


FORTUNE MINERALS LIMITED

NICO COBALT-GOLD-BISMUTH-COPPER PROJECT

Community Scoping Session

Environmental Overview

INTRODUCTION

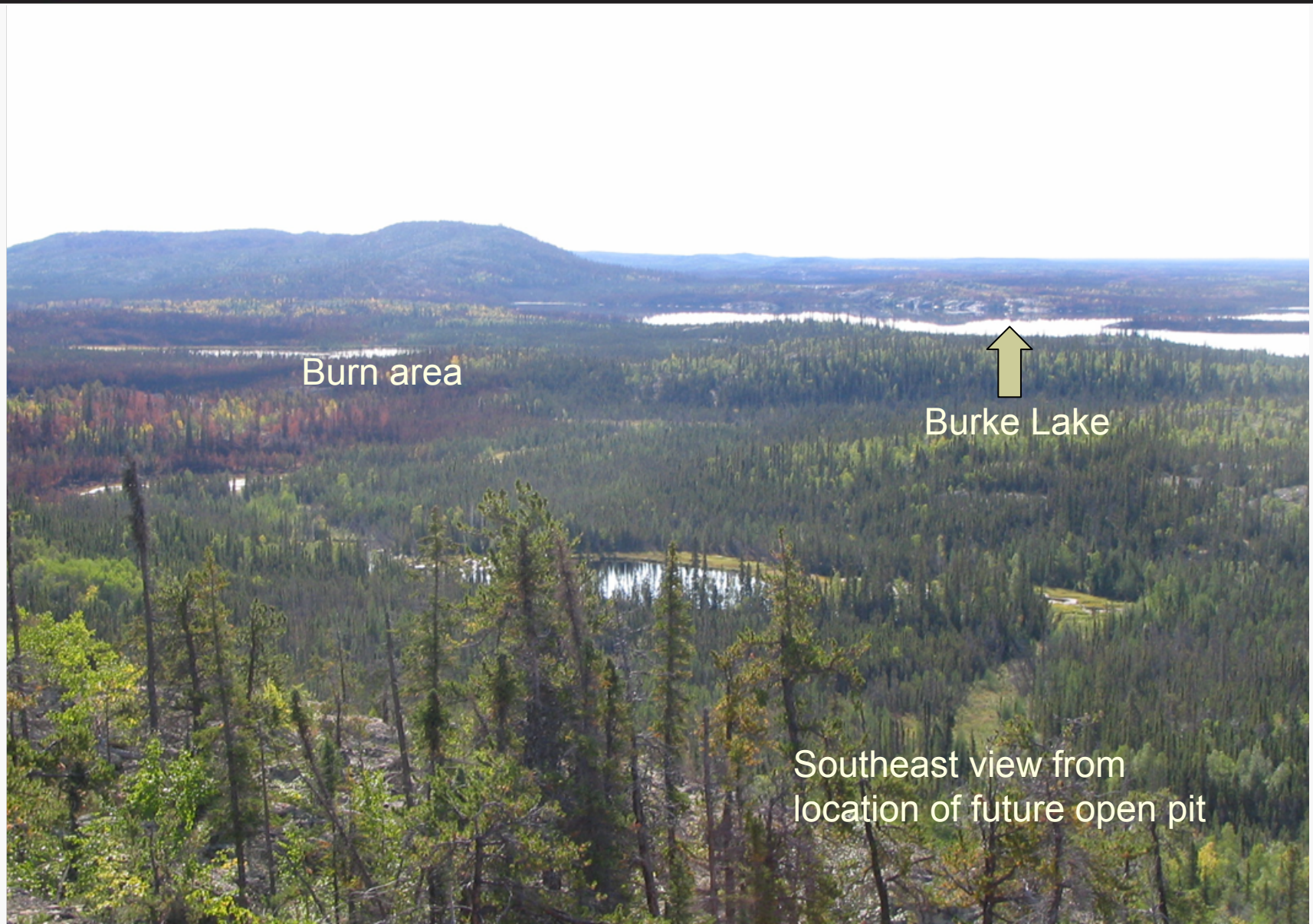
- Screening level environmental impact assessment provided in application package
- Many of the potential impacts of the mine can be assessed and mitigated through existing methods
- NICO project has many unique features not seen in previous environmental assessments
- This presentation will focus on the key features of this project that should be considered during the environmental assessment process

1998-2009 ENVIRONMENTAL STUDIES

- Environmental baseline studies have been conducted in the region of the mine & along the proposed access road corridor including:
- Fish & fish habitat
- Wildlife biology
- Water quality
- Sediment quality & aquatic insects
- Soils & vegetation mapping
- Groundwater & rock geochemistry
- Hydrology & wetlands assessments
- Meteorology & air quality
- Noise
- Archaeology
- Community consultation

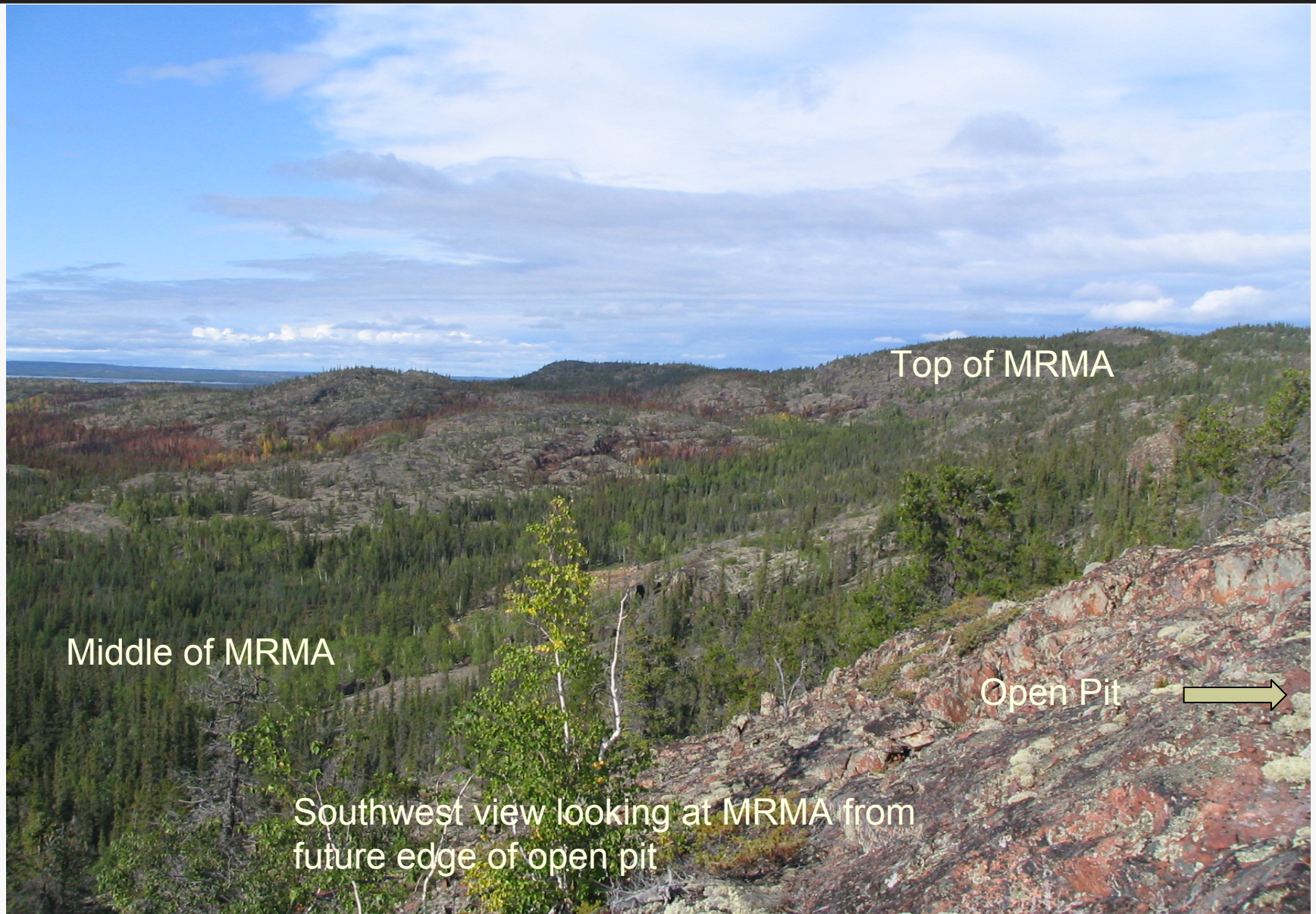
TERRAIN

- NICO site is located in hilly terrain that has influenced mine design
- Both the tailings impoundment & mine rock management area are located within areas of natural hills and valleys
- Open pit is located on top of large hill which limits amount of groundwater
- Terrain features will influence how air circulates around the mine


Burn area
Burke Lake
Southeast view from
location of future open pit

FORTUNE MINERALS LIMITED

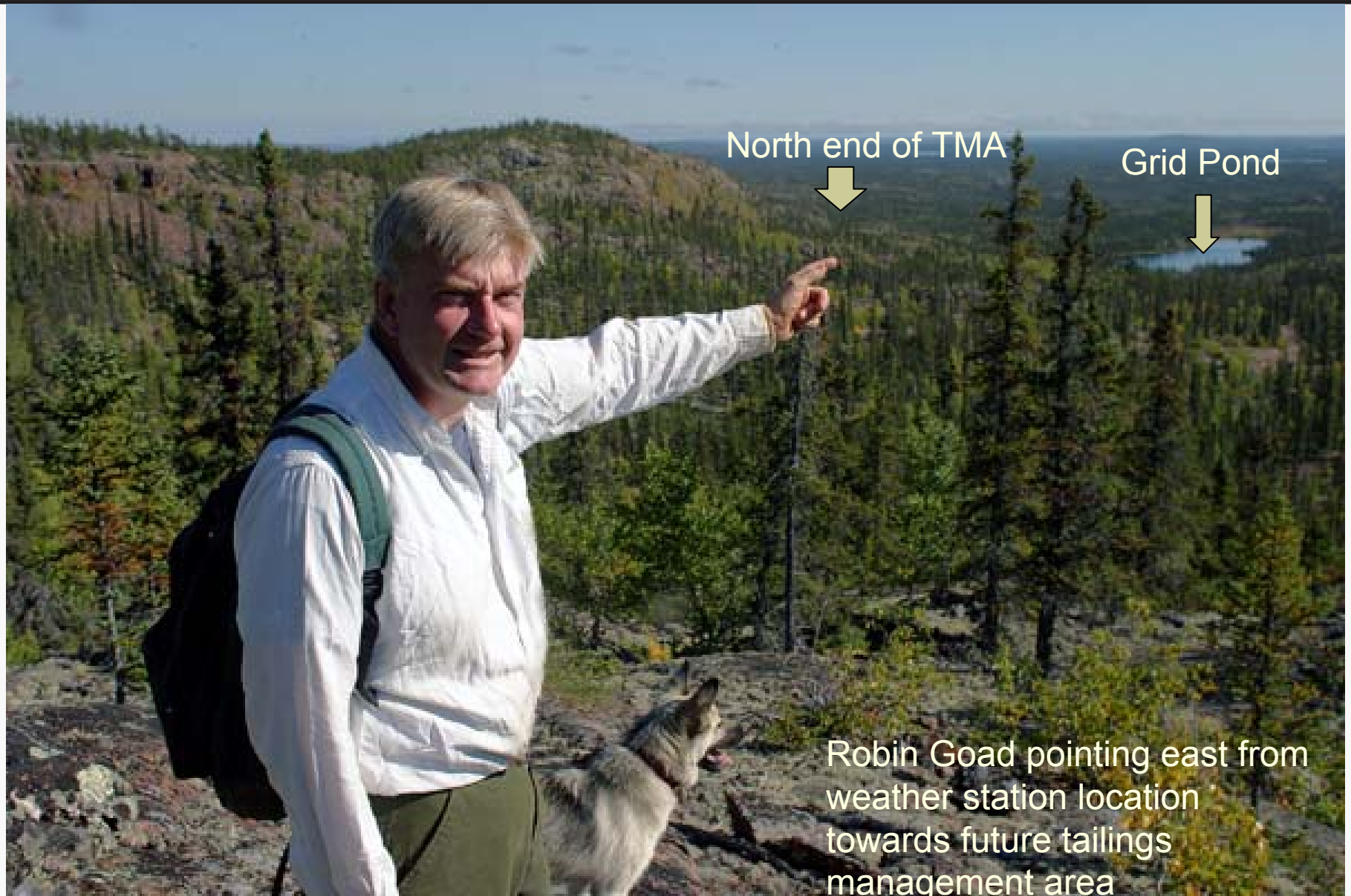
www.fortuneminerals.com



Southwest view looking at MRMA from future edge of open pit

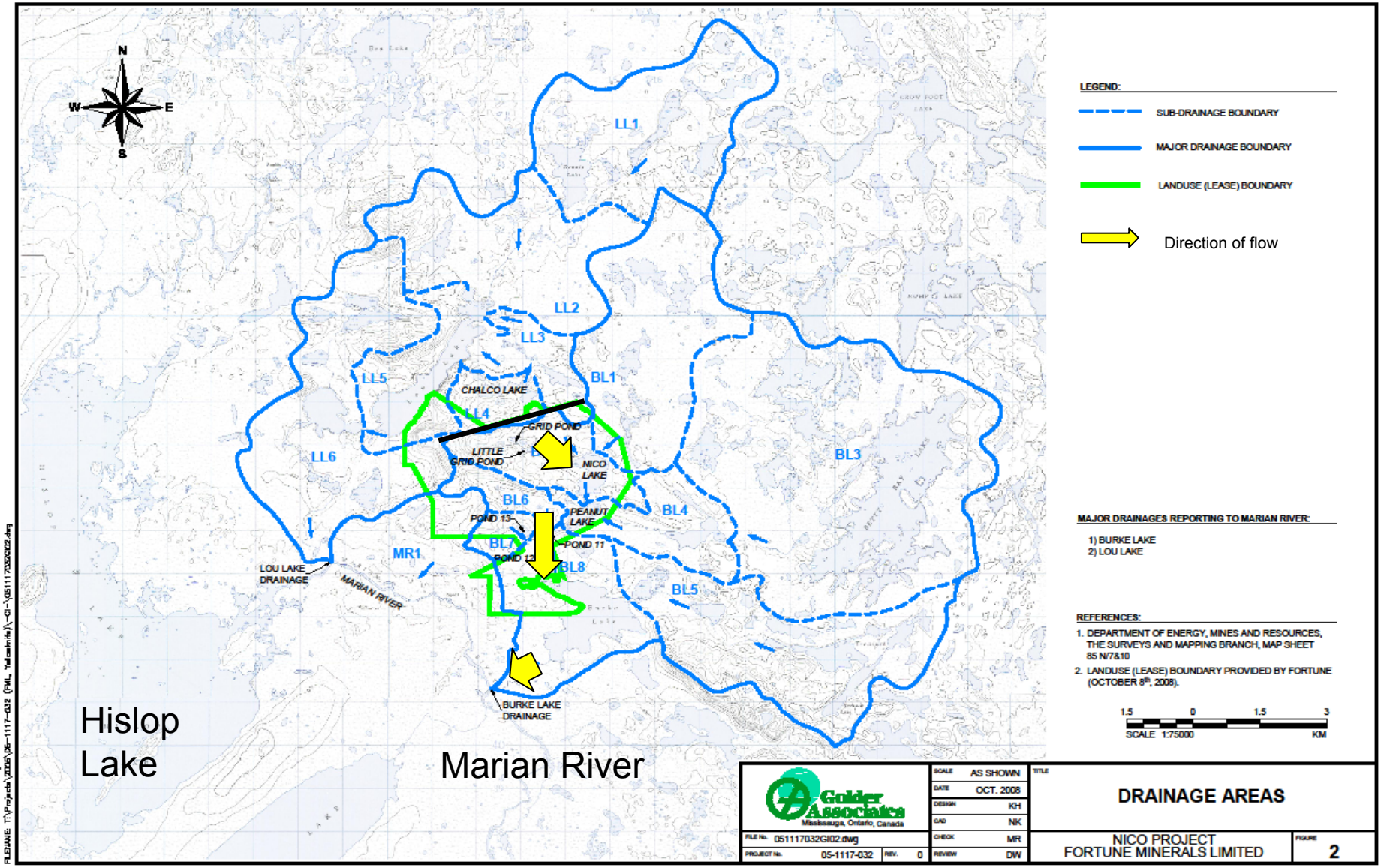
FORTUNE MINERALS LIMITED

www.fortuneminerals.com



FORTUNE MINERALS LIMITED

www.fortuneminerals.com



PLOT DATE: October 14, 2008
FILENAME: T:\Projects\2005\05-1117-032 (FML, Yellowknife)\~GI~\051117032GI02.dwg

Golder Associates
Mississauga, Ontario, Canada

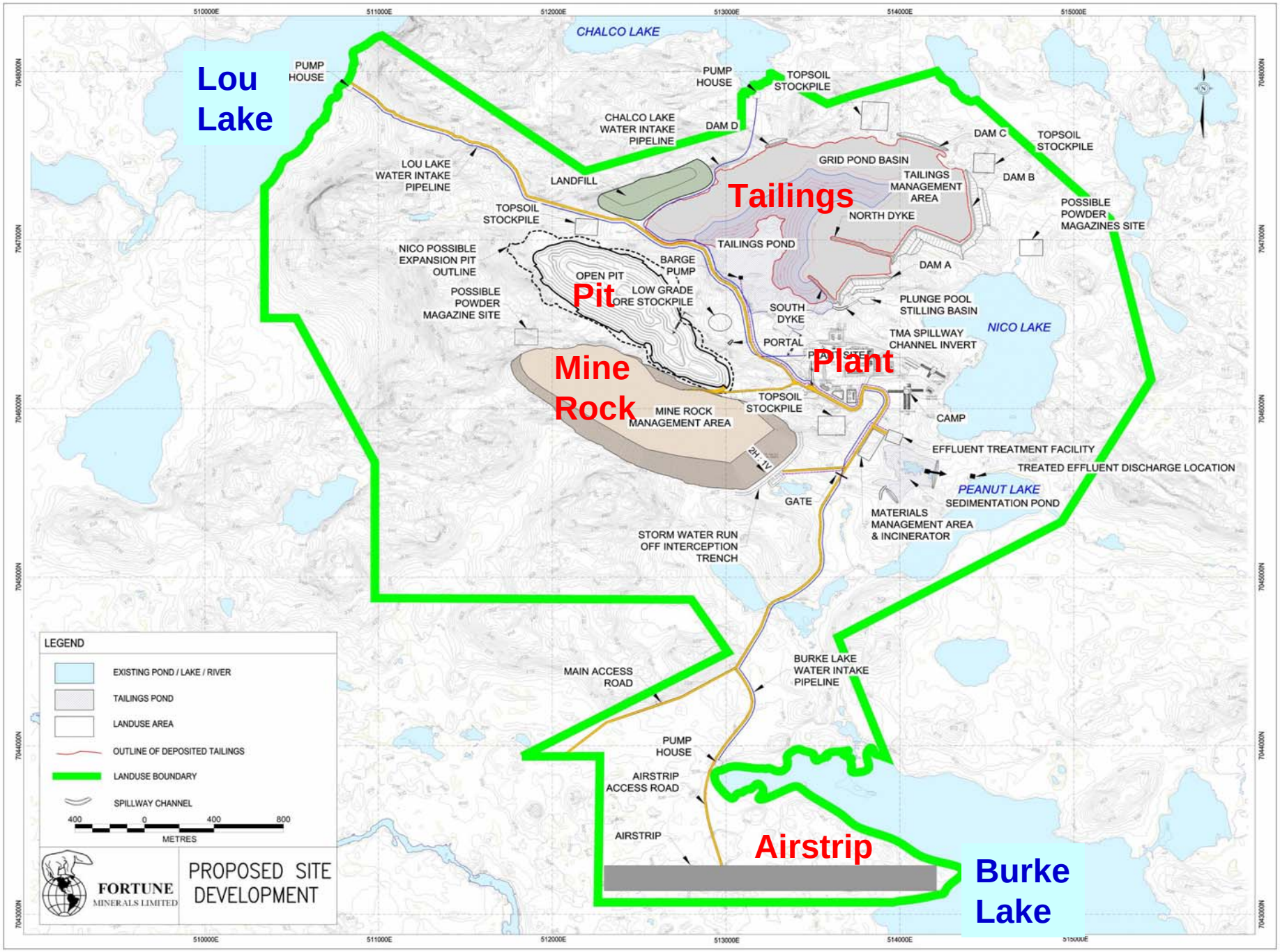
SCALE	AS SHOWN
DATE	OCT. 2008
DESIGN	KH
CAD	NK
CHECK	MR
REVIEW	DW

FILE No. 051117032GI02.dwg
PROJECT No. 05-1117-032 REV. 0

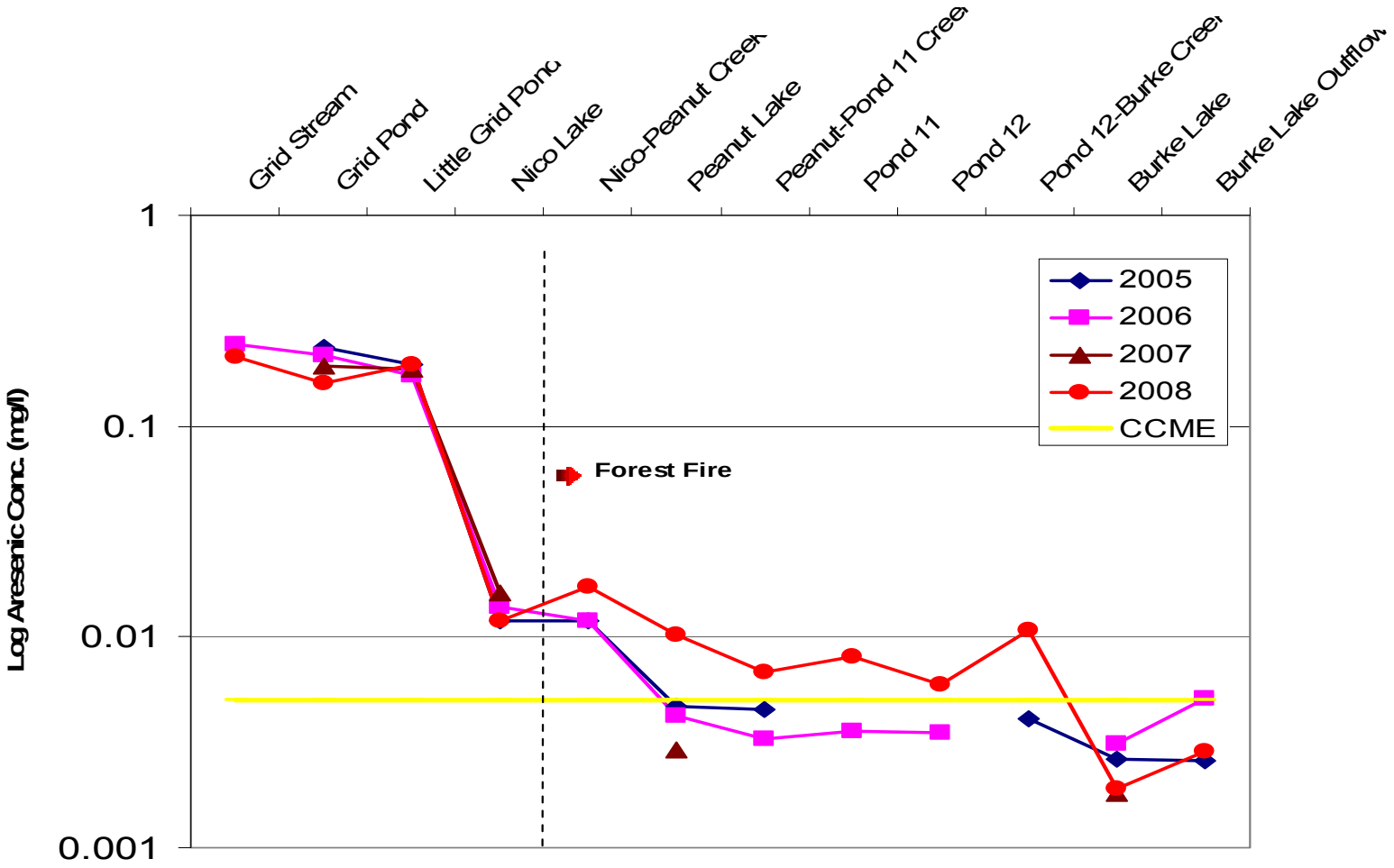
TITLE: DRAINAGE AREAS

NICO PROJECT
FORTUNE MINERALS LIMITED

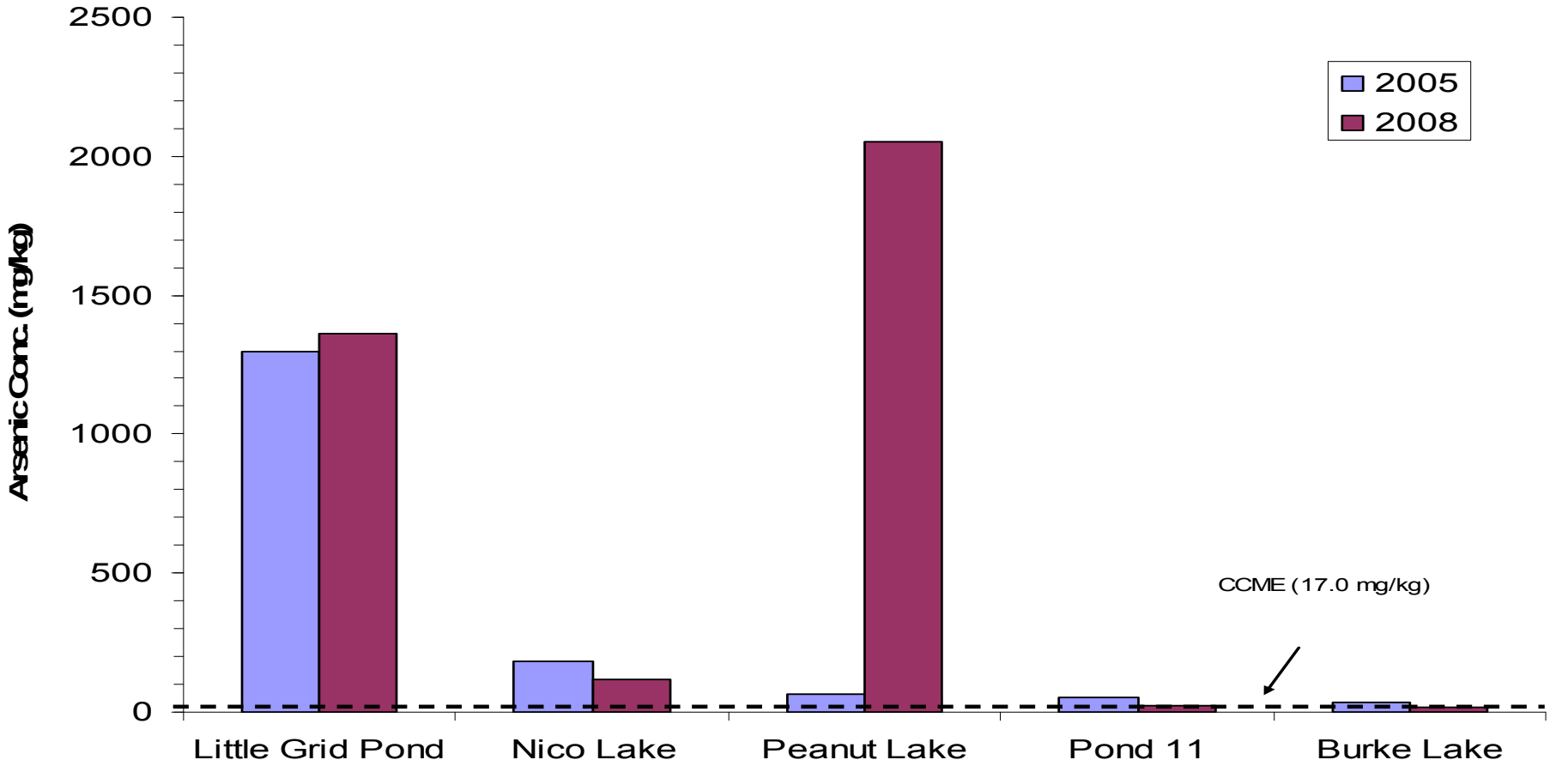
FIGURE 2


Lou Lake
CHALCO LAKE
PUMP HOUSE
PUMP HOUSE
TOPSOIL STOCKPILE
CHALCO LAKE WATER INTAKE PIPELINE
DAM D
DAM C
TOPSOIL STOCKPILE
GRID POND BASIN
TAILINGS MANAGEMENT AREA
DAM B
LOU LAKE WATER INTAKE PIPELINE
LANDFILL
Tailings
POSSIBLE POWDER MAGAZINES SITE
TOPSOIL STOCKPILE
NORTH DYKE
NICO POSSIBLE EXPANSION PIT OUTLINE
TAILINGS POND
BARGE PUMP
DAM A
OPEN PIT
Pit
LOW GRADE ORE STOCKPILE
POSSIBLE POWDER MAGAZINE SITE
SOUTH DYKE
PLUNGE POOL STILLING BASIN
NICO LAKE
PORTAL
TMA SPILLWAY CHANNEL INVERT
Mine Rock
Plant
TOPSOIL STOCKPILE
MINE ROCK MANAGEMENT AREA
CAMP
2H:1V
EFFLUENT TREATMENT FACILITY
TREATED EFFLUENT DISCHARGE LOCATION
PEANUT LAKE
SEDIMENTATION POND
GATE
MATERIALS MANAGEMENT AREA & INCINERATOR
STORM WATER RUN OFF INTERCEPTION TRENCH
MAIN ACCESS ROAD
BURKE LAKE WATER INTAKE PIPELINE
PUMP HOUSE
AIRSTRIP ACCESS ROAD
AIRSTRIP
Airstrip
Burke Lake
LEGEND
EXISTING POND / LAKE / RIVER
TAILINGS POND
LANDUSE AREA
OUTLINE OF DEPOSITED TAILINGS
LANDUSE BOUNDARY
SPILLWAY CHANNEL
400 0 400 800
METRES
FORTUNE MINERALS LIMITED
PROPOSED SITE DEVELOPMENT
510000E
511000E
512000E
513000E
514000E
515000E
7048000N
7047000N
7046000N
7045000N
7044000N
7043000N

WATER ARSENIC LEVELS IN BURKE LAKE WATERSHED



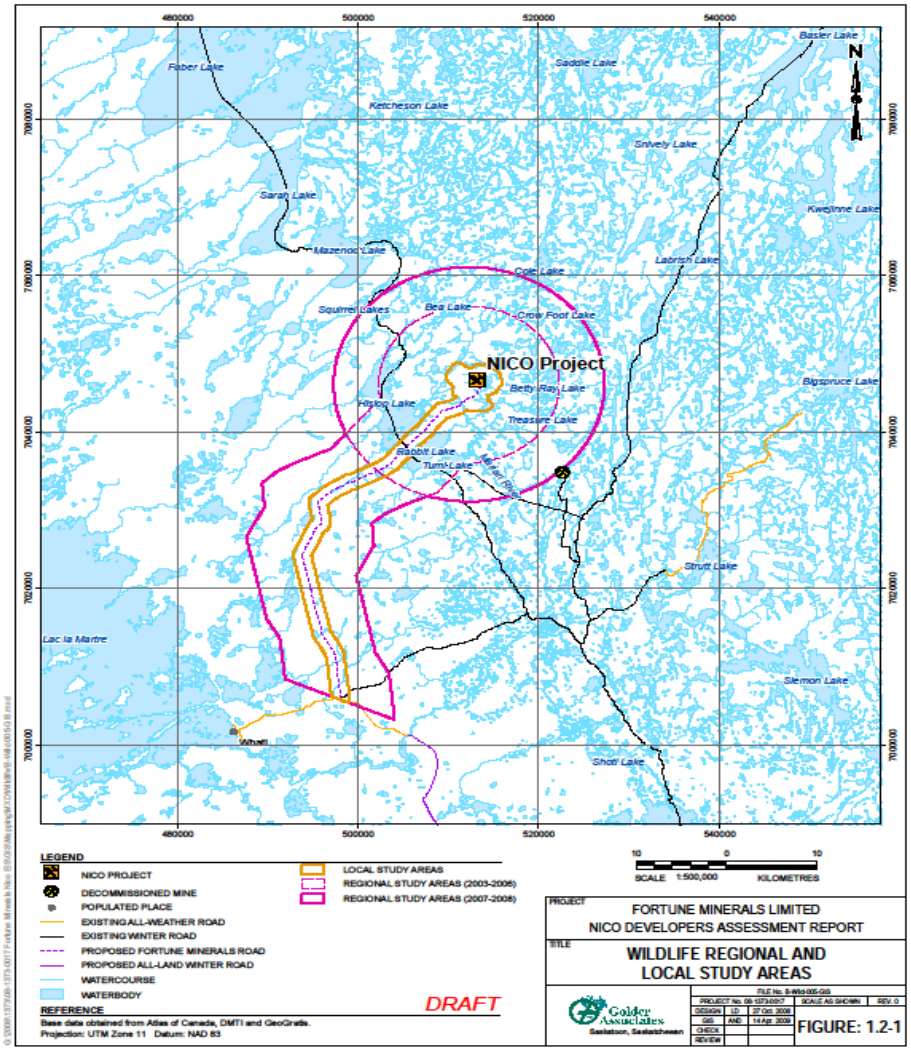
PRE AND POST-FOREST FIRE SEDIMENT ARSENIC LEVELS



FISH AND FISH HABITAT

- Grid Pond and Little Grid Pond are the only ponds that will be permanently lost
- Neither have fish living in them & both have high levels of natural arsenic (~200 µg/L)
- Effluent treatment facility will use a polishing pond constructed from a wetland that has no fish living in it
- NICO Lake has a low number of fish
- Late winter dissolved oxygen levels in Nico, Peanut & Burke Lakes are low
- Peanut Lake (proposed effluent discharge point) traditionally has had a good pike/lake whitefish community
- Catches of fish dropped after 2008 forest fire
- Fortune will re-examine this fish community in 2009

WILDLIFE



- Collared caribou data was used with other techniques to monitor caribou movements
- The RSA was used by wintering collared caribou cows from the Bathurst herd in two years & was close (50 km) in seven other years
- Winter track count survey results were similar to the results from collared caribou
- Other species (*e.g.* moose) within Regional Study Area were typical of the northern boreal forest

CARIBOU

- Currently, caribou habitat models have been developed in the NWT for each season, except winter.
- Because the NICO Project is within the winter range of the Bathurst herd, developing a habitat model for the winter range will be used to predict the cumulative & project effects from the NICO Project on caribou.
- Project specific & cumulative effects analyses will be completed on both direct & indirect habitat changes

WILDLIFE-ASSESSMENT CONSIDERATIONS

- Potential impacts include habitat loss, direct mortality & exposure to contaminants
- Approximately 400 hectares (conservative estimate) of wildlife habitat of varying quality will be lost during operations
- No unique or rare habitats will be lost
- 2008 forest fire will have an influence on habitat quality surrounding the mine for a long time
- Effects of road traffic through the movement of staff & materials will be assessed
- Risk assessment on potential for wildlife to be exposed to contaminants is being completed

DEVELOPMENT OF MANAGEMENT PLANS

- Management plans are being developed & will benefit from feedback obtained through the environmental assessment & consultation processes
- Fortune is reviewing management plans from current & past NWT/Nunavut mining operations to determine accepted/anticipated standards
- Fortune will continue to update its plans for mine development as the project proceeds through the environmental assessment & water licensing processes

MANAGEMENT PLANS IN PROGRESS

Fortune is currently developing the following plans:

- Mine rock management (includes ARD)
- Tailings management
- Site water & effluent management (includes ammonia)
- Waste management (includes hazardous waste & food)
- Air quality management
- Conceptual closure & reclamation
- Aquatic Effects Monitoring Plan (AEMP)
- Wildlife monitoring plan
- Human resources & consultation plan

WATER USAGE

- The water requirement for the mill will average 13,900 m^3/day of which 7,800 m^3/day will be reused
- This represents an internal recycle rate of approximately 56%
- As a result, the amount of water taken & then released from the lakes would be approximately 6,100 m^3/day
- Discharge will only occur during the open water season (spring, summer & fall ~ 6 months)
- The camp will need approximately 1,100 m^3/day of water
- Drinking water will be drawn from Lou Lake
- Water used in the mill will come from both Lou & Burke Lakes
- The intakes will meet DFO specifications

EFFLUENT TREATMENT FACILITY

- Cyanide will be destroyed in the process plant prior to discharge to the Tailings Management Area
- The ETF will add ferric sulphate & lime to the effluent to remove arsenic & other metals, & control pH
- Effluent from the ETF will pass through a polishing pond from which it will discharge into Peanut Lake.
- NICO will process domestic sewage produced from the camp & mine site, discharging the effluent to the TMA
- Effluent discharge criteria from recent water licenses issued in the NWT & Nunavut are being used for the preliminary design of the ETF

MINE ROCK MANAGEMENT

- During the construction phase, a total of 10 Million tonnes (Mt) of rock contained in the upper portions of the open pit
- A portion of this rock will be used to construct site roads & dams at the tailings management area
- Use of a quarry is an option if rock is not safe for environment
- The mine will produce approximately 81 Mt of mine rock during the 15 years of operation
- Water that flows off the mine rock will be collected with a diversion ditch & sent to the ETF (if required)

MINE ROCK MANAGEMENT (CONTINUED)

- Tests show that majority of the mine rock will not generate acid & will have a low potential to release metals (*e.g.* arsenic, copper)
- Results of laboratory & field tests indicate that arsenic concentrations in water coming from some of the mine rock may require treatment
- Rock containing elevated metal levels will be put in a safe place & not used for construction materials

TAILINGS MANAGEMENT AREA

- The TMA will have the capacity to store the anticipated total tailings production of 22 Mt
- Tailings deposition will primarily be under water
- The pilot plants where ore from NICO was processed allowed for the creation of tailings that will be the same as what we will see at NICO
- The test work at NICO will assess the quality of the water that flows off the tailings as they are exposed to air & rainfall
- Results from the laboratory & field tests will be used in the development of plans for the management of the TMA

Traditional Ecological Knowledge

TEK is an important part of the information needed to understand the potential effects of a project on the environment

The TEK study involves:

- Interviews & mapping sessions with elders & other community members about their knowledge of the land, wildlife, vegetation & culturally important sites in the Project area
- Site visits have been conducted to collect site specific information
- Community will review information collected during the study for validation
- TEK studies are on-going & this information will be considered during the assessment process

SOCIO-ECONOMIC

- A portion of the socio-economic impact assessment will be completed through an interview process including Tłı̨chǫ, North Slave Métis Alliance & Yellowknife Dene representatives
- Road access to the mine will allow for shorter work rotations
- This will decrease potential changes to family life & traditional land use practices

Benefits of the project will include:

- Direct and indirect employment & income for local residents
- Opportunities for local businesses
- Opportunities for increased education & training
- Improved infrastructure & residency in nearby communities (*e.g.* Whatì)




FORTUNE MINERALS LIMITED

Masì Cho – **THANK YOU**