

# YELLOWKNIFE GOLD PROJECT

## MVEIRB Issues Scoping Session for the Environmental Assessment

June 15-16, 2005  
Yellowknife, NT

# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Who is Tyhee Development Corp?

- Gold Exploration and Development Company
- Large Measured and Indicated Resource, 1.8 million ounces of gold
- Developing in a gold camp with >14 million ounces of past production
- In Canada, 100% owned.
- Advance toward Production

# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Who is Tyhee NWT Corp?

- Tyhee NWT Corp is a wholly owned subsidiary of Tyhee Development Corp
- Tyhee NWT Corp will be the operator of the Yellowknife Gold Project

# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Project Development Management Team

- Dave Webb, President and CEO
- Roger Sylvestre, Executive Vice President
- Lorne Anderson, Chief Financial Officer
- Doug Levesque, Vice President-Operations
- Hugh R. Wilson, Vice President-Environment and Community Affairs
- Val Pratico, Chief Geologist

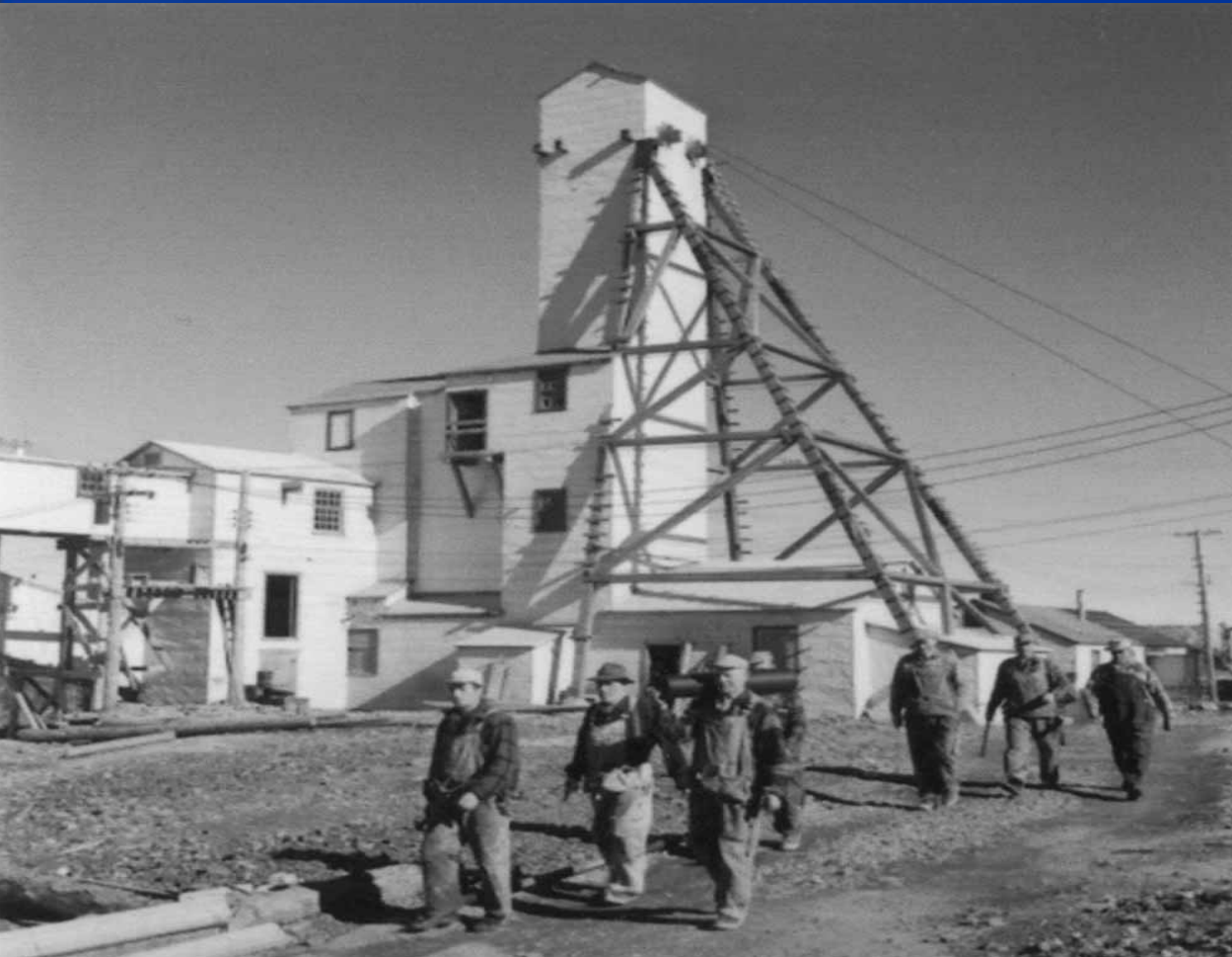
# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Property History (Discovery Mine – Present)

- **1949-1969**; Produced 1 million ounces of gold from 1 million tons of ore.
- **1995**; Discovery of new form of gold mineralization
- **Jan 2001**; Purchase Discovery Mine Property (100%)
- **Jan 2001**; Purchase Nicholas Lake Mine Property (100%)
- **2002**; Confirm Resource, Initial Economic Evaluation
- **2003**; Expand Resource, Complete Scoping Study
- **2004**; Expand Resource, Initiate Pre-feasibility Study
- **2005**; Continue Exploration, Permit application submitted in March to initiate project review

# YELLOWKNIFE GOLD PROJECT- OVERVIEW

PROPERTY HISTORY (DISCOVERY MINE CIRCA 1952)



# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Key Project Components

- Camp for ~135 persons (total workforce ~240) working 2-week in, 2 week off rotation
- Fuel Storage for ~12 million litres
- Conventional Mining and Processing at rate of ~ 1500 tpd
- Tailings Containment Area – proposed as Winter Lake (releases from lake to meet MMER)
- Waste Rock Storage area (bulk to be used as backfill)
- Use of existing airstrip including current overland access (alternative- to build new airstrip on esker ~ 3 kms away)

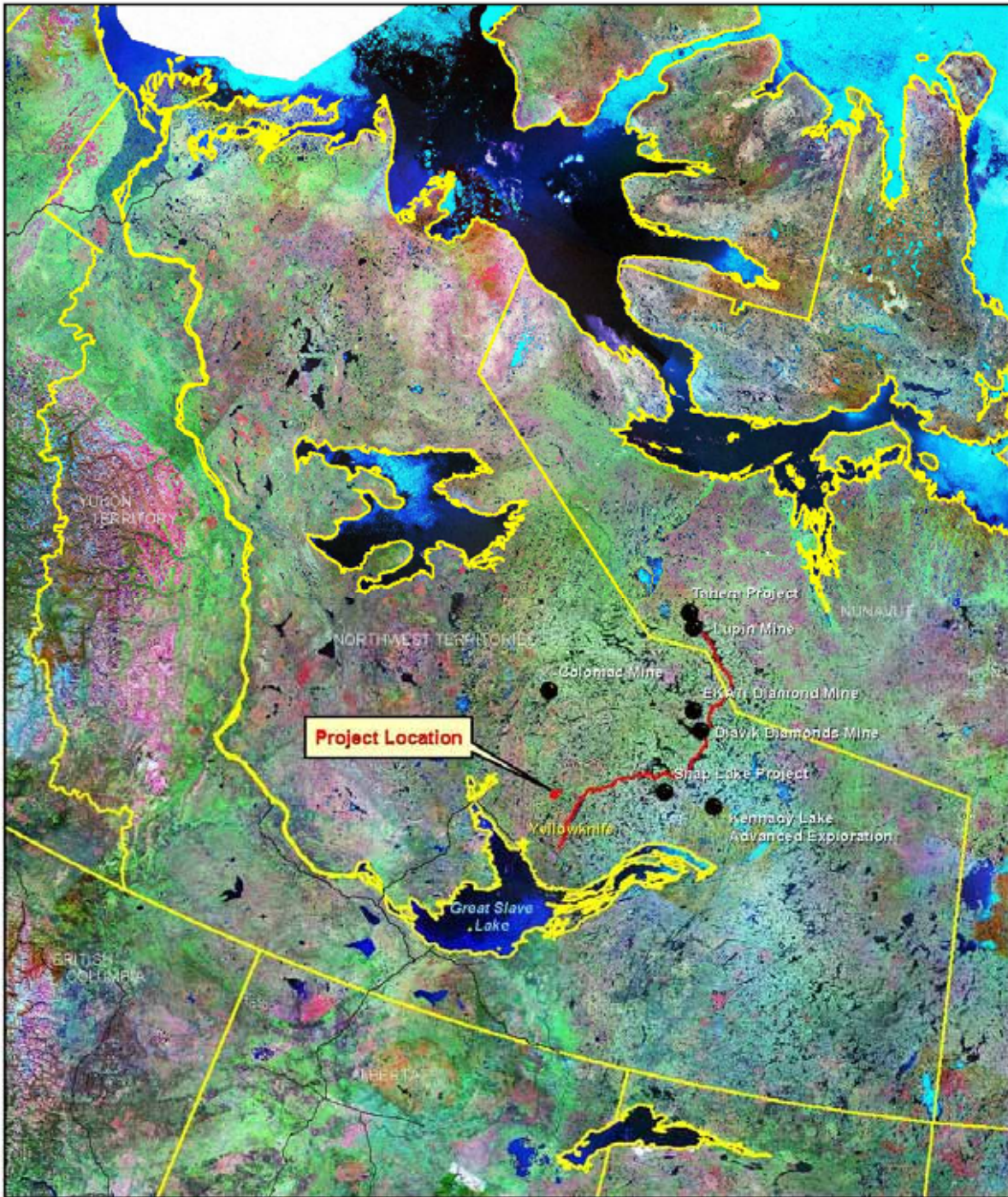
# YELLOWKNIFE GOLD PROJECT- OVERVIEW

## Key Project Components (continued)

- Winter access to site via existing winter road (Prosperous Lake to Discovery)
- Explosives storage area- per NRCan criteria
- Access to Nicholas Lake resources- based on feasibility studies could be all-weather or winter road.



## Yellowknife Gold Project Location Map



# YELLOWKNIFE GOLD PROJECT- OVERVIEW



# YELLOWKNIFE GOLD PROJECT- OVERVIEW

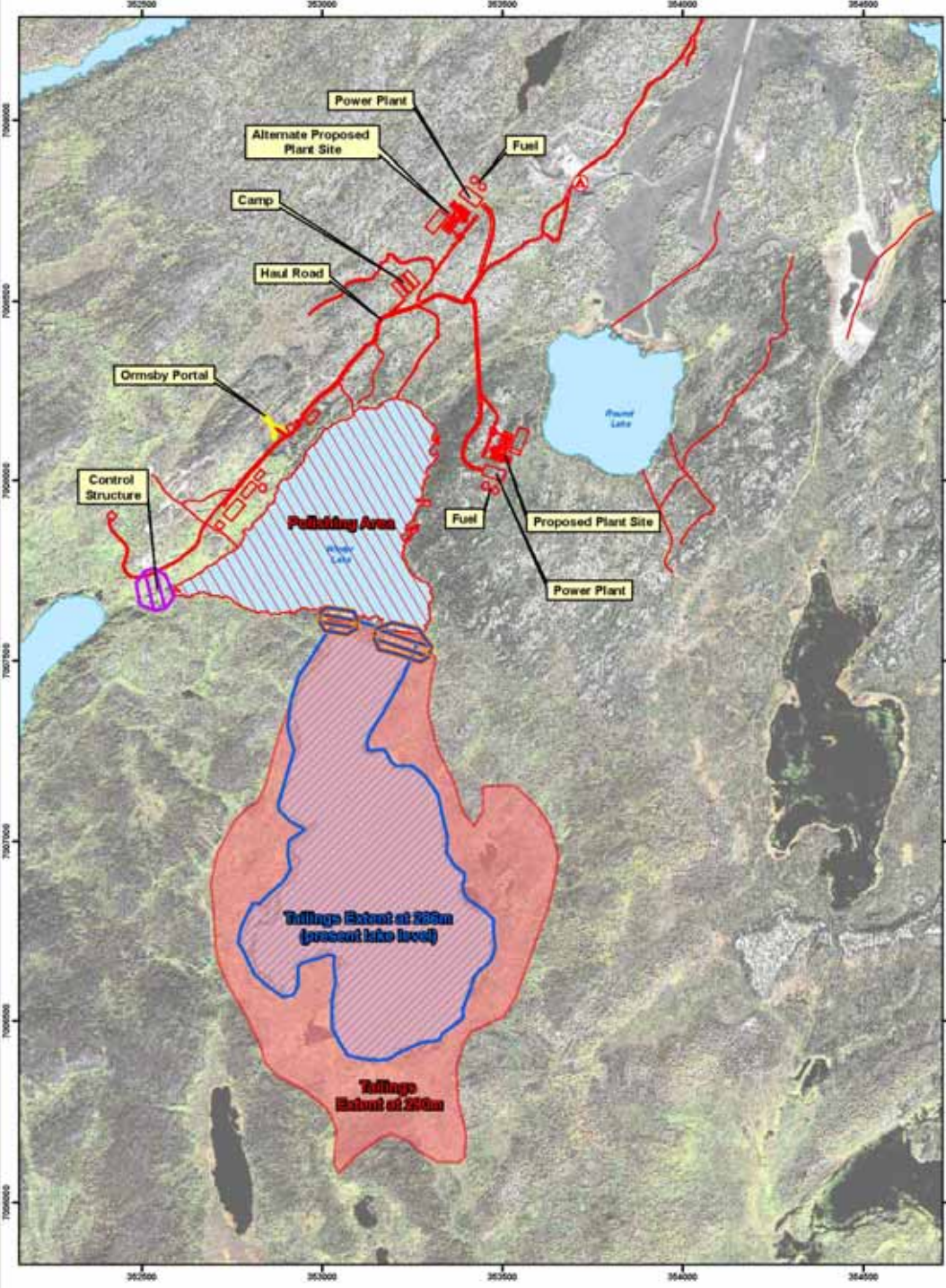
## Exploration Camp (photo by INAC)



# YELLOWKNIFE GOLD PROJECT- OVERVIEW

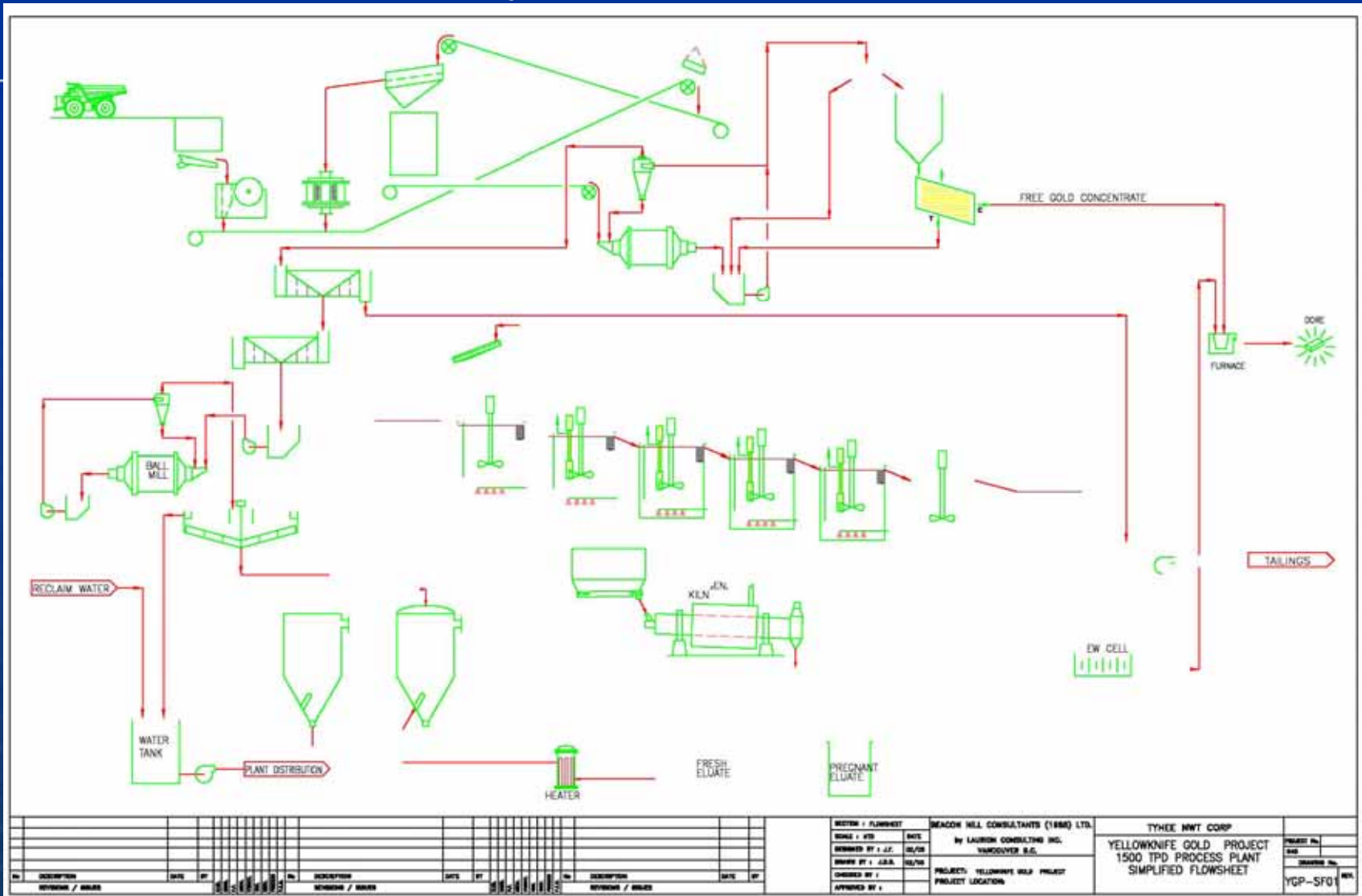
Exploration Decline (photo by INAC)





# Yellowknife Gold Project Preliminary Site Plan

# Yellowknife Gold Project – Simplified Process Flow Sheet





# YELLOWKNIFE GOLD PROJECT

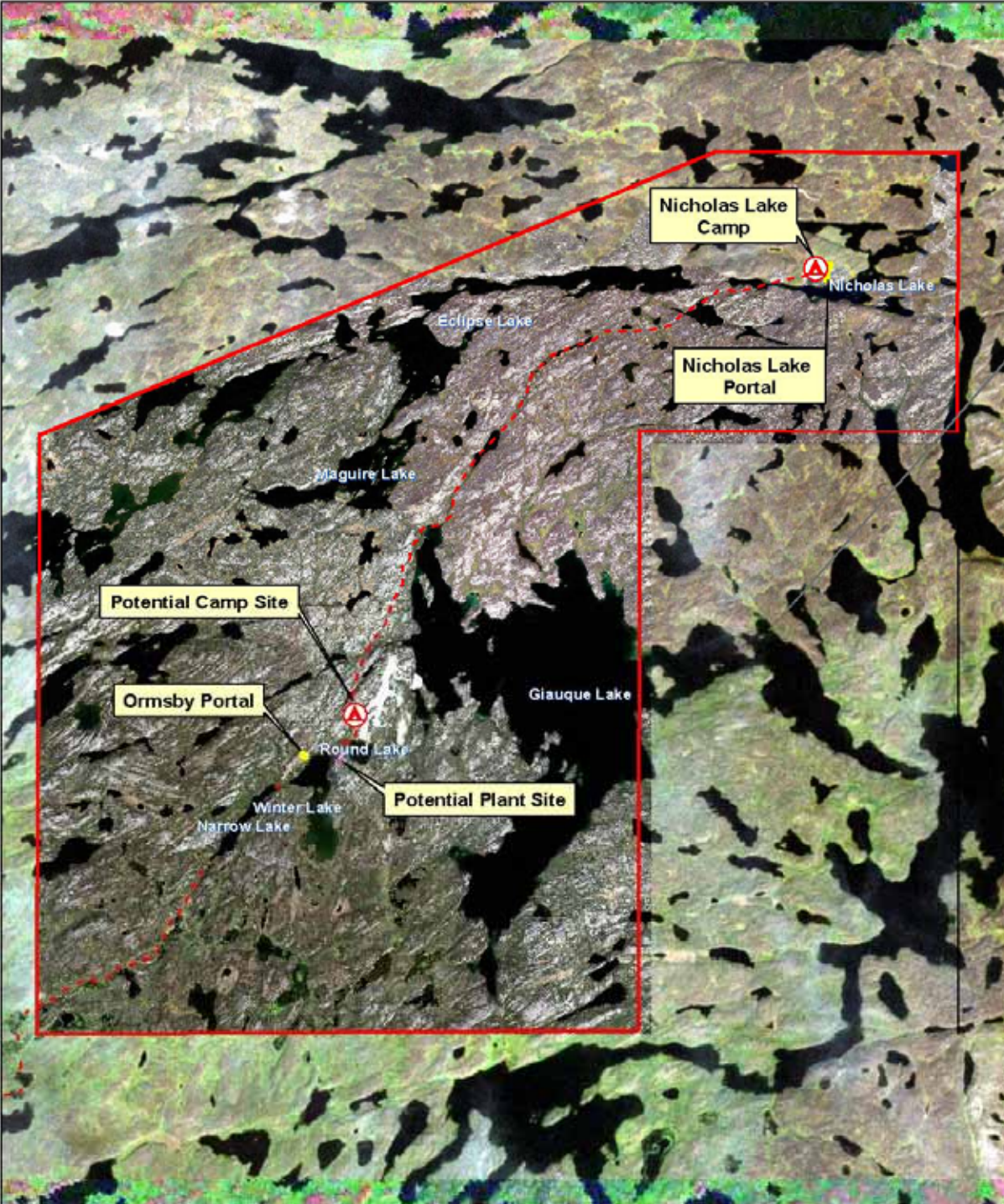
## Scoping Session Objectives

- Discuss project components and interactions with the environment as per agenda
- Listen to concerns raised by participants
- Provide MVEIRB with the information necessary to develop clear and concise Terms of Reference for the Developers Assessment Report (DAR)
- Subject to Tyhee NWT Corp preparing and submitting its' DAR , timelines should be clearly stated and followed.



# ENVIRONMENTAL ASSESSMENT





# Yellowknife Gold Project Study Area

# VECs

VEC Grouping	VECs
Air Quality	Air Quality (Indicators)
Water Quality	Water Quality (Indicators)
Fish	Fish /Aquatic Habitat
Terrestrial Vegetation	Traditional Use Plants/Rare Plants
Mammals	Moose/Habitat
	Caribou/Habitat
	Wolf
	Wolverine
Birds	Raptors/Habitat
	Waterfowl/Habitat

# Impact Matrix

	Air Quality	Water Quality	Fish	Wildlife	Vegetation
Site Preparation and Construction	X	X	X	X	X
Construction Materials	X	X	X		X
Plant Site	X	X		X	X
Waste Rock Storage		X	X		
Acid Rock Drainage(ARD)			X	X	
Mining	X	X		X	X
Processing	X		X		

# Impact Matrix (con't)

	Air Quality	Water Quality	Fish	Wildlife	Vegetation
Power Supply	X				X
Sewage		X	X		
Tailings		X	X	X	
Water Management		X	X		
Solid and Hazardous Waste	X	X		X	
Airstrip	X				X
Winter Road				X	X
Other Infrastructure		X	X	X	X

# ENVIRONMENTAL ASSESSMENT

## Air Quality / Noise



# AIR QUALITY/NOISE

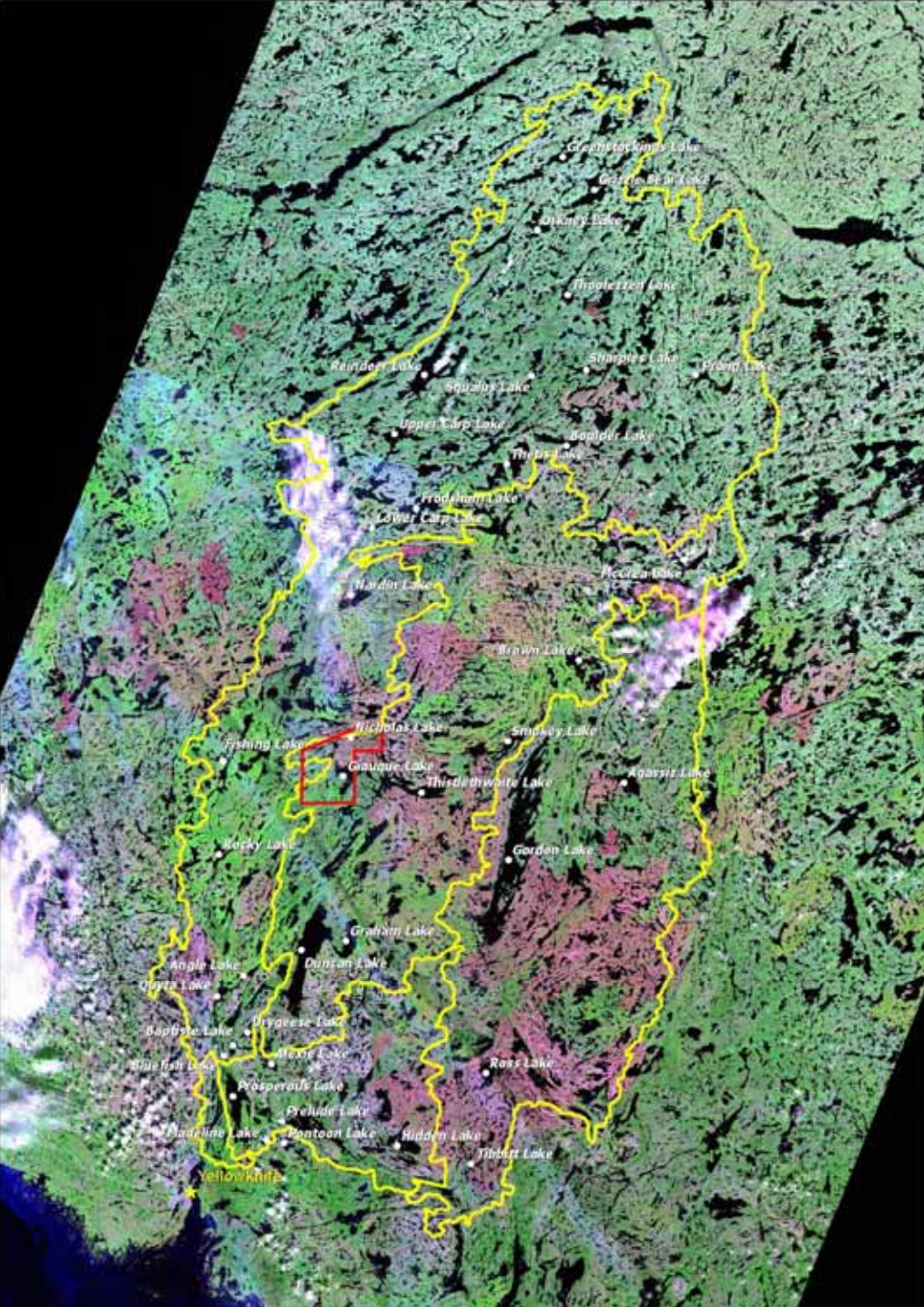
Project Component	Potential Impact	Mitigation
Site Preparation and Construction	Particulate matter from clearing	Dust suppression GNWT Guideline for Dust Suppression
Construction	Materials Particulate matter from crushing and sorting	<i>Environmental Protection Act, Asphalt Paving Industry Emission Regulations</i>
Mining	Limited air emissions CO, SO <sub>2</sub> and NO <sub>x</sub> , particulates	GNWT, WCB standards for mine air quality
Processing	Particulate emissions	Guideline for Ambient Air Quality Standards in the Northwest Territories
Power Supply	CO, SO <sub>2</sub> and NO <sub>x</sub> , particulates	emission control equipment Guideline for Ambient Air Quality Standards in the Northwest Territories
Solid and Hazardous Waste	Particulate material	Guideline for Ambient Air Quality Standards in the Northwest Territories
Airstrip	Particulate matter	GNWT Guideline for Dust Suppression
Other Infrastructure	Particulate matter	GNWT Guideline for Dust Suppression

# ENVIRONMENTAL ASSESSMENT

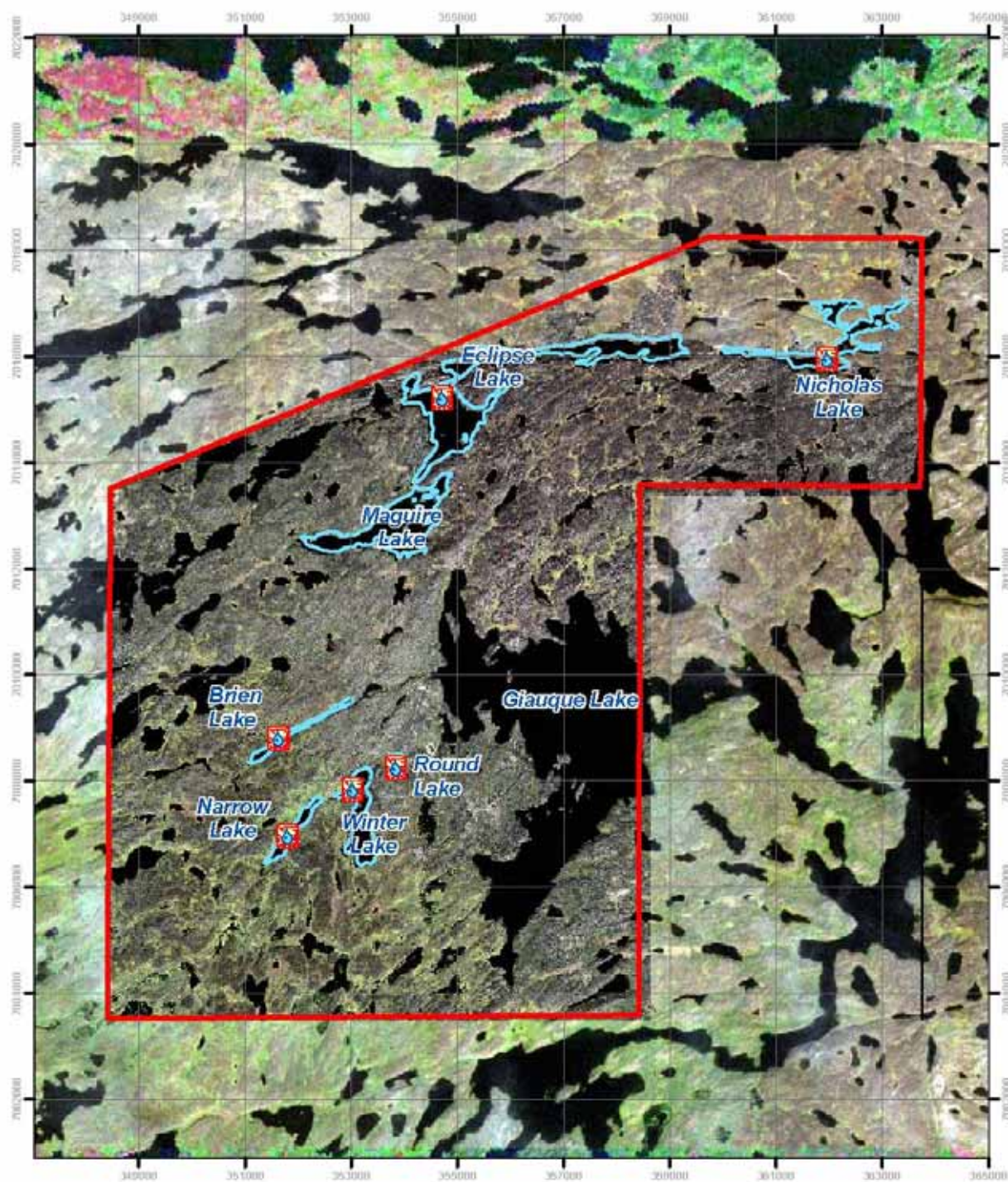
## Water Quality







# Yellowknife River Drainage Basin



# Yellowknife Gold Project

## Water Quality Sites

# WATER QUALITY

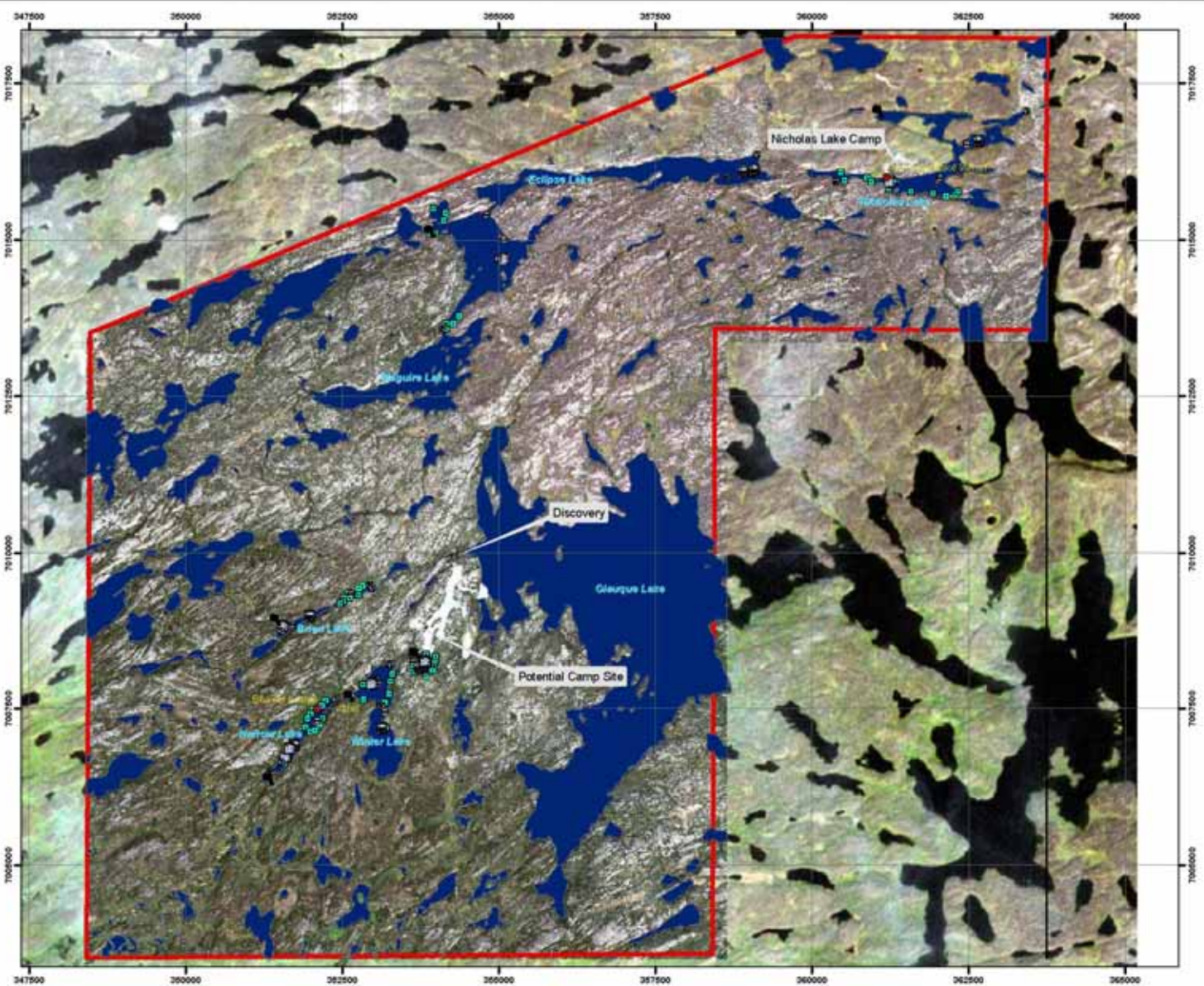
Project Component	Potential Impact	Mitigation
Site Preparation and Construction	Sedimentation	Silt barriers in construction activities Silt barriers in Winter Lake during construction of the TCA
Mining	Discharged mine water	Mine water discharged to the TCA or used in mill
Waste Rock Storage	Suspended solids or metal concentrations	Drainage to the mill, mine or TCA
Sewage	Nutrients and bacteria to surface water	treated using a packaged RBC plant, discharged to TCA.. RBC will meet the Camp Sanitation Regulations, R.R. N.W.T. 1990, c. P-12, Public Health Act, R.S.N.W.T. 1998, c. P-12
Tailings Containment Area.	Annual discharge from the TCA	Discharge will meet the Metal Mining Effluent Regulations (Fisheries Act)
Water Consumption	Water from Giaugue Lake	None required, will not affect the volume of the lake
Hazardous Materials	Impacts on water quality	Management Plan covering the transportation, use, disposal, and emergency response

# ENVIRONMENTAL ASSESSMENT

## Fish & Fish Habitat



# Yellowknife Gold Project Fish Sampling Lakes



## Legend

- Local Study Area
- Minnow Trap
- Inlet
- Inshore Benthic Invertebrates
- Offshore Benthic Invertebrates
- Other
- Outlet
- Sediment
- Floating Gillnet
- Sinking Gillnet
- Water Quality
- Zooplankton

# FISH & FISH HABITAT

Project Component	Potential Impact	Mitigation
Site Preparation and Construction	Silt deposition	Use of site drainage control, settlement ponds and other generally accepted construction practices as required.
Waste Rock Storage	Contaminated runoff from storage area.	Collected and pumped to TCA
Acid Rock Drainage (ARD)	Elevated metal concentrations	All ARD runoff collected and pumped to TCA
Processing	TSS and elevated metal levels	Discharge will meet Metal Mining Effluent Regulations
Sewage	Sewage effluent containing parameter concentrations that could impact fish	Treated by RBC discharged to the TCA
Tailings	Tailings discharged from mill could be toxic to fish	Final discharge from TCA meets Metal Mining Effluent Regulations.
Water Management	Volume of water source	Giauque Lake will not be adversely affected
Other Infrastructure	Water crossing	Crossing design will be to DFO standards

# ENVIRONMENTAL ASSESSMENT

## Wildlife



# WILDLIFE

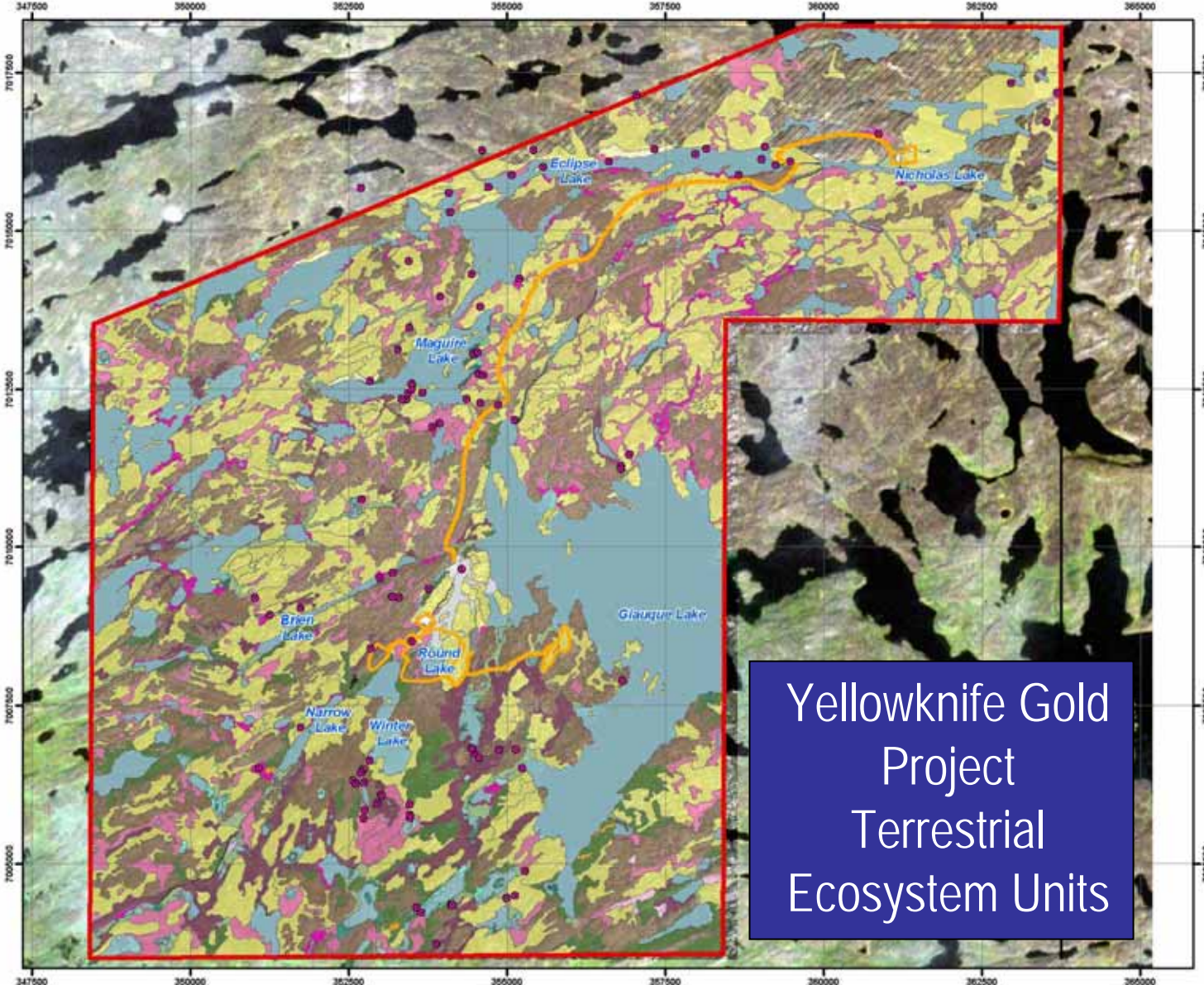
Project Component	Potential Impact	Mitigation
Site Preparation and Construction	Disturbance and removal of wildlife habitat	Minimize footprint, avoid sensitive areas
Plant Site	Disturbance and removal of wildlife habitat	Minimize footprint, avoid sensitive areas
Mining	Disturbance and removal of wildlife habitat	Minimize footprint, avoid sensitive areas
Tailings	TCA may pose a hazard to both local and migrating wildlife	Tailings will be disposed of sub-aqueously, minimizing interactions with wildlife
Solid Waste and Hazardous Waste	Solid waste will attract wildlife, which become a safety hazard	waste incinerated Hazardous wastes disposed of in approved manner
Winter Road	Continued access and hunting pressures	Winter road use will be monitored
Other Infrastructure	Disturbance and removal of wildlife habitat	The habitat to be disturbed is not unique to the area. Sensitive species in the area will be avoided.



# ENVIRONMENTAL ASSESSMENT

## Vegetation





**Legend**

- Sample Location
- ▭ Local Study Area
- ▭ Proposed Footprint
- ▨ Cloud

**Ecosystem Units**

**Wetland**

- BR Scrub birch cloudberry low shrub bog
- CA Water sedge – narrow leaved cottongrass fen
- CE Round fruited sedge – Chamisso's cottongrass fen
- EA Sheathed cottongrass – bog rosemary sedge fen
- EM Water sedge – horsetail shallow shore marsh
- FA Floating aquatic shallow open water
- SH Willow – sedge low shrub fen
- TB Spruce – cloudberry treed bog
- TF Tamarack – blueberry treed fen

**Riparian**

- WR Spruce – willow riparian forest

**Forest and Woodland**

- AM Spruce – moss forest
- JL Jack pine – lichen woodland
- SL Spruce – lichen woodland

**Sparsely Vegetated**

- BF Boulder field
- RO Rock outcrop

**Anthropogenic**

- GP Gravel pit
- RP Road surface
- RR Rural development
- TD Tailing deposit

**Water**

- LA Lake
- PD Pond
- OW Open water

Scale 1:60,000  
 0 0.35 0.7 1.4 2.1 Km  
 Imagery Source: IONOS (July 27 and August 2 2004)  
 Landsat TM (August 11 2001)

# VEGETATION

Project Component	Potential Impact	Mitigation
Site Preparation and Construction Construction Materials Plant Site Mine Airstrip	Loss of vegetation; increase in ecosystem fragmentation; potential loss of rare plant habitat  Loss of soil; compaction of mineral soil by vehicle	Use of herbicides, sterilants and dust suppressants; salts on road surfaces  Minimize footprint  Avoid or minimize development on rare ecosystem types  Minimize off-site activities salvage mineral topsoil; implement erosion control measures  Dispose of all hazardous wastes in approved manner.
Power Supply	Emissions of SO <sub>2</sub> and NO <sub>x</sub>	Equipped with appropriate emission controls  Guideline for Ambient Air Quality Standards in the Northwest Territories.
Other Infrastructure	Increased risk of fire	Limited mitigation

# ENVIRONMENTAL ASSESSMENT

## Socio-Economic Issues



# SOCIO-ECONOMIC ISSUES

- Operate on a 2 week in / 2 week out rotation
- Objective is to hire as many local personnel as possible (those with the appropriate training and qualifications)
- Objective is to source operating supplies locally (based on cost effectiveness and competitive bid process)
- The YGP is expected to contribute positively to the economy of the region with minimal impacts on the social environment.

# ENVIRONMENTAL ASSESSMENT

Archaeological – Cultural – Heritage Issues



# ARCHAEOLOGICAL/CULTURAL/HERITAGE ISSUES

- Documented records suggest the YGP area was not heavily used by FN prior to Euro-Canadian contact
- No archaeological sites found within Project Footprint area in 2004
- Historical mining remains scattered across much of the study area
- Three prehistoric sites recorded 3-5 km north of the Nicholas Lake Camp in 1989.

# YELLOWKNIFE GOLD PROJECT

THANK YOU  
QUESTIONS