

FACULTY OF ENGINEERING

Department of Civil & Resource Engineering



**TEAM MEMBERS:** 

JON CHAO WEI JIE GAN SEBASTIAN WIDJAJA OSAMA TASHMAN

# **PROJECT DESCRIPTION**

The Huntress Mining Company have been contracted to complete a preliminary economic assessment on the **Cowan Lake zone property in Big River, Saskatchewan for** possible gold in a mineralized ore deposit. The study investigated site history, geology, physical environment, infrastructure, site access and socio-economic impacts.

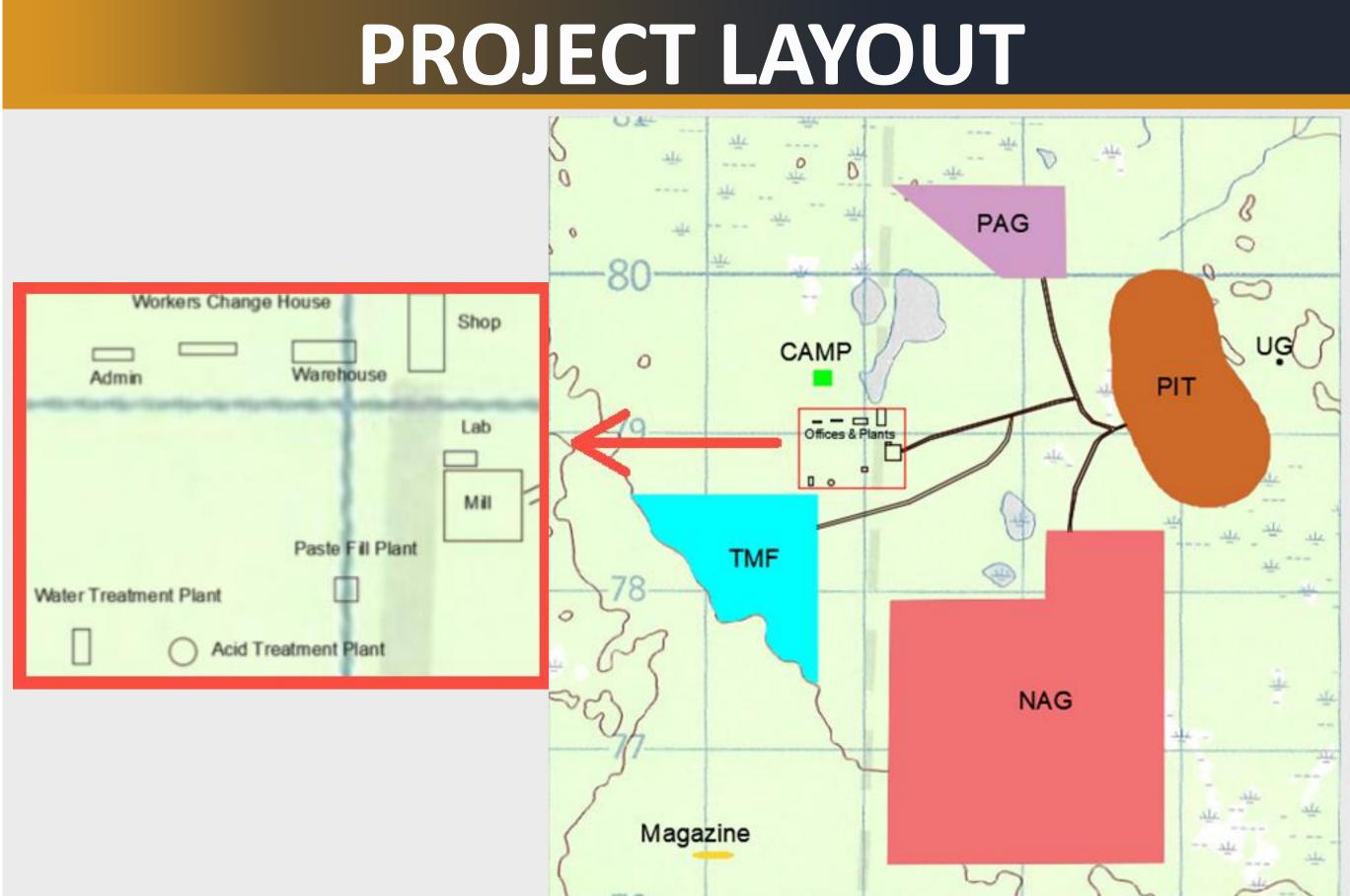
# SOCIO-ECONONIC BENEFITS

- Hiring 600 total hourly and salary personnel
- Hiring a minimum of 20% from local aboriginal communities
- Training and development programs
- Post-mine development to provide long term opportunities to the local communities

# **PROJECT LOCATION**



- The Cowan Lake zone is located **300 km north of Saskatoon**
- Largest town in proximity is Big River, located 30 km southwest from Cowan Lake zone
- Closest public access roads are 8 km south of the Cowan Lake zone



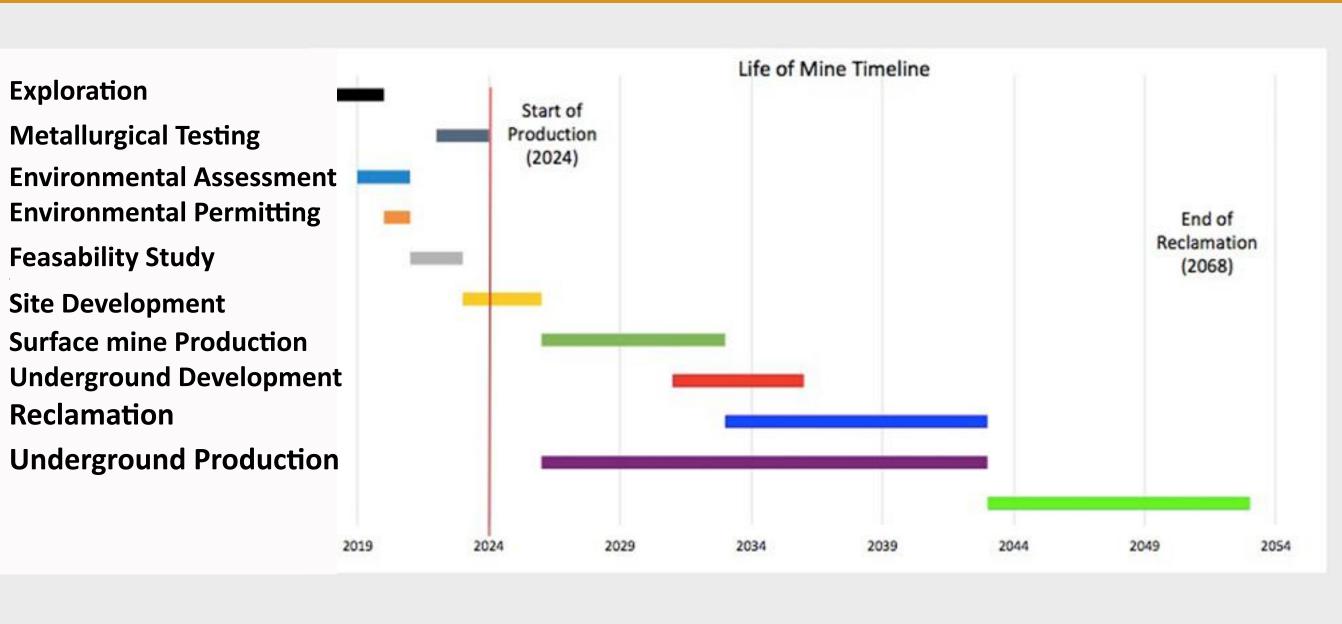
# **Preliminary Economic Assessment of a Shear Hosted** Narrow Vein Cu-Au-Ag Deposit, Cowan Lake, Saskatchewan

### **OPEN PIT DESIGN**

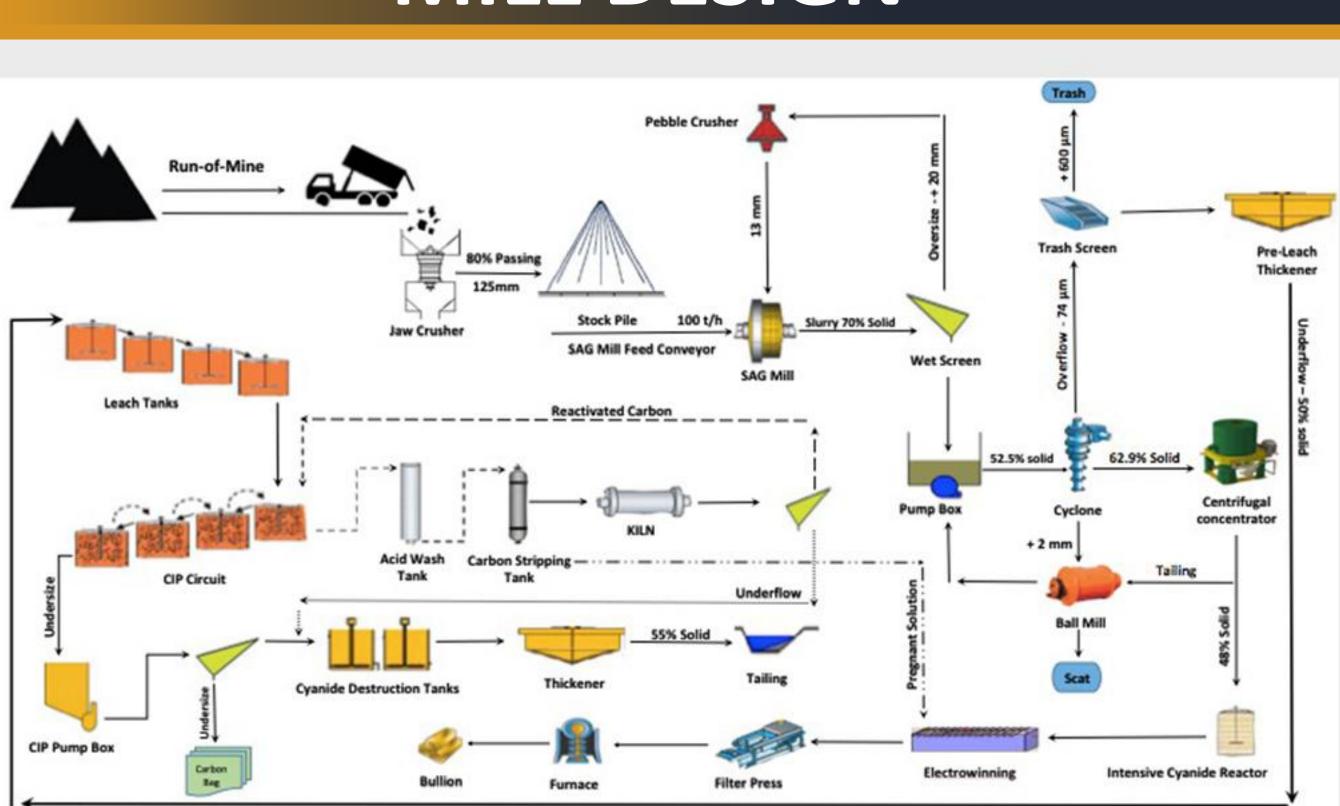
**Overall Striping Ratio: 15:1** Total Depth Below Surface: 275 m Total Mineable Ore: 3,726,237 tonnes **Ore daily Production: 2,000 tonnes** Total daily Production: 32,000 tonnes

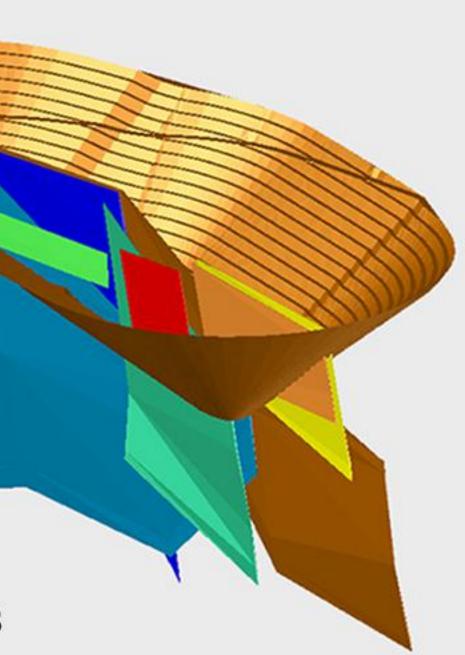
Mine Life: 6.5 years Production Equipment: (15) CAT-772, (4) CAT-349

### **PROJECT TIMELINE**

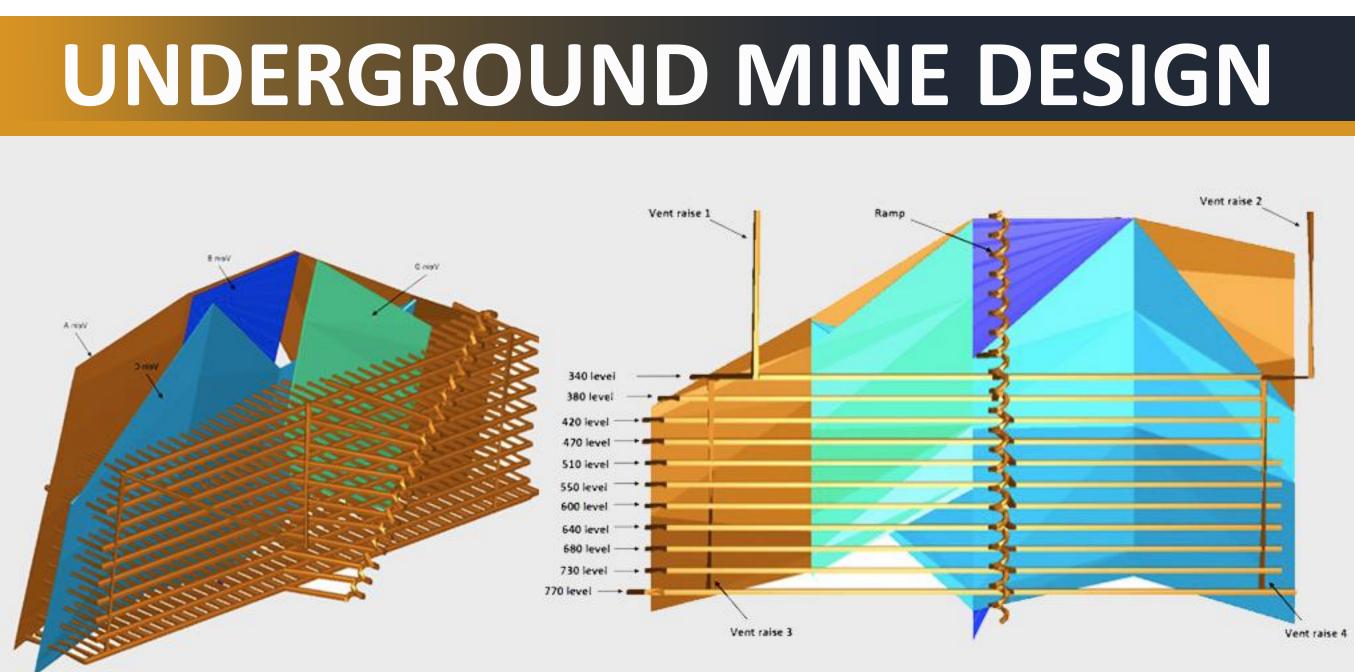


### MILL DESIGN

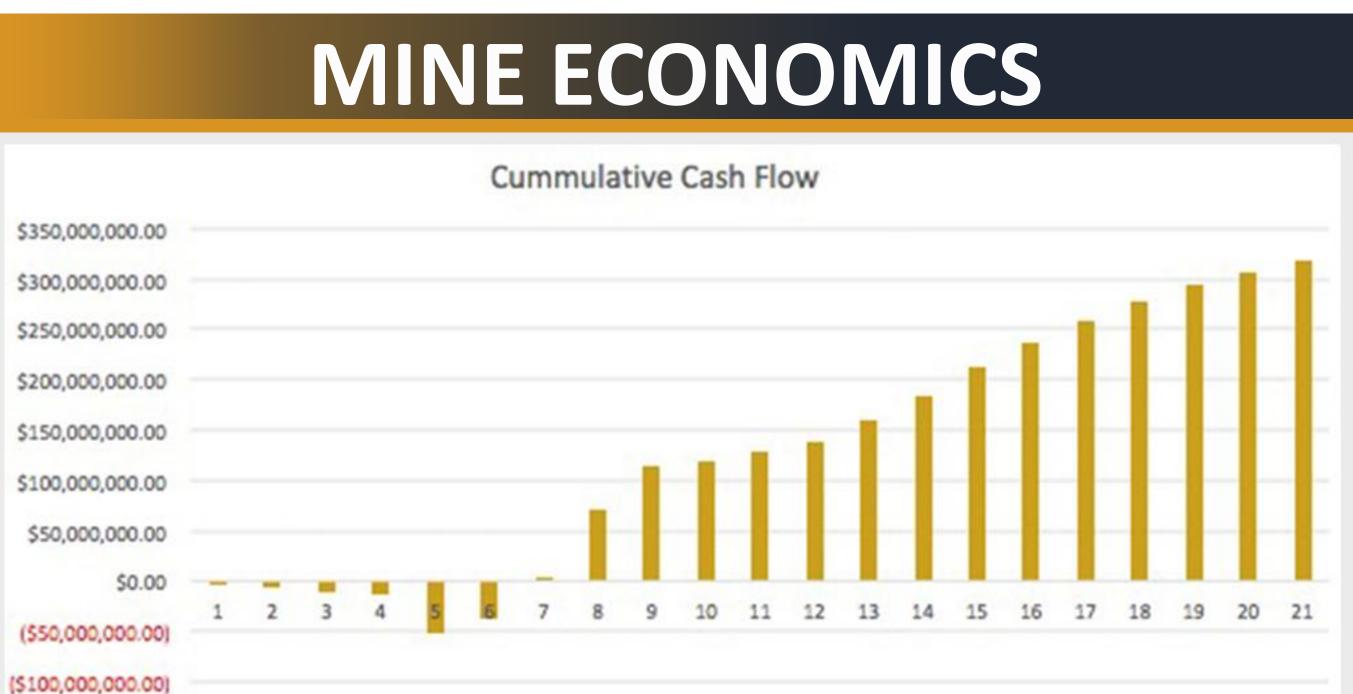








- Open pit mine will be backfilled with waste rock and flooded
- Undergound excavations will be backfilled with cemented pastefill
- Decomissioning of buildings, infrastructure and equipment
- Restoration and monitoring of surrounding watercourses will be made suitable for wildlife and aquatic habitat
- Re-vegetation of local plant species





Surveys and Mapping Branch, Department of Energy, Mines, and Resources. (1966). Big River Saskatchewan atlas. Google (n.d.) [Cowan Lake, Saskatchewan]. Retrieved March 30, 2019, from https://www.google.com/maps/@55.4173426,-110.633646,848682m/data=!3m1!1e3

- Mine Life: 10.2 years
- Mining Method: Transverse longhole stoping
- Total Mineable Ore: 7,120,000 tonnes



 Net Present Value: \$277 Million • Internal Rate of Return: 15%

# REFERENCES