beaver activity has shaped the landscape and has created online ponded habitat within many of the inland tributaries which support forage fish. The studies to date show that northern pike are the most abundant top predatory species within the Dixie Creek drainage, although the Chukuni River is known to support walleye. The Project area is not known to support trout species; however, the Chukuni River supports lake whitefish that travel upstream from Pakwash Lake to spawn each fall.

C.6.6 SPECIES AT RISK

Presence of federal and provincial Species at Risk has been assessed as part of ongoing terrestrial baseline investigations (Northern Bioscience 2022). The following Species at Risk have been viewed or identified as present on the Property or, in or near the preliminary proposed development area (footprint) to date, noting that analysis of 2022 recordings is ongoing:

- Plants: black ash
- Mammals: wolverine and little brown myotis
- Birds: See Table C.3
- Amphibians / Reptiles: none
- Fish: none

Further details are provided in Table C.4.

Table C.4 Species at Risk Presence Summary

SPECIES	IDENTIFIED PRESENCE		FEDERAL STATUS [3]	PROVINCIAL STATUS [4]
	PROPERTY [1]	FOOTPRINT [2]		
Little brown myotis	X	X	Endangered	Endangered
Tricolored bat	?		Endangered	Endangered
Wolverine	X	X	Special Concern	Threatened
Bank swallow	X	X	Threatened	Threatened
Eastern whip-poor-will	X		Threatened	Threatened
Short-eared owl	X (M)		Special Concern	Threatened
Common nighthawk	X	X	Special Concern	Special Concern
Canada warbler	X	X	Threatened	Special Concern
Eastern wood-pewee	X	X	Special Concern	Special Concern
Evening grosbeak	X	X	Special Concern	Special Concern
Olive-sided flycatcher	X	X	Threatened	Special Concern
Rusty blackbird	X (M)	X (M)	Special Concern	Special Concern
Yellow rail	X		Special Concern	Special Concern
Snapping turtle		X	Special Concern	Special Concern
Black ash	X	X	-	[5]

Source: Northern Bioscience (2023)

Notes:

(M) Observed during migration
1 Within the Property boundary (shown on Figure C.2)
2 Within or near the approximate Project footprint based on conceptual design (shown on Figure C.2)
3 Per Schedule 1 of federal *Species at Risk Act*
4 Per provincial ESA
5 Provincial protection for this species has been suspended by Ontario until at least 2023.

Boreal caribou has not been listed above although a Species at Risk, designated as threatened under the *Species at Risk Act* and ESA because there is no direct evidence (e.g., animals, tracks, pellets, lichen cratering or bones) or published information that suggests Boreal caribou currently use the Property (Northern Bioscience 2023).

Endangered and threatened species identified to be present near the Project footprint are described briefly below. Boreal caribou are not documented on the Property although they are present in the region. They are also described below.

LITTLE BROWN MYOTIS

Little brown myotis is anticipated to be present, based on provisional assessment of recordings from automatic recording units. No roosting bats, maternity colonies, or suitable large diameter trees with cavities were observed during fieldwork. The species roost in small spaces or crevices, such as loose bark, hollow trees, rock faces and human structures. The species is under threat because of the presence of white-nose syndrome, a recent fungal infection. During the spring and summer months, the Little Brown Myotis is typically a tree cavity roosting species, although they will use rock faces and human structures when available.

WOLVERINE

Wolverine or their sign have been detected at several locations within the Property by trail cameras and/or potential scat. A single wolverine was captured on trail cameras three times in 2021 and 2022. Analysis of trail camera images from 2022 is ongoing. No wolverines visited the run pole that was established south of Dixie Creek in 2021 or 2022.

BANK SWALLOW

There are active bank swallow colonies in two of the commercial aggregate pits located along Tuzyk's Road. One pit was identified as having at least 50 nests active in 2022, while the other had a smaller colony with about 13 active nest burrows. Bank swallows were often observed foraging overhead during morning point counts near these pits.

EASTERN WHIP-POOR-WILL

Eastern whip-poor-will were confirmed in the far northwest portion of the Property during nocturnal surveys in 2022. The habitat was aspen mixed wood with patches of rock outcrop nearby. No eastern whip-poor-will were recorded close to proposed areas of development.

COMMON NIGHTHAWK

Common nighthawks were detected during nocturnal surveys at three locations away from the development area, including at and east of Rice Lake. Common nighthawk may be a nesting species on the Property based on its preferred nesting habitat.

CANADA WARBLER

Canada warbler is a relatively common nesting species locally and singing males were heard on territory across the Property, including within the proposed area of development.

OLIVE-SIDED FLYCATCHER

The olive-sided fly catcher was observed at a large number of locations across the Property during 2022, typically in cutover, rock barrens, along Dixie Creek and at other forested edges.

BOREAL CARIBOU

The Project is located near the eastern boundary of the Sydney Range as defined by the Ontario Woodland Caribou Conservation Plan. Approximately 63% of the Sydney Range is considered disturbed, with extensive wildfires in the recent past and widespread ongoing anthropogenic disturbance in the eastern portion of the range. According to Provincial caribou habitat modelling, the Red Lake Forest which the Property is located within, may still be capable of supporting Boreal caribou, as there is suitable winter and refuge habitat (MNRF 2014).

The Province categorizes Boreal caribou habitat according to tolerance to alteration before function is compromised. The landscape surrounding the Great Bear Project is classified as Category 3, which has the most tolerance to disturbance, and may support higher densities of alternate prey and predators which cause Caribou to avoid these areas due to increased risk of predation. There is no Category 1 habitat (habitat anticipated to have the lowest tolerance to alteration before ability to support caribou is compromised, such as calving / nursery area, winter use area or travel corridors) within 10 km of the Project.

C.7 SOCIAL, ECONOMIC AND HEALTH CONTEXT

C.7.1 SITE HISTORY

Indigenous Peoples have been active across northwestern Ontario since prior to the arrival of Europeans. The Project site is located within the traditional territories of Lac Seul First Nation and Wabauskang First Nation. Indigenous knowledge will be conducted by Indigenous Nations to provide further information regarding historic and current land uses.

A Stage 1 archaeology study has been prepared for Project site and local vicinity (NAA 2023). There are no known archaeology sites in the area proposed for development. There is a registered archaeology site on the Chukuni River. A Stage 2 archaeology study will be completed for areas of archaeology potential in the development areas meeting provincial standards.

Major waterways in the region have been used as historic travel and trade routes by Indigenous communities and Euro-Canadian travellers. These routes served as the basis for early geological exploration that led to the discovery of the gold in the Red Lake mining district in the 1920s. By 1940, most of the Red Lake area had been staked, and several significant mining operations were in place and producing. The Property area was not staked or developed during this early period and is generally seen as a blank area on the early survey maps (NAA 2023).

The first exploration work documented by Geology Ontario on the Property dates from 1944. Prior to acquisition by Great Bear Resources Ltd. in 2017, 176 diamond drillholes had been completed as well as geological mapping, airborne and ground-based, geophysical and geochemical surveys. Localized areas were previously stripped to expose bedrock. The Property is currently undergoing a large surface exploration program to understand geological potential.

There has been no prior production from the Property and there are no historic buildings or facilities on the Project site.

C.7.2 SOCIAL CONTEXT

The Project site is located in the unorganized territory, District of Kenora in northwestern Ontario. Kenora District covers an area of 395,432 km^2, has a total population of 66,000 and population density of approximately 0.2 persons per km^2. The Crown Land Use Policy Atlas identifies the Project site as within land use code G2514 (Red Lake – General Use Area). The land use codes encourage mineral exploration and development with some limitations. The Project site is within the Red Lake Forest Management Unit and is subject to the Red Lake Forest Management Plan, as per the *Crown Forest Sustainability Act*. The area supports recreational activities by locals and tourists, and there are several fly-in cabins and outfitter lodges. There are also four traplines that cross the Property (Figure C.3).

There are no federal parks near the Project site. There are two protected areas within 25 km of the Project site. Pakwash Provincial Park (primary land use code P2528 Natural Environment Class) is located approximately 10 km away from the Project site, and Bruce Lake Conservation Reserve is 20 km from the Project site.

RED LAKE

The Municipality of Red Lake is one of the largest municipalities in the Kenora District and is composed of the Golden Township, Red Lake Township and the Unorganized Territory. The total population of Red Lake was 4,094 according to the 2021 Canadian Census, which is a 0.3% decline from the population in the 2016 Census. According to the 2021 Census, the median age in Red Lake was 38 years and 65% of the population was between the ages of 15 to 64 years. The population gender ratio of Red Lake was slightly favorable to men with 51% of the population identifying as men and 49% of the population identifying as women (Statistics Canada 2023a). Land use in Red Lake is primarily rural with five serviced townsites: Red Lake, Balmertown, Cochenour, Madsen and McKenzie Island; and three non-serviced residential settlements: Starratt-Olsen, Flat Lake and McMarmac.

EAR FALLS

The Township of Ear Falls consists of an urban portion north of the English River, at the crossing of Highway 105 and Highway 804, and rural areas. Industrial development is supported by the Township by having designated zones for industrial land use. The rural areas of Ear Falls contain both residences and cottages along Lac Seul and the English River. Rural residential areas are occupied both seasonally and year-round.

The Township had a total population of 924 according to the 2021 Census, which is a 7% decline from the population from the 2016 Census. According to the 2021 Census, the median age in Ear Falls was 44 years and 65% of the population was between the ages of 15 to 64 years. The population gender ratio of Ear Falls was favorable to men with 52% of the population identifying as men and 48% of the population identifying as women (Statistics Canada 2023a).

LAC SEUL FIRST NATION

The Lac Seul First Nation is one of the largest Indian Reserves located in Treaty #3 and is affiliated with the Independent First Nations Alliance. The First Nation had 3,708 members as of December 2022. Approximately 73% of the population lives off-Reserve, 25% on-Reserve, 1% registered on other reserves, and 1% registered on No Band Crown Land (CIRNAC 2023a). The 2021 Census notes the Nation population on Reserve to be 1,022, which is a 5% increase from 2016 (Statistics Canada 2023a). According to the 2021 Census, the median age on Reserve in Lac Seul First Nation was 26 years and 59% of the population was between the ages of 15 to 64 years. The population gender ratio of Lac Seul First Nation was favorable to men with 52% of the population identifying as men and 48% of the population identifying as women.

Historically, the main community resided near Keesic Bay on the north shore of Lac Seul. The community notes several fishing camps and traplines in the region, ranging from Bear Narrows to Root River on the northeast end of the lake (Lac Seul First Nation 2019). Keesic Bay Island, located near Ross' Point and named after a previous Hudson's Bay outpost, is also recognized as part of the larger traditional area having once been occupied by a smaller group of community members. Likewise, members of the community still currently reside near the northwest tip of Keesic Bay island and Ningewance Bay (Lac Seul First Nation 2019).

WABAUSKANG FIRST NATION

Wabauskang First Nation is the most northern community of Treaty #3 territory. Wabauskang First Nation is part of Bimose Tribal Council and Grand Council Treaty #3. The Grand Council Treaty #3 is a governing body, with a goal to protect the leadership and citizens of the communities it serves (Cision 2021). Wabauskang First Nation has a total registered population of 377 as of December 2022, with 62% of the population living off-Reserve, 37% living on-Reserve, and 1% registered on other Reserves (CIRNAC 2023b). The on-Reserve population of Wabauskang First Nation was 57 according to the 2021 Census, which is a 19% decrease from 2016 (Statistics Canada 2023a). According to the 2021 Census, the median age on Reserve was 30 years and 58% of the population was between the ages of 15 to 64 years. The 2021 Census also indicated a balanced population gender ratio.

GRASSY NARROWS FIRST NATION

Grassy Narrows First Nation is an Ojibway First Nation located in Treaty #3. It is part of Bimose Tribal Council and Grand Council Treaty #3. The registered population was approximately 1,606 members as of December 2022, with 60% of the population living on-Reserve, 37% living off-Reserve, and 3% registered on other Reserves (CIRNAC 2023c). The on-Reserve population of Grassy Narrows First Nation was 584 according to the 2021 Census, which is an 8.5% decrease from 2016 (Statistics Canada 2023a). According to the 2021 Census, the median age on Reserve was 28 years and 64% of the population was between the ages of 15 to 64 years. The population gender ratio of First Nation was balanced with half of the population identifying as men and half identifying as women.

MÉTIS NATION OF ONTARIO

The Project site is located within Region 1 as defined by the Métis Nation of Ontario. The Métis Nation of Ontario has a Province-wide governance structure and is a Governing Member of the Métis National Council. The Métis Nation of Ontario exists to represent and advance the interests of the Métis Peoples of Ontario. There is a Consultation Agreement between the Métis Nation of Ontario and the Ontario Government signed on July 31, 2015, that establishes a consultation process with members represented by Métis Nation of Ontario, to consult on proposed actions and decisions that may impact asserted or established Indigenous rights (Métis Nation of Ontario n.d.). Although demographic information specific to Ontario Region 1 Métis is currently unavailable, according to the 2021 Census there are 134,615 self-identifying Métis people in Ontario, an increase of 11.6% over 2016 (Statistics Canada 2023a). There were 350 self-identifying Métis people n the Municipality of Red Lake in 2021, a decrease of 12.5% from 2016 (Statistics Canada 2023a). In the Township of Ear Falls in 2021, there were 90 self-identifying Métis people a decrease of 33.3% from 2016 (Statistics Canada 2023a). In both Red Lake and Ear Falls, as in the Province of Ontario as a whole, the population gender ratio of Métis people was nearly balanced, with slightly more than half the population identifying as women, and slightly less than half the population identifying as men.

C.7.3 ECONOMIC CONTEXT

The largest industry in the Kenora District is health care and social assistance. Other primary industries in the district include public administration, retail trade, educational services, construction, accommodation and food services, and transportation and warehousing (Statistics Canada 2023a). The main employers in the district include: Lake of the Woods District Hospital, Keewatin Patricia District School Board, District of Kenora Home for the Aged, Weyerhaeuser, Canadian Pacific Railway, FIREFLY, City of Kenora, Kenora Catholic School Board and Canada Safeway Inc (Ontario Council of Agencies Serving Immigrants n.d.).

Hunting and fishing activities in the Province of Ontario are managed by the Ministry of Natural Resources and Forestry. The Project site is located within Wildlife Management Unit 3 which covers an area of over 12,492 km^2. Wildlife Management Unit 3 falls within Cervid Ecological Zone B with the intent of maintaining low to moderate ungulate populations with an emphasis on caribou and moose habitat (MNRF 2009). The Project site is also within Fisheries Management Zone 4 which has a total area of 60,440.8 km^2. There are 27 commercial fisheries in Fisheries Management Zone 4 and 19 of these licenses are active (NDMNRF 2022).

There is a long history of mining in the Red Lake area, and it is one of largest high grade gold camps in North America. Mining has been nearly continuous since the 1920's with 29 producing mines. There is currently one operating mine in Red Lake, Red Lake Gold Mines (Evolution Mining) and one suspended mine (Pure Gold Mine, PureGold Mining). There is also active exploration in the region. There were 105 women in Red Lake and 10 women in Ear Falls working in the mining industry in 2021, making up 17% and 13% of the total women labour force in mining in each respectively. There were no women from First Nations participating in the mining industry, according to the 2021 Census (Statistics Canada 2023a).

RED LAKE

The largest proportion of workers in Red Lake are employed in the mining, quarrying and oil extraction industry (28%) followed by health care and social assistance (15%) and retail trade (12%). Men made up a higher proportion of the labour force for mining, quarrying, and oil and gas extraction (81%), while women made up a higher proportion of the labour force in health care and social assistance (87%). There was an almost equal proportion of men and women in the labour force for retail trade (Statistics Canada 2023a).

Census data indicates that in 2021 participation rates were at 67% and employment rates were at 63% in Red Lake. These rates are higher than those seen for Ontario (Statistics Canada 2023). The unemployment rate was 5%, which was lower than the unemployment rate in Ontario (12%). Regarding gender differences, men reported higher participation and employment rates than women in both Red Lake and Ontario. Women on the other hand, reported higher unemployment rates in both Red Lake and Ontario.

EAR FALLS

The largest proportion of workers in Ear Falls are employed in manufacturing (19%), followed by mining, quarrying and oil extraction industry (15%), retail trade (13%), and accommodation and food services (11%). Men made up a higher proportion of the population working in manufacturing (67%) and mining, quarrying, and oil and gas extraction (81%) as compared to women. However, women made up a higher proportion of the population working in retail trade (71%) as compared to men. There was an equal proportion of men and women in the labour force for accommodation and food services (Statistics Canada 2023a).

Census data from 2021 indicates the population of Ears Falls aged 15 years and older had an employment rate of 54% and an unemployment rate of 11.8%. The remaining population were classified as not participating in the labour force, meaning they identified as not seeking employment. The total population of Ear Falls had a lower participation, employment, and unemployment rate compared to Ontario (Statistics Canada 2022). The participation and employment rates were higher for men compared to women in Ear Falls, which was similar to the trend in Ontario. The unemployment rate was equal for both men and women in Ear Falls, unlike the trend for Ontario where women had a higher unemployment rate.

LAC SEUL FIRST NATION

The largest proportion of workers living on Reserve in the Lac Seul First Nation are employed in public administration (33%) followed by health care and social assistance (22%), educational services (12%), and construction (10%). Men made up a higher proportion of the population working in public administration (55%) and construction (86%) as compared to women; however, women made up a higher proportion of the population working in health care and social assistance (60%), and educational services (63%) as compared to men (Statistics Canada 2023a).

Census data indicates that in 2021 participation rates were at 50% and employment rates were at 44% for the on-Reserve First Nation members, which is lower compared to the entire Province. The unemployment rate was 11.9% which was lower than Ontario (12.2%). Regarding gender differences, women reported lower participation and unemployment rates, and a higher employment rate than men on Reserve in the Lac Seul First Nation (in Ontario men reported higher participation and employment rates compared to women; Statistics Canada 2022).

WABAUSKANG FIRST NATION

The largest proportion of workers living on Reserve in Wabauskang First Nation are employed in manufacturing (29%) and public administration (29%; Statistics Canada 2023). There was insufficient publicly available information about the labor force participation by gender.

Census data indicates that in 2021 participation rates were at 77.8% and employment rates were at 66.7% for on-Reserve members of the Wabauskang First Nation. This is higher compared to Ontario. The unemployment rate was 28.6%, which was higher than Ontario (12%). Regarding gender differences, women reported higher participation and employment rates, and a zero unemployment rate compared to men on Reserve in Wabauskang First Nation. (Statistics Canada 2022).

GRASSY NARROWS FIRST NATION

The largest proportion of workers living on Reserve in Grassy Narrows First Nation were in the health care and social assistance industry (32%) and public administration (32%), followed by other industries not specified in the Census (16%), and educational services (14%). Women made up a higher proportion of the population working in health care and social assistance (67%), public administration (55%), and educational services (60%) (Statistics Canada 2023a).

Census data indicates that in 2021 participation rates were at 45% and employment rates were at 35% for on-Reserve members of Grassy Narrows First Nation. This is lower compared to the Province. The unemployment rate was 19%, which was higher than Ontario (12%). Regarding gender differences, women reported higher participation and employment rates, and lower unemployment rates than men on Reserve in Grassy Narrows First Nation (Statistics Canada 2022).

MÉTIS NATION OF ONTARIO

Census data for Métis peoples in Red Lake indicate a participation rate in the workforce of 58.4% in 2021, with an unemployment rate of 7.9% (Statistics Canada 2023b). According to the 2021 Census, mining, quarrying, oil and gas extraction, construction, retail trade, health care and social assistance, and educational services were the major industries employing self-identified Métis peoples living in Red Lake (Statistics Canada 2023b).

In Ear Falls, the major industries employing self-identified Métis peoples were mining, quarrying, oil and gas extraction, and agriculture, forestry, fishing and hunting (Statistics Canada 2023b). The participation rate for Métis peoples in the workforce in Ear Falls was 62.5%, with an unemployment rate of zero (Statistics Canada 2023b).

Regarding gender differences, self-identified Métis men reported higher participation and employment rates, and lower unemployment rates than Métis women in Red Lake (Statistics Canada 2023b). In Ear Falls, the participation and employment rate for Métis was higher than for women, but the unemployment rate was zero for both men and women (Statistics Canada 2023b).

C.7.4 HEALTH CONTEXT

The Northwestern Health Unit serves 19 municipalities and has 12 offices including one at Red Lake and at Ear Falls, Ontario. The Health Unit offers various services for dental health, eating and nutrition, environmental diseases and infections, environmental health hazards, food safety, harm reduction, health equity, pregnancy and parenting, safe drinking and recreational water, sewage and land development, sexual health, speech and hearing, tobacco and vapour, vaccines and immunizations, and vision (Northwestern Health Unit 2022).

Red Lake Margaret Cochenour Memorial Hospital serves the areas of Red Lake, Ear Falls and Wabauskang First Nation (Red Lake Margaret Cochenour Memorial Hospital 2023). Red Lake also has a Medical Centre, long-term care facility, and dental clinic (North West Health Line 2023, Red Lake Family Health Team 2023). Ear Falls does not have a hospital, but has a community health centre, dental clinic and pharmacy (HCCSSNW 2022, Township of Ear Falls 2023a).

Red Lake and Ear Falls adopted a Community Safety and Well-Being Plan in 2020. The Plan indicates key risk categories and gaps in community safety and well-being, including the lack of residential treatment centres for substance abuse and psychiatric and psychological services, wait lists for mental health counselling, a lack of housing for options for youth and low-income individuals, and shortage of housing for seniors (Township of Ear Falls 2023b). The Plan also identified gaps in emotional and sexual violence support in which there is one shelter that focuses on women experiencing domestic and sexual violence in the Red Lake and Ear Falls area. The Plan's survey indicates that the services available in Red Lake are limited in providing the necessary support for women, and specifically Indigenous women that may be coping with sexual and domestic violence. There are a limited number of psychiatric and psychological services available in Red Lake. The existing wait list for mental health counselling services is projected to be up to six months as of the 2020 report. Additionally, there is a stigma attached to asking for help with mental health. Given these circumstances, the Community Safety and Well-Being Plan identifies mental health as a high-priority item that needs to be addressed (Municipality of Red Lake and Township of Ear Falls 2020).

There are several non-profit organizations in Red Lake and the wider Kenora District that provide a variety of different social, environmental, and health services. Community Counseling and Addiction provides counseling and mental health services for individuals struggling with addiction (Red Lake Margaret Cochenour Memorial Hospital 2023). FIREFLY is another non-profit organization, providing a range of physical, emotional, developmental, and community services for children, youth, and families across northwestern Ontario (FIREFLY 2023). The Children's Aid Society has an office in Red Lake, and works to protect, and provide support to, infant, children, and youth who are experiencing domestic abuse (Ontario Association of Children's Aid Societies 2022). Red Lake has access to the Harmony Centre, a government service that is specialized in providing programs for individuals with intellectual or developmental disabilities. Red Lake also offers health care support for elders through the North West Home and Community Care Support Services. Located in the Northwood Lodge senior home, this organization supports individuals who are facing the challenges of age, illness, injury or disability (North West Health Line 2023).

Among their various services, The Indian Friendship Centre offers social services for Indigenous People living in Red Lake. These include the Red Lake Family Food Bank, the Fetal Alcohol Spectrum Disorder community support program, community action program for children, Aboriginal health babies healthy children program, Akwe: Go & Akwe: GoSpecial Supports Programs, the Wasa-Nabin Youth Program, the Urban Aboriginal Healthy Kids Program, and the Kids are Recreationally Equal Program. All of these programs use a holistic approach to improve the quality of life of Indigenous families and children through the delivery of culturally appropriate services.

The Wabauskang First Nation Health Office provides physical and mental healthcare services for community members, including coordinating consultations with visiting professionals such as a Nurse Practitioner and a Community Health Nurse, and coordinating clinics in areas such as Diabetes, Immunization, Sexual Health and Communicable Diseases (North West Health Line 2023).

The Lac Seul First Nation Health Department operates three community health clinics, medical transportation, early childhood development, home and community care, telehealth, dental and vision, and the Suboxone Treatment Program to address addiction issues in the community. A healing lodge is under construction, and will utilize aftercare as well as land-based activities to assist in the healing process of individuals struggling with addictions and trauma. There are plans to establish an Extended Care Home for Elders and a dialysis unit for the community. The Lac Seul First Nation Health Department also operates Aboriginal Headstart Programs in Frenchman's Head and Kejick Bay (Lac Seul First Nation 2023).

Grassy Narrows First Nation has a medical centre that provides various health services including coordinating consultations with visiting healthcare professionals, and home visits to persons with health care needs (North West Health Line 2023). The Grassy Narrows Band Office indicates that hospital services are also available at the Lake of the Woods District Hospital in Kenora (Caregiver Exchange 2022). As of 2019, Grassy Narrows developed a plan with Indigenous Services Canada to implement a mercury treatment centre to help community members dealing with mercury poisoning.

Métis Nation of Ontario citizens living in Region 1 have access to health services in the municipalities in which they live, in addition to the health and social services provided by the Métis Nation of Ontario Healing and Wellness branch. These Métis Nation of Ontario services include the following programs: Community Support Services, Community Wellness, Mental Health and Addictions, Métis Family Wellbeing, Métis Healthy Babies Healthy Children, Pre-Natal Nutrition Program, Community Development Support Worker and Anti-Human Trafficking (Métis Nation of Ontario n.d.). These programs aim to address the holistic health and wellbeing needs of Métis people in Ontario and are offered in Region 1 through the Métis Nation of Ontario offices in Kenora, Dryden and Fort Frances (Métis Nation of Ontario 2023).

Research indicates that one in three Canadian women will experience sexual assault in their lifetime, with Indigenous women experiencing a higher rate of sexual assault compared to non-Indigenous women (Sexual Assault Support Centre 2023). 430 sexual assaults were reported in Northwestern Ontario in 2021, representing a 31% increase from 2020 (CBC 2022). In Kenora district, there were 211.5 reported sexual assaults per 100,000 of the population in 2020 (Canada Crime Index 2020). Research has shown a linear relationship between industrial camp populations and a rise in crime, sexual violence and the trafficking of Indigenous women in Canada (MacMaster and Seck 2020). The remote locations of project sites and Indigenous communities result in low reporting rates. In addition, local community health centres lack the resources to address incidents of sexual assault (PDAC 2019).

Publicly available information was not available regarding community safety and well-being for diverse population groups for nearby municipalities and Indigenous Nations. Kinross propose to complete additional primary research to understand community-specific plans that support improving well-being. Through engagement activities and primary research, Kinross will also engage and work with Indigenous Nations to gather information on health of Indigenous Nations including social determinants of health and community well-being and how the Indigenous Nations define these aspects.

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5660000 5650000 5640000 5630000 5620000 5610000

HAMMELL LAKE CONSERVATION RESERVE
Para Lake
Balmer Lake
Balmertown
Ranger Lake
TROUT LAKE PROVINCIAL PARK
TROUT LAKE CONSERVATION RESERVE
Little Bear Lake
Confederation Lake
Rosen Lake
MUNICIPALITY OF RED LAKE
Red Lake
Little Trout Lake
Foley Lake
Red Lake
125
Primok Lake
WOODLAND CARIBOU PROVINCIAL PARK
Douglas Lake
Parker Lake
Keg Lake
Snakeweed Lake
618
Russett Lake
Hatchet Lake
Suffel Lake
Leitch Lake
Flat Lake
Faulkenham Lake
Sully Lake
Willans Lake
Fredart Lake
Gullrock Lake
Onnie Lake
Laird Lake
Lee Lake
Medicine Stone Lake
115 kV E1C
(Ear Falls to Pickle Lake)
Two Island Lake
Bug Lake
Chukuni River
Stone Lake
105
Upper Medicine Stone Lake
Underbrush Lake
Insect Lake
Feaver Lake
Ogani Lake
Rice Lake
Flundra Lake
Call Lake
Rainfall Lake
Dixie Lake
Whitemud Lake
Bruce Lake
Bluffy Lake
Gleave Lake
BRUCE LAKE CONSERVATION RESERVE
Emarton Lake
Dedee Lake
Pakwash Lake
Taber Lake
Chilcott Lake
PAKWASH PROVINCIAL PARK
115 kV E2R
(Ear Falls to Red Lake)
Wenasaga Lake
Arrowhead Lake
Longlegged Lake
Beauregard Lake
Cramp Lake
Celt Lake
TOWNSHIP OF EAR FALLS
Detector Lake
Pineneedle Lake
Confusion Lake
Chukuni River
English River
Ear Falls
LAC SEUL ISLANDS CONSERVATION RESERVE
Schroemi Lake
Fatty Lake
Lac Seul

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LEGEND

- Property Boundary
- Preliminary Project Footprint
- Town
- Lower Tier Municipal Boundary
- Highway
- Local Road
- Power Line
- Conservation Reserve
- Provincial Park
- Watercourse
- Waterbody

0 5 10 20 30 40 50 Kilometres

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Property boundary provided by Kinross, March 2023.
- Proposed project footprint provided by Kinross, January 2023.

Datum: NAD83
Projection: UTM Zone 15N

KINROSS

wsp

GREAT BEAR PROJECT

Local Communities and Infrastructure

PROJECT N°: OMEMA2303 | **FIGURE: C.1**

SCALE: 1:255,000 | DATE: July 2023

450000 455000 460000 465000

5640000 5635000 5630000

Two Island Lake
Gullrock Lake
Moose Creek
Chukuni River
SNOWSHOE ROAD
105
CHUKUNI RIVER ROAD
Caribou Creek
Stone Lake
Genessee Lake
Tear Drop Lake
Rice Lake
Dixie Creek
Dixie Lake
DIXIE LAKE ROAD
Hiewall Lake
Tote Road Lake
Pakwash Lake
TUZYK'S ROAD

115 kV E2R
(Ear Falls to Red Lake)

MIL 14-2 11-22
MIL 14-2 12-22
MIL 14-2 13-22
MIL 14-2 14-22
MIL 14-2 15-22
MIL 14-2 16-22
MIL 14-2 05-21

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LEGEND

- Property Boundary
- Preliminary Project Footprint
- Highway
- Local Road
- Power Line
- Watercourse
- Waterbody

Great Bear Resources Land Tenure
- Requested Mining Lease #1
- Requested Mining Lease #2
- Requested Mining Lease #3
- Claim

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Roads information provided by Kinross, August 2022.
- Property boundaries and land tenure provided by Kinross, March 2023.
- Proposed project footprint provided by Kinross, January 2023.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.

Datum: NAD83
Projection: UTM Zone 15N

KINROSS

wsp

GREAT BEAR PROJECT

Land Tenure and Land Use

PROJECT N°: OMEMA2303 | FIGURE: C.2

SCALE: 1:51,000 | DATE: July 2023

435000 440000 445000 450000 455000 460000 465000 470000 475000 480000

5645000 5640000 5635000 5630000 5625000

Russett Lake
Madsen
618
RL076
Flat Lake
Faulkenham Lake
Sully Lake
Keg Lake
Willans Lake
Gullrock Lake
RL059
Boyden Lake
Bouzan Lake
Petersen Lake
Sparks Lake
RL052
Roger Lake
Bug River
RL061
Two Island Lake
Chukuni River
Bug Lake
Stone Lake
105
SNAKE FALLS ROAD
RL073
Caribou Creek
Insect Lake
Genessee Lake
Tear Drop Lake
Snail Lake
Ten Mile River
Rice Lake
DIXIE LAKEROAD
Dixie Creek
East Lake
Troutlake River
RL029
Dixie Lake
Hiewall Lake
RL068
Tote Road Lake
Bruce Lake
Pakwash Lake
RL030
RL023

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LEGEND

- Property Boundary
- Preliminary Project Footprint
- Town
- Highway
- Local Road
- Power Line
- Watercourse
- Waterbody
- Trapper Cabin
- Trapline Areas (Labelled with ID)

Cottage / Residential Areas

- Cottage Site (Not Remote)
- Cottage Site (Remote)
- Residential Site (Not Remote)

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Roads information provided by Kinross, August 2022.
- Property boundary provided by Kinross, March 2023.
- Trapline areas provided by Great Bear Resources.
- Trapper cabins digitized from Forest Management Plans.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.

Datum: NAD83
Projection: UTM Zone 15N

0 2.5 5 10 15 20 Kilometres

KINROSS

wsp

GREAT BEAR PROJECT

Traplines and Residences

PROJECT N°: OMEMA2303 | **FIGURE: C.3**

SCALE: 1:125,000 | DATE: July 2023

450000 455000 460000 465000 470000

5635000

5630000

Gullrock Lake
Stone Lake
Genessee Lake
Tear Drop Lake
105
Caribou Creek
Rice Lake
Dixie Creek
Chukuni River
East Lake
Dixie Lake
Hiewall Lake
Tote Road Lake
Pakwash Lake

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LEGEND

- Property Boundary
- Preliminary Project Footprint
- Highway
- Local Road
- Resource / Recreation Road
- Power Line
- Watercourse
- Waterbody
- Flow Direction

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Aerial imagery provided by Kinross (scene date: September 2022) and extracted from AgMaps.
- Property boundary provided by Kinross, March 2023.
- Road information provided by Kinross, August 2022.
- Proposed project footprint provided by Kinross, January 2023.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.

Datum: NAD83
Projection: UTM Zone 15N

N W E S

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GREAT BEAR PROJECT

Watercourses and Waterbodies

PROJECT N°: OMEMA2303	**FIGURE: C.4**
SCALE: 1:60,000	DATE: July 2023

400000 450000 500000 550000 600000 650000

5750000 5700000 5650000 5600000 5550000 5500000 5450000 5400000

Pikangikum First Nation
Cat Lake First Nation
Cat Lake
Chukuni River Watershed (4,801 km²)
Little Vermilion Lake
Birch Lake
Zionz Lake
Gull Lake
Kezik Lake
Mishkeegogamang First Nation
Trout Lake
Slate Falls Nation
Trout Lake Watershed (3,021 km²)
Red Lake
Red Lake
Lake St. Joseph
Gullrock Lake
105
Chukuni River
Pashkokogan Lake
PROJECT LOCATION
Miniss Lake
Lac Seul Watershed (38,969 km²)
Pakwash Lake
English River at Manitou Falls Generating Station Dam Watershed (Cumulative Watershed Area 48,880 km²)
Ear Falls
599
Ojibway Nation of Saugeen
Savant Lake
Wabauskang First Nation
Wabaskang Lake
Lac Seul
516
Cedar River Watershed (1,743 km²)
Lac Seul First Nation
Grassy Narrows First Nation
Sioux Lookout
Seseganaga Lake
664
Big Vermilion Lake
Minnitaki Lake
642
671
72
Sturgeon Lake
Dryden
Wabigoon Lake
Eagle Lake
17
Dryberry Lake
Atikwa Lake
Mameigwess Lake
Lake of the Woods
Rowan Lake
71
Kakagi Lake
Lower Manitou Lake
502
White Otter Lake
622
Otukamamoan Lake
Marmion Lake
Lac des Mille Lacs
Atikokan
Rainy Lake
613
11
Fort Frances
Pickerel Lake
UNITED STATES

LEGEND

- Project Location
- First Nation Reserve
- Town
- Manitou Falls Generating Station
- Chukuni River Watershed
- Other Watershed
- Approximate Flow Direction of the English River System
- Highway
- Railway
- National Boundary
- Watershed Outlet
- Flow Direction

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Watersheds delineated using Ontario Watershed Information Tool (MNRF).

Datum: NAD83
Projection: UTM Zone 15N

0 12.5 25 50 75 100 Kilometres

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GREAT BEAR PROJECT

Watershed Boundaries

PROJECT N°: OMEMA2303 | FIGURE: C.5

SCALE: 1:1,150,000 | DATE: July 2023

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450000 455000 460000 465000 470000

5635000

5630000

Gullrock Lake
Stone Lake
Genessee Lake
Tear Drop Lake
105
Caribou Creek
Rice Lake
Dixie Creek
Chukuni River
East Lake
Dixie Lake
Hiewall Lake
Tote Road Lake
Pakwash Lake

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LEGEND

- Property Boundary
- Preliminary Project Footprint
- Highway
- Local Road
- Resource / Recreation Road
- Power Line
- Wetlands and Low-lying Areas
- Watercourse
- Waterbody

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Base data acquired from Land Information Ontario (MNRF), 2022.
- Aerial imagery provided by Kinross (scene date: September 2022) and extracted from AgMaps.
- Property boundary provided by Kinross, March 2023.
- Road information provided by Kinross, August 2022.
- Proposed project footprint provided by Kinross, January 2023.
- Watercourses and waterbody acquired from Land Information Ontario (MNRF) and modified to match aerial imagery and LiDAR.

Datum: NAD83
Projection: UTM Zone 15N

N W E S

KINROSS

wsp

GREAT BEAR PROJECT

Wetlands and Low-lying Areas

PROJECT N°: OMEMA2303 | **FIGURE: C.6**

SCALE: 1:60,000 | DATE: July 2023

D. FEDERAL, PROVINCIAL, INDIGENOUS AND MUNICIPAL INVOLVEMENT AND EFFECTS

D.1 FEDERAL FUNDING

There is no anticipated federal funding for the Project.

D.2 FEDERAL LANDS NEEDED

No federal lands will be used to carry out the Project, including Reserve lands.

D.3 FEDERAL, PROVINCIAL AND MUNICIPAL ENVIRONMENTAL APPROVALS

D.3.1 FEDERAL

In addition to the potential requirement for completion of an Impact Assessment pursuant to the *Impact Assessment Act*, the Project may require federal approvals related to the *Fisheries Act*, and *Canada Navigable Waters Act*, pending additional regulatory guidance. Fisheries and Oceans Canada, ECCC, Transport Canada and Natural Resources Canada have a broad range of responsibilities, and are the federal departments primarily involved with approvals under the above statutes.

Table D.1 provides a preliminary list of federal environmental approvals that may potentially be required for the Project. Others may arise through consultation with federal agencies.

Table D.1 Federal Approvals Anticipated to be Required

APPROVAL AND REGULATORY INSTRUMENT (1)	AGENCY	DESCRIPTION / FACILITY
Schedule 2 Listing (Metal and Diamond Mining Effluent Regulations), *Fisheries Act* [new]	ECCC	– Storage of potentially deleterious mineral waste (such as tailings and mine rock) covering minor tributaries that are frequented by fish – An alternative assessment for mineral waste disposal in the prescribed format is expected to be required along with an approved fish habitat compensation plan
Authorization for Harmful Alteration, Disruption or Destruction of Fish Habitat or Death of Fish by means other than Fishing, *Fisheries Act* [new]	Fisheries and Oceans Canada	– For direct impacts to fish habitat if needed, and indirect impacts to fish habitat including flow reductions – An approved fisheries offset plan will be required

APPROVAL AND REGULATORY INSTRUMENT [1]	AGENCY	DESCRIPTION / FACILITY
Approval under the Navigation Protection Program, *Canadian Navigable Waters Act* [new]	Transport Canada	– Alteration of navigable waters and crossing of navigable waters with infrastructure
Aeronautical Obstruction Clearance Canadian Aviation Regulations, *Aeronautics Act* [new]	Transport Canada	– Marking and lighting for structures that could interfere with aeronautical navigation.
Licence for Magazine *Explosives Act* [new]	Natural Resources Canada	– A new or amended licence may be require for an explosive magazine
Land Use Clearance, *Aeronautics Act* [new]	NAV Canada	– Construction of tall structures, use of cranes, transmission line towers.

Note(s):

1 A federal *Species at Risk Act* permit is not expected to be required, as Ontario has a robust provincial SAR approvals process and there are no proposed facilities or activities on federal lands.

D.3.2 PROVINCIAL

The Ontario *Environmental Assessment Act*, *Mining Act*, *Ontario Water Resources Act*, *Environmental Protection Act*, *Lakes and Rivers Improvement Act*, *Public Lands Act* and the *Ontario Heritage Act* contain associated regulations, guidelines and policies that stipulate how the natural and/or human use environments are to be protected against undue disturbance from industries such as mining including on provincial Crown land, except as provided through the granting of permits, approvals and authorizations.

Three primary provincial ministries are expected to lead the environmental approvals for construction, operation and closure of the Project:

- Ministry of Mines has responsibility for the orderly development of mineral resources in Ontario, including responsibilities for the disposition of Crown lands for mining, and has primary responsibility for mine closure activities and approval for mining-related dams
- Ministry of the Environment, Conservation and Parks grants approvals and permits that address project aspects related to water, air quality and sound, waste management and provincial Species at Risk
- Ministry of Natural Resources and Forestry is responsible for permits to allow the disposition of some provincial Crown resources (such as aggregate and timber resources), approvals for dam construction and other works within water / below the high water mark, and authorization of works occurring on provincial Crown Land administered by the Ministry.

The Ministry of Tourism, Culture and Sport may also be involved with permitting of project components including providing confirmation that appropriate archaeological studies and applicable mitigation has been completed, although no permits are expected to be required. The Ontario Energy Board has responsibility for energy-related approvals, including approval to construct natural gas pipelines and transmission lines, and operates as an adjudicative tribunal, carrying out its regulatory function through oral or written public hearings.

Completion of a provincial Class Environmental Assessment for the disposition of Crown resources (Class Environmental Assessment for Resource Stewardship and Facility Development Project) may be required for the Project. This will be confirmed through regulatory discussions with the Province as the design of the Project progresses. The same body of knowledge is commonly used to meet both federal and provincial process needs in accordance with the existing Canada-Ontario Agreement on

Environmental Assessment Cooperation. A requirement to complete infrastructure-related provincial environmental assessments (such as for power supply are roads) are not expected.

Table D.2 provides a preliminary listing of the provincial environmental approvals that are expected to be required to construct, operate and close the Project based on available design information.

Table D.2 Provincial Environmental Approvals Anticipated to be Required

APPROVAL	AGENCY	DESCRIPTION / FACILITY
Closure Plan, *Mining Act* [new]	Ministry of Mines	– Progressive reclamation and final closure of the AEX program – Construction of dams above the high-water mark of watercourses if any
Environmental Compliance Approval - Industrial Sewage Works, *Environmental Protection Act* [new or amendment]	Ministry of Environment, Conservation and Parks	– Treatment system for mine water and contact water, and discharge of treated effluent to the environment
Environmental Compliance Approval - Air and Noise, *Environmental Protection Act* [new or amendment]		– Onsite atmospheric emissions, such as from the crusher
Permit to Take Water, *Ontario Water Resources Act* [new or amendment]		– Dewatering of underground mine workings and open pits, as well as potentially for an onsite water well and/or surface water fresh water supply
Work Permit or Letter of Authority, *Public Lands Act* or *Lakes and Rivers Improvement Act* [new]	Ministry of Natural Resources and Forestry	– For work on Crown land (*Public Lands Act* or *Lakes and Rivers Improvement Act*)
Aggregate Permit, *Aggregate Resources Act* [new or amendment]		– An aggregate resource permit may be sought to provide a source of aggregate for mine construction and operation
Land Use Permit, *Public Lands Act* [new]		– For land tenure for facilities located on Crown land not governed by the *Mining Act*
Forest Resource License and Authority to Haul, *Crown Forest Sustainability Act* [new]		– Harvesting of merchantable timber resource that is retained by the Crown to clear lands for construction
Licence to Collect Fish for Scientific Purposes, *Fish and Wildlife Conservation Act* [new]		– Required for fish collection and transfer during construction if needed

Note(s):

1 A provincial ESA overall benefit permit could be required.

No facilities are planned in Manitoba (the closest provincial boundary), and no transboundary negative impacts from the Project are anticipated.

D.3.3 MUNICIPAL

Municipal environmental approvals will not be needed as the Project is located outside of municipal boundaries.

E. POTENTIAL EFFECTS OF THE PROJECT

E.1 CHANGES TO FISH AND FISH HABITAT, AQUATIC PLANTS AND MIGRATORY BIRDS

Table E.1 provides a preliminary listing of changes to the following that may result from the construction, operation and closure of the Project:

- Fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*
- Migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*.

Table E.1 Preliminary List of Changes to the Environment under Federal Jurisdiction

ASPECT	PROJECT PHASE	POTENTIAL SOURCE	POTENTIAL CHANGE TO THE ENVIRONMENT	PRELIMINARY AREA OF INFLUENCE
Fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*	Construction	– Installation of temporary and permanent facilities and infrastructure	– Alteration, disruption and destruction of fish and benthic fauna habitat from direct disturbance (including potentially from overprinting by mine rock and tailings management facilities), blasting and mine dewatering	– Project footprint
			– Change to the natural surface water flow pattern	– Project footprint
			– Surface water quality alteration (meeting regulatory requirements, but not at background levels at discharge location)	– Project footprint and a short mixing zone downstream of the discharge location
	Operations	– Water management and treatment	– Surface water quality alteration (meeting regulatory requirements, but not at background levels at discharge location)	– Project footprint and a short mixing zone downstream of the discharge location
	Closure	– Site reclamation and closure	– Surface water quality alteration until discharge ends and site is reclaimed	– Project footprint and a short mixing zone downstream of the discharge location
			– Potential for creation of fish habitat in new pit lakes, expected to be re-connected to the Dixie Creek system	– Project footprint
Migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*	Construction	– Clearing of habitat to allow for site construction	– Habitat loss	– Project footprint
		– Installation of permanent facilities	– Disturbance of species	– Potential limited area outside the footprint related to noise disturbance
		– Additional vehicle traffic	– Increased risk of collision or mortality	– Primarily related to local roads

ASPECT	PROJECT PHASE	POTENTIAL SOURCE	POTENTIAL CHANGE TO THE ENVIRONMENT	PRELIMINARY AREA OF INFLUENCE
	Operations	– Operation of permanent facilities	– Disturbance of species	– Potential limited area outside the footprint related to noise disturbance
		– Additional vehicle traffic	– Increased risk of collision or mortality	– Primarily related to local roads
	Closure	– Site reclamation and closure	– Habitat redevelopment	– Project footprint
Navigable Waters, as defined in subsection 2 of the *Canadian Navigable Waters Act*	Construction	– Overprinting of potentially navigable waterbodies / watercourses	– Project facilities and infrastructure overprinting watercourses which may have historic or future use as a navigable waterway	– Project footprint
	Operations	– Overprinting of potentially navigable waterbodies / watercourses	– Project facilities and infrastructure overprinting watercourses which may have historic or future use as a navigable waterway	– Project footprint
	Closure	– None	– None	– None

No changes to federal aquatic Species at Risk as defined in subsection 2(1) of *Species at Risk Act* (marine plants) are anticipated, as none are known or expected to be present based on the multi-year environmental baseline studies completed to date.

Table E.1 should be considered preliminary and indicative only. It is subject to revision as a result of the comprehensive effects assessment that will be completed as part of the Impact Assessment process (if required) and ongoing engagement activities.

E.2 POTENTIAL CHANGES TO THE ENVIRONMENT ON FEDERAL LANDS OR LANDS OUTSIDE ONTARIO

No federal lands are located near the Property, and no development is planned to occur on federal lands. No changes to federal lands including Reserve lands are expected from the Project.

The Project will not result in changes to the natural, biophysical or human environment outside of Ontario, as will be confirmed through future modelling. The Project is located more than 100 km from the Ontario - Manitoba border. There are no direct roads between Provinces in this part of northwestern Ontario.

The Project is not of a scale or location that it could result in changes to the environment outside of Canada.

E.3 POTENTIAL EFFECTS TO INDIGENOUS PEOPLES - HERITAGE, TRADITIONAL LANDS AND OTHER

Section A.4 provides a summary of comments from Indigenous Peoples from engagement activities to date. Kinross will continue to engage with Indigenous Nations and Peoples on the construction, operation

and closure of the Project, including to determine the potential for impacts to physical and cultural heritage, and how the Project may affect diverse population groups within these Indigenous Nations.

The Project may result in effects to Indigenous Nations and Peoples and diverse population groups, culture, Treaty rights, and traditional and current uses, such as through potential changes to land access, loss of traditional lands and ability to hunt, fish, gather and/or trap, as well as the ability to practice their culture. These potential effects will be investigated through ongoing engagement activities and the environmental approvals process for the mine.

Structures, sites or things that are of historical, archaeological, paleontological or architectural importance to Indigenous Peoples if present within the development area of the Project site may be impacted by construction of the Project. These will be identified through ongoing engagement with potentially impacted Indigenous Peoples. There are none currently known to exist.

There are no known archaeological sites within the Property. Areas of archaeological potential were identified during the Stage 1 archaeological assessment which will be investigated further. A Stage 2 archaeological field program is planned in 2023 to confirm the presence or absence of archaeological features. The closest registered site (EeKi-3) is on the eastern shore of the Chukuni River at Snake Falls, which will not be disturbed by the Project (NAA 2023).

Table E.2 provides a preliminary assessment of potential effects of the Project. The table has been developed in part through feedback received from ongoing engagement activities, described briefly in Appendices A and B.

Kinross understands that if an Impact Statement is required for the Project, results from a GBA Plus process (Government of Canada 2023c,d) will need incorporated, that will assess how diverse population groups present may experience the impacts of the Projects differently. Knowledge gained will be integrated throughout the document, including but not limited to the assessment of alternative means of carrying out the Project and the assessment of Project-related effects.

As part of ongoing baseline data collection and consultation and engagement activities, Kinross is co-identifying subpopulation groups within the public and local Indigenous communities who may have:

- Differential access to potential Project benefits
- Differential negative impacts from the Project.

Subgroups may be cooperatively identified through:

- Review of available published information including descriptive statistics (e.g., percentage of people underemployed, disaggregated by gender, age, ability, ethnic origin or other relevant factors) from Statistics Canada and Health Canada
- Review of academic literature surrounding the potential impacts of natural resource projects on underserved, marginalized or equity deserving groups
- Self-identification to Kinross during engagement activities (such as workshops and open houses) and through interviews to contextualize statistics.

Quantitative and qualitative baseline data will be collected using a disaggregated (e.g., Indigenous Nations, youth, women) and intersectional (e.g., Indigenous women, young men) approach as practical so that possible differential effects are identified. This will allow information about subgroups to be utilized in later analytical processes, to develop mitigation measures as appropriate to enhance potential benefits and minimize potential negative impacts.

Table E.2 Preliminary Summary of Potential Environmental Effects

ASPECT	POTENTIAL EFFECT (PRELIMINARY)	PROPOSED MITIGATION (PRELIMINARY)
Air Quality, Greenhouse Gases	– Air emissions have the potential to generate dust or products of petroleum hydrocarbon combustion – Greenhouse gas emissions from Project have a minor potential to contribute to global carbon dioxide emissions – Project may impact on how and where Indigenous Nations Rights are exercised Preliminary Areal Extent: – Air quality regulatory requirements will be met at Property boundary	– Provincial regulatory requirements will be met for onsite emissions and air quality at the Property boundary – Carbon offset projects may be a practical and complementary option to support reducing greenhouse emissions, and may be considered as a form of mitigation for the Project – Appropriate air quality and greenhouse gas management practices / plans will be developed and implemented – Water sprays will be used to control dust emissions from haul roads and construction areas, and best management practices will be followed for dust control during operations – Development of a compact overall site as proposed, will reduce haulage / transportation distances for greater fuel economy and reduce greenhouse gas emissions – Equipment and vehicles will be maintained in good working order to improve the air quality of emissions and for fuel combustion efficiency (reducing greenhouse gas emissions)
Noise	– Noise emissions from the Project have the potential to disturb other area users – Project may impact on how and where Indigenous Nations Rights are exercised Preliminary Areal Extent: – Noise regulatory requirements will be met at nearest receptor (likely a cottage or residence, to be determined)	– Provincial regulatory criteria will be met for onsite emissions and at surrounding noise sensitive locations, such as cottages – Appropriate management practices / plans will be developed and implemented – Measures will be used to reduce sound emission effects, such as: developing a compact site, maintaining tree screens around work areas, reducing the overall height of stockpiles, maintaining equipment in good working order and utilizing efficient mufflers – Equipment and vehicles will be maintained in good working order to reduce noise emissions
Light	– Operation of an industrial facility will cause a localized light glow that is visible off site Preliminary Areal Extent: – A night glow is expected to be visible off site	– Care will be taken to ensure lights are properly aimed to minimize offsite light disturbance
Local waterbodies / watercourses	– Project development may overprint small creeks and beaver ponds, and have the potential to reduce downstream flow in the immediate vicinity – Diversion of contact waters may reduce runoff to some watercourses and waterbodies, which could have an effect on water flows and surface water areas – There may be an effect on the local surface water system by dewatering required for the underground mine and open pits	– Effluent discharge to the environment will meet all federal and provincial regulatory requirements for water quality and water flows – The surface water intake will meet all federal and provincial regulatory requirements for including for water taking volume – In-water structures will be designed to avoid interference with navigation as reasonable

ASPECT	POTENTIAL EFFECT (PRELIMINARY)	PROPOSED MITIGATION (PRELIMINARY)
	– An intake / discharge location is proposed on the Chukuni River (final location to be determined), which has the potential to affect water quality and flows – Diversion of Dixie Creek is not proposed at this time but could be required pending effectiveness of other mitigation measures. – There may be new water crossings at locations to be determined – Project may impact on how and where Indigenous Nations Rights are exercised Preliminary Areal Extent: – Effluent quality will meet regulatory requirements before release to the environment – There may be a small area downstream of the discharge location (mixing zone) where water quality may not be the same as the background water quality	
Groundwater System	– Underground mine and open pit dewatering will affect the local groundwater levels and may affect surface water flows – Groundwater quality is not expected to be affected Preliminary Areal Extent: – Dewatering may result in a depression in the local groundwater level which is currently under investigation	– Modelling investigations will fully assess potential effects to support mitigation, if needed – Groundwater levels will return after the mine workings and open pit fill with water at closure
Fish and Fish Habitat	– Project development (including potentially mine rock and tailings management facilities) may overprint small creeks and ponds which are fish frequented – Project footprint and dewatering has the potential to impact water levels downstream flow and volumes in the immediate vicinity, but flow is returned to the same watershed elsewhere – Effects of blasting (vibration and overpressure) may have adverse effects on aquatics species – An intake / discharge location is proposed on the Chukuni River (final location to be determined), which has the potential for habitat disturbance – New water crossings may be needed at locations to be determined which has the potential for habitat disturbance Preliminary Areal Extent: – Habitat disturbance will be limited to project footprint	– Effluent discharge to the environment will meet all federal and provincial regulatory requirements – In-water structures will be designed to avoid interference with navigation as reasonable – Compensatory measures, such as aquatic habitat, which will be consulted upon and approved through a rigorous federal process, will be provided to mitigate effects to aquatic resources, including habitat loss – Preliminary plan is to re-connect the water filled open pits (pit lake) to the Dixie Creek system on closure, which may include establishment of fish habitat – Best management practices, measures to protect fish and fish habitat; and standards and code of practices will be implemented where reasonable.

ASPECT	POTENTIAL EFFECT (PRELIMINARY)	PROPOSED MITIGATION (PRELIMINARY)
	– Effluent quality will meet regulatory requirements before release to environment and will be protective of aquatic life	
Natural Vegetation	– Mine site and related infrastructure development will displace existing terrestrial habitat – Project may impact on how and where Indigenous Nations Rights are exercised Preliminary Areal Extent: – Habitat disturbance will be limited to Project footprint	– A portion of the site has been previously disturbed through past forestry, exploration or mining activities, or will be disturbed by the proposed AEX program, but some areas to be affected remain a more natural condition – A compact site will be developed for the Project to limit disturbance to new areas as reasonable – Dust management practices will help limit the effect of dust on vegetation (and wildlife) – The site will be reclaimed after mining ends to support future productive habitat
Wildlife	– Wildlife (and including Moose and other furbearers) may be disturbed by site activities and disturbance, including noise – Mine site and related infrastructure development will displace existing terrestrial habitat – Mine site development may displace existing terrestrial habitat for Species at Risk – Project may impact on how and where Indigenous Nations Rights are exercised Preliminary Areal Extent: – Habitat disturbance will be limited to Project footprint – Wildlife within a limited area outside the footprint may also be affected by noise and other disturbances – Increase potential for wildlife collision primarily on local roads	– A portion of the site has been previously disturbed through past forestry, exploration or mining activities, or will be disturbed by the proposed AEX program, but some areas to be affected remain a more natural condition – A compact site will be developed for the Project to limit disturbance to new areas as reasonable – Vegetation removal will be avoided where reasonable during the bird nesting season – The site will be reclaimed after mining ends to support future productive habitat
Hunting, Trapping, Fishing and Tourism	– Limited effect as the mine is to be located on an active exploration and planned AEX program, where access will be controlled / restricted for safety of workers – There will be a more extensive disruption to the local experience in the immediate vicinity of the site from the larger scale mining operation Preliminary Areal Extent: – Potential limited area outside the footprint related to noise disturbance	– No mitigation measures are currently proposed other than final reclamation at closure
Commercial Operations	– Project development could limit access to people and resources for other operations and potentially draw local people back to the area for jobs	– Comprehensive engagement plan with local stakeholders and Indigenous Nations to understand the potential socio-economic risks and opportunities, followed by development of plans to enhance opportunities for economic benefits

ASPECT	POTENTIAL EFFECT (PRELIMINARY)	PROPOSED MITIGATION (PRELIMINARY)
	Preliminary Areal Extent: – To be determined	
Traditional use of lands and resources (1)	– Effects on spiritual relationships and connection with the environment – Potential for effects on locations of sentimental, traditional and heritage value – Potential for effects on traditional use of lands and resources as sites of value and interest to First Nation(s) – Potential for effects on cultural practices – Potential for changes to land and resources resulting in effects on exercising rights Preliminary Areal Extent: – Potential limited area outside the mine-held lands related to noise disturbance	– Ongoing engagement with Indigenous Nations to mitigate potential effects
Indigenous / Public Health and Safety (1)	– All regulatory requirements (such as for air quality, noise, water quality and other environmental aspects) will be met – Potential for effects on Indigenous women's safety – Potential for effects on Indigenous women, youth, elders, etc. – Potential for changes to community safety and well-being and health of Indigenous Peoples – Increased risk of vehicle collision due to increased traffic Preliminary Areal Extent: – To be determined	– Kinross with work with local Indigenous Nations with an aim of enhancing the positive benefits of the Project – Traffic management and awareness will reduce potential for accidents on public roads
Socio-economics	– Benefits including employment and procurement opportunities – Benefits for education and training opportunities – Potential for effects on healthcare services and providers – Effects on traffic due to mine personnel commuting to site Preliminary Areal Extent: – To be determined	– Kinross will work with local Indigenous Nations and with communities with an aim of enhancing the positive benefits of the Project
Physical and cultural heritage	– No anticipated effect to known archaeology sites – Effects to cultural heritage to be determined Preliminary Areal Extent: – Heritage disturbance will be limited to Project footprint	– Archaeological studies have been conducted and no cultural heritage features or artefacts have been identified in locations of proposed development to date (further investigation planned) – This will continue to be reviewed as additional information is gained and the Project's design progresses; mitigation will be completed, if needed

ASPECT	POTENTIAL EFFECT (PRELIMINARY)	PROPOSED MITIGATION (PRELIMINARY)
		– Kinross' chance find procedure and other measures will be put in place as needed, to identify and protect undetected features or artefacts during construction
Identified structures or sites (2)	– No effect expected	– None expected to be required

Notes:

1 This preliminary assessment was developed in part through engagement activities to date and may be revised as a result of ongoing engagement, including review of this document.
2 Structures or sites of historical, archaeological, palaeontological or architectural significance.

E.4 POTENTIAL EFFECTS TO INDIGENOUS PEOPLES - SOCIAL, ECONOMIC AND HEALTH CONDITIONS

Engagement with Indigenous Nations will help to determine the potential concerns and impacts to health, social and economic conditions that may result from the Project. Section A.4 lists concerns raised to date by Indigenous Nations related to these aspects. Ongoing engagement with Indigenous Nations will identify potential effects on community health and well being that may result from the Project, as well as potential mitigation measures.

The overall effect to Indigenous Peoples from the Project can be positive, particularly for economic conditions and the associated outcomes arising from improvements in economic circumstances. Ongoing engagement with Indigenous Peoples will help Kinross understand the needs of diverse population groups within the communities. Key positive benefits of the Project are expected to include employment and business opportunities for Indigenous Nations members and businesses, which Kinross will seek to enhance in collaboration with local Indigenous Nations and strategic, targeted programs.

Kinross will seek to understand and mitigate the negative effects associated with the Project for Indigenous Peoples, and localized effects to individuals or groups of individuals who may exercise traditional land use rights in the area, such as:

- The effect of developments on historic and current, lands and resource uses, and ways of life / culture
- Effects of Project emissions and effluents to human health through biophysical pathways including quality of air, recreational and drinking water, noise and Traditional foods
- Contribution to cumulative effects already being experienced in the region
- Impacts to physical and social infrastructure in the region including road safety and the availability of social services.

Kinross is engaging with Indigenous Nations to support the development of Indigenous knowledge studies and to understand the culture and interests of Indigenous Nations. Information gathered through the Indigenous knowledge studies will inform baseline conditions and future mitigation measures if appropriate. Table E.2 provides a preliminary assessment of potential effects based on information available to date to be confirmed through ongoing engagement and future assessment.

E.5 ESTIMATE OF GREENHOUSE GAS EMISSIONS

Kinross recognizes the global importance of taking action on climate change and creating a long-term plan to mitigate impacts. Kinross views its climate change strategy and goals as essential to safeguarding the environment, but also vital to their long-term success. We will continue building on our position as one of the lowest greenhouse gas emitters among our peers to make a tangible contribution towards mitigating climate change.

Kinross announced the details of its Climate Change Strategy and greenhouse gas reduction action plan in 2022, which included a commitment to working towards the goals of the 2015 Paris Agreement. The Strategy is aligned with the Kinross corporate goal of being a net-zero greenhouse gas emissions company by 2050 and has set a target to achieve a 30% reduction in intensity per ounce produced of Scope 1 and Scope 2 emissions by 2030 (Kinross 2022). Based on the drilled resource, the Project does

not extend beyond 2050; however, with continued exploration success and drilling at depth, the life of mine and production may extend past 2050. The preference for Kinross is to focus on reduction of greenhouse gas emissions from its operations, rather than use carbon credits to reach climate goals. Kinross will continue to incorporate market trends and update corporate direction towards reducing greenhouse gas emissions as the Great Bear Project advances.

Although it is early in the Project design, Kinross is considering various design elements into the Project aimed at reducing greenhouse gas emissions, including:

- Preferentially drawing electricity from the provincial grid for the Project with low carbon intensity energy (if grid power is available within a reasonable distance)
- Utilizing natural gas for power generation if grid power can not reasonably be available, rather than diesel which would emit fewer greenhouse gases
- Use distributed power rather than local generators, to meet facility and stationary equipment power demands at the site
- Optimizing distances travelled by haul trucks during mine planning or use of conveyors
- Ventilation on demand for underground workings
- Energy efficiency throughout the process plant and with fixed facilities / equipment
- Mobile equipment selection (e.g., electric versus diesel combustion, particularly for underground mining equipment, electric open pit shovels and drills)
- Dispatch and machine health systems to manage operations and equipment efficiently
- An equipment maintenance program to reduce fuel consumption.

As with many other industrial operations, greenhouse gases will be emitted during all phases of the project (construction, operation and closure). Combustion of fossil fuels will produce carbon dioxide, nitrous oxide and methane. The Project will include sources of direct (Scope 1 and 2) and indirect (Scope 3) greenhouse gas emissions. The primary sources of greenhouse gas emissions from each Project phase are expected to be:

- Construction: diesel combustion in mobile equipment
- Operation: diesel combustion in mobile equipment, natural gas combustion in stationary equipment, blasting in the open pit and underground, natural gas or propane for heating onsite facilities and underground, processing of ore and indirect emissions from purchased grid power
- Closure: diesel combustion in mobile equipment.

An initial estimate of net greenhouse gas emissions associated with the Project has been developed utilizing the guidance of ECCC, including the Strategic Assessment of Climate Change guidelines (ECCC 2020), and the Draft Technical Guide Related to the Strategic Assessment of Climate Change (ECCC 2021). The following sources and sinks were considered:

- Direct (Scope 1) emissions including hydrocarbon fuel combustion in stationary power and heating equipment, for mobile equipment used on site, and released from explosives detonation
- Acquired energy (Scope 2) emissions are from the purchased electricity that will be supplied for the Project
- Land use changes at the Project.

Emissions of each greenhouse gas were converted to units of carbon dioxide equivalent (CO_2Eq) using the Intergovernmental Panel on Climate Change Fifth Assessment Report AR5 (IPCC 2014), and

consistent with Schedule 3 in the *Greenhouse Gas Pollution Pricing Act*. Carbon capture and storage were not considered in this preliminary estimation.

Preliminary greenhouse gas emissions were calculated for all Project phases. The maximum net greenhouse gas emissions per year are estimated to be 180 kilotonne-CO_2Eq/year. This is composed of 173 kilotonne-CO_2Eq/year of direct emissions, and 7 kilotonne-CO_2Eq/year acquired electricity. The cumulative net greenhouse gas emissions for the total Project life are estimated to be 2,259 kilotonne-CO_2Eq. The potential loss of carbon uptake due to changes in land use were estimated at 30 kilotonne-CO_2Eq. A more detailed assessment of greenhouse gas emissions and mitigation measures will be completed in conjunction with any required Impact Statement.

Due to the current grid supply challenges in the region, the above preliminary greenhouse gas emissions estimate reflects a hybrid power generation scenario that is 50% onsite natural gas electricity generation and 50% grid supply over the life of the mine. The 50% grid supply estimate utilized is consistent with ongoing discussions with Hydro One and the Independent Electricity System Operator, about current regional power availability. Kinross is continuing to study a grid connection solution for the Project, that covers its entire power supply needs, as onsite power generation is not preferred and increases greenhouse gas emissions significantly. A 100% grid solution if sufficient power is available from Hydro One, is estimated to reduce netGHG emissions from the above estimate by 689 kilotonne-CO_2Eq over the life of the Project.

E.6 WASTES AND EMISSIONS

Table E.3 provides a brief summary of the types of wastes and emissions that are likely to be generated from the Project during the construction, operation, closure phase, including in the air, in or on water, and in or on land.

E.6.1 ATMOSPHERIC EMISSIONS

AIR EMISSIONS

Air emissions will derive from point source and fugitive sources. Fugitive sources are likely to contribute the majority of the air emissions, including from:

- Drilling and blasting of rock
- Loading and offloading of rock (mine rock and ore) and overburden
- Vehicle and heavy equipment travel
- Wind entrainment from exposed earth, and mineral waste such as within the tailings management facility and stockpiles.

Water and other approved dust suppressants will be used as required to control fugitive dust emissions.

The primary point source air emissions are expected to be suspended particulate (dust) from the crusher(s) and conveyors. Measures will be taken to minimize dust creation at the plant site and to utilize dust collection devices where practical. Measures will be taken to minimize dust creation at the plant site including during crushing, and to utilize dust collection devices where practical. Primary crushing is expected to take place in an enclosed structure to provide shelter and to reduce dust escaping into the environment. Additional dust control will be installed if needed.

Table E.3 Preliminary List of Types of Wastes or Emissions

ASPECT	PROJECT PHASE	ANTICIPATED WASTE OR EMISSION	PRIMARY PROJECT SOURCES
In the air	Construction, Operations and Closure	– Dust emissions – Air emissions including greenhouse gas emissions from machinery and equipment – Noise emissions – Light	– Blasting, crushers, conveyors, tailings management facility, stockpiles, roads and laydown areas – Process plant, mobile equipment – Open pit blasting, crusher, stockpiling activities – Site illumination for safety
In or on land	Construction	– Domestic solid waste – Regulated and non-regulated, industrial solid and liquid waste – Mineral waste (overburden and mine rock) – Vibration	– Process plant, maintenance, office – Process plant, maintenance, office – Open pit and underground mine
	Operations	– Domestic solid waste – Regulated and non-regulated, industrial solid and liquid waste – Mineral waste (overburden, mine rock and tailings) – Vibration	– Process plant, maintenance, office – Process plant, maintenance, office – Open pit and underground mine
	Closure	– Domestic solid waste – Regulated and non-regulated, industrial solid and liquid waste	– Process plant, maintenance, office – Demolition activities, maintenance, office
In or on water	Construction	– Treated contact runoff discharged to the Chukuni River as effluent – Treated domestic sewage – Vibration	– Project site (captured in water management infrastructure and treated in ponds and water treatment plant) – Sewage treatment plant – Explosive use (open pit)
	Operations	– Treated contact runoff and effluent discharged to the Chukuni River – Treated domestic sewage – Vibration	– Project site (captured in water management infrastructure and treated in ponds and water treatment plant) – Sewage treatment plant – Explosive use (open pit)
	Closure	– Treated contact runoff and effluent discharged to the Chukuni River – Treated domestic sewage	– Project site (captured in water management infrastructure and treated in ponds and water treatment plant) – Sewage treatment plant

Fuel combustion, such as in vehicle and heavy equipment during all Project phases will release particulates, sulphur dioxide, and nitrogen oxides from the combustion of fuel. Nitrogen gases, carbon dioxide and other trace gases will also be released from explosives usage.

GREENHOUSE GAS EMISSIONS

As described in Section E.5, greenhouse gas emissions will derive principally from heavy equipment operation and fuel combustion. Grid power is intended to be preferentially used to meet stationary equipment power demands for the Project as available, thereby reducing direct greenhouse gas emissions at site.

NOISE EMISSIONS

The primary sources of noise from the Project are expected to be associated with from the operation of heavy equipment for construction and handling of mine materials (mine trucks, shovels, loaders, etc.) and potentially from underground mine ventilation. Plant site operations, including crushing and grinding operations, will be enclosed and emissions are expected to be minor in comparison to open air noise sources. Blasting from open pit operations will also contribute to noise emissions, although blasts will be a very limited duration of one to two minutes. Noise source modelling will be carried out to understand the noise and noise related effects and inform practical mitigation measures during engineering design.

E.6.2 LIQUID DISCHARGES

MINE WATER AND SURFACE CONTACT WATERS

Mine water includes groundwater intercepted by the underground mine, and groundwater runoff and direct precipitation that collects in the open pit. Mine water will contain suspended solids from mining and earthmoving activities, ammonia residuals from ammonia-based explosives, and residual hydrocarbons from heavy equipment operation. Leaching of the exposed bedrock within the underground mine and open pit may potentially contribute minor quantities of metals to the mine water. Mine water will be collected and directed to an integrated water management and treatment system on surface, potentially incorporating elements of the AEX water management system.

Precipitation and groundwater that comes into contact with surface mine-related facilities including potentially acid generating materials (contact water), will be collected using ditches and sumps, and will be directed to the integrated water management system. Runoff from the stockpiles (ore, mine rock and overburden) and tailings management facility may contain suspended solids and dissolved metals. A comprehensive geochemistry testing program is under way to support a prediction of water quality, including for residual metals arising from the natural bedrock that become exposed through mine-related activities.

Modelling will be completed to assess the volume and quality of the water requiring management, which will be used in the design of the integrated water management and treatment facilities on site. Water from the integrated system will be re-used on site as practical and will be the primary source of water for the process plant.

PROCESS PLANT AND TAILINGS WATER

Excess process plant water is expected to be pumped with the tailings to a tailings management facility for storage. The tailings and process plant water will contain metals from the processing of metal-containing ore and residual processing reagent products. A cyanide destruction circuit will be established within the process plant to treat residual cyanide concentrations in the tailings and process plant water, prior to pumping to the tailings management facility.

DOMESTIC SEWAGE

Domestic sewage during the construction and operations phase will be treated by an appropriately sized, technically acceptable method, such as a sewage treatment plant, potentially expanding on the facility developed for the AEX program. Effluent meeting applicable criteria will be either directed to the integrated water management and treatment system, or potentially discharged directly to the environment if all regulatory requirements are met.

EXCESS SITE WATER

Excess water from the integrated water management and treatment system that meets regulatory requirements for water quality and quantity, will be discharged to the environment. The discharge location is under investigation but is tentatively sited on the west bank of the Chukuni River, downstream of the existing transmission line crossing (Figure B.1). This will be confirmed through detailed investigations, including regarding the assimilative capacity of the river.

E.6.3 SOLID WASTES

DOMESTIC WASTE

Domestic wastes will be produced at the Project site during all project phases, and are expected to include: food scraps, refuse, clothing, metal tins, scrap metal, glass, plastic, wood and paper. These materials will be managed according to regulations either on site or transported to an existing facility off site.

SPECIAL MANAGEMENT WASTE

Special management wastes at the site are expected to include: waste petroleum products and packaging, waste glycol, petroleum contaminated soils (if present from a spill), waste explosives and biomedical waste. Special management wastes produced during all project phases, will be stored indoors and/or in sealed containers in lined, bermed areas (or other means of secondary containment) until they can be transported to an appropriately licensed facility off site, in compliance with provincial and federal regulations.

DEMOLITION WASTE

Salvageable machinery, equipment and other materials will be dismantled and taken off site for sale or reuse if economically feasible. A dedicated non-hazardous landfill may be developed during the closure phase for storage of demolition wastes, such as concrete, steel, wallboard and similar materials.

E.7 OVERVIEW OF POTENTIAL ENVIRONMENTAL EFFECTS

Table E.1 and Table E.2 provide a preliminary assessment of potential changes to the environment under federal jurisdiction and an overview of the potential effects from the Project. Anticipated wastes and emissions currently anticipated for the Project are summarized in Section E.6 and Table E.3.

Table E.4 provides an overview of comments received to date and a proposed preliminary approach to address these aspects, including in the site design as appropriate. This preliminary information will be clarified through ongoing engagement activities, the environmental approvals process and engineering investigations for the mine.

Table E.4 Preliminary Comments and Preliminary Approach / Actions

SUMMARY OF PRELIMINARY COMMENTS / CONCERN	PRELIMINARY APPROACH TO ADDRESS / ACTIONS
Open pit mining	– Provide information regarding the different means of mining during ongoing engagement activities, and describe how Kinross determined the proposed mining methods – Mining alternatives will be described in the IS.
Confidence that the mine will be built	– Additional engineering studies including the Prefeasibility Study currently in progress, will be completed to help confirm Project viability – An AEX program is proposed to better understand the ore body and assess the economics of the Project – Project updates will be provided during ongoing consultation.
Reclamation and closure of the site	– Reclamation and closure of the site will be discussed during ongoing consultation activities – A preliminary plan for reclamation and closure will be included in the IS – Prepare and consult on a comprehensive regulatory Closure Plan during the permitting stage of the Project.
Maximization of (positive) socioeconomic impacts, including potential for local hiring	– Kinross believes that responsible mining should strive to create positive economic and social benefits, for local communities and Indigenous peoples, leading to improvements in the overall quality of people's lives – Planning will fully consider provision of local employment and contracting opportunities to the region
Social risks related to changing social structures from direct and indirect Project employment	– The potential for negative impacts from the Project, including on the human environment, will be assessed in the IS – Mitigation measures will be defined and implemented to minimize these impacts as appropriate
Opportunities for long-term careers for Indigenous youth	– Kinross is committed to establishing a long-term presence in northern Ontario and the Red Lake area – Kinross will work with local Indigenous Nations to identify potential means of meeting this request
Housing and accommodation supply constraints	– Kinross recognizes that there may be accommodation constraints in the region and for that reason is considering development of accommodations on the Project site (for both the AEX program and the mine)
Road safety	– The Project has the advantage of being situated along a major highway designed for industrial traffic loads – Kinross intends to work with the Ministry of Transportation (Highway 105) and MNRF (local forestry roads) to develop appropriate design features and mitigation measures to minimize potential traffic conflicts arising from the Project
Desire of Indigenous Nations to participate actively in environmental baseline studies, and in the Impact Assessment and environmental approvals processes	– Indigenous Nations will continue to be provided opportunities to participate in environmental baseline investigations – Kinross will work with local Indigenous Nations to identify a means of active participation – Consultation and engagement will continue through the Impact Assessment and environmental approvals processes
Consideration of Indigenous knowledge during the Impact Assessment	– Indigenous knowledge provided to Kinross will be fully considered and utilized when assessing Project impacts and determining appropriate mitigation measures
Maintenance of access to sites of interests (values) on the Property	– The safety of employees, visitors and others is a top priority for Kinross – Kinross will fully consider provision of periodic access when requested to known Indigenous values within the Property, if the access can be provided safely
Potential for impacts on water quality, fish habitat and fish populations	– The potential for impacts from the Project water quality, fish habitat and fish populations will be assessed in the IS – Mitigation measures will be defined and implemented to minimize these impacts as appropriate.

SUMMARY OF PRELIMINARY COMMENTS / CONCERN	PRELIMINARY APPROACH TO ADDRESS / ACTIONS
Consideration of flooding, forest fires or other natural disasters that may impact access to the communities and site	– The IS will consider the potential impacts the environment may have on the Project (such as flooding, natural fires, natural disasters and climate change).

The *Impact Assessment Act* requires that cumulative effects from the designated project be considered that are likely to result in combination with other physical activities that have been or will be carried out. For the Project, it is anticipated this would include cumulative effects associated with the exploration program and AEX program at the site. Kinross is developing the Project (the mine), to expand and/or modify facilities that are being developed during the AEX program to minimize environmental disturbance as practical. Cumulative effects will be assessed in the Impact Statement in accordance with IAAC guidance, including Government of Canada (2023e).

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Appendix A
Community Input and Outcomes – Stakeholders

Red Lake, Ontario

What Have We Heard *	Our Response
How will the project impact trapping in the area	• The potential impact on land and resource use will be assessed as the Project advances. Kinross looks forward to ongoing consultation to inform and work with potentially impacted stakeholders
Will the project impact aggregate permit holders	• Aggregate needs will be assessed as the Project advances. Kinross will continue to update adjacent stakeholders on the future plans of the project and mitigation of any potential impacts
What will happen to the Bear Management Area within the project	• The potential impact on land and resource use will be assessed as the Project advances. Kinross looks forward to ongoing consultation to inform and work with the potentially impacted stakeholders
Will Kinross build houses in Ear Falls	• A camp is proposed to limit impacts on community services and infrastructure
What are the plans to increase power	• Discussions are ongoing with Hydro One
Access – will Kinross build another route in addition to Hwy 105	• At this time another route in addition to Hwy 105 is not anticipated. Traffic volume on Hwy 105 as a result of the project will be considered as the project advances

Ear Falls, Ontario

What Have We Heard *	Our Response
What is Kinross doing about the power needs for the mine	• Kinross is aware the existing infrastructure is insufficient to support the mine project and is currently assessing options
When will the mine be operational	• Kinross is planning to initiate construction of mine in 2027 with operations commencing in 2029 contingent on receiving environmental permits and approvals

* Information as of July 31, 2023.

Appendix B
Community Input and Outcomes – Indigenous Nations

Wabauskang First Nation and Lac Seul First Nation

What Have We Heard *	Our Response
Desire to participate actively in environmental baseline and permitting	• Kinross supports the participation of environmental monitors for data collection • Kinross supports retaining an Indigenous technical review team
Consideration of Indigenous knowledge	• Kinross supports the collection of Indigenous knowledge / land use and looks forward to receiving studies for consideration throughout all phase of the project
Concerns with open pit mining	• Open pit mining will not occur during the advanced exploration program • The main project will be mined by open pit and underground methods. • A small portion of the ore body is located at shallow depth and is more suitable for open pit mining methods
Reclamation and Closure	• Kinross looks forward to ongoing consultation to inform the preparation of a closure plan
Potential for impacts to water and fish	• Potential effects and mitigation will be identified as the project advances through impact assessment and permitting and will be discussed with communities and regulators.
Changes to social structures of communities	• A camp is proposed to limit impacts on community services and infrastructure
Opportunities for long-term careers	• Long term employment and business opportunities will be realized as a result of the project • Procurement opportunities and job postings have been (and will continue to be) shared with communities

Asubpeeschoseewagong Netum Anishinabek (Grassy Narrows First Nation)

What Have We Heard *	Our Response
Asubpeeschoseewagong Netum Anishinabek, Indigenous Protected and Conserved Areas (IPCA) and areas in the vicinity, or in areas that could have off site impacts on the IPCA and our people	• Kinross has no mining claims or interests within the Asubpeeschoseewagong Netum Anishinabek IPCA • Kinross looks forward to ongoing discussions with Asubpeeschoseewagong Netum Anishinabek as the project advances
Potential effects on natural environment – Water, Moose, Wolverine and Caribou	• Kinross are completing a comprehensive environmental baseline program to inform project planning
Spills	• A spills and emergency response plan will be prepared as the project advances following Kinross corporate protocols
Funding Support	• Kinross looks forward to the active participation of Asubpeeschoseewagong Netum Anishinabek as the project advances and would be happy to discuss ongoing participation support

* Information as of July 31, 2023.