



#### **Gibraltar Mine Site**

We would like to begin by acknowledging that the land on which we gather is the traditional territory of the Secwépemc and Tŝilhqot'in Peoples; specifically, the territories of the Xatśūll and ?Esdilagh First Nations.





# **Agenda**

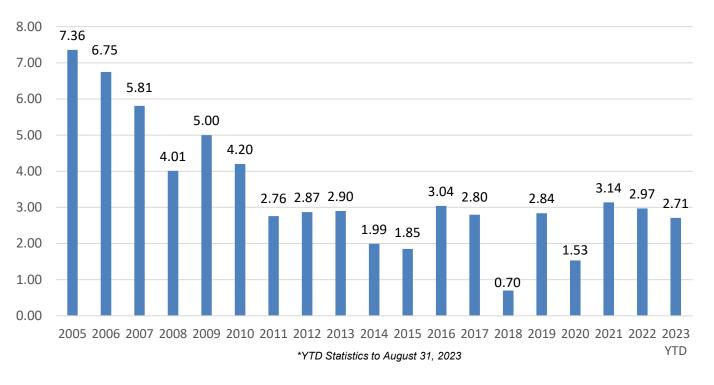


- Gibraltar Mine Overview
- Mine Tour
  - Gibraltar East Pit
  - In-pit Crusher
- Lunch
- Mill 1 Tour
- Discussion (time permitting)

## **Employee Health and Safety Statistics**



# **Gibraltar Combined MA/LTI Frequency Rate\***







Gibraltar Mine has received the John Ash Award six times out of the last nine years.



# **Gibraltar Combined MA/LTI Frequency Rate\***

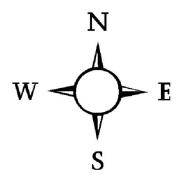
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COMPARATIVE SAFETY STATISTICS FOR MINES IN BC

AUGUST 2023

	Hours		Medical Aid		Loss Time		Days Lost		Loss Time Severity		Loss Time Frequency	
Mine Name	Month	YTD	Month	YTD	Month	YTD	Month	YTD	Month	YTD	Month	YTD
Anglo American - Peace River Coal	2,143	20,144	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Centerra Gold - Endako	1,499	15,245	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Centerra Gold – Kemess Mine	12,346	48,298	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Centerra Gold - Mount Milligan	155,668	1,085,648	1	5	1	3	4	50	5.14	9.21	1.28	0.55
Conuma Coal - Brule	No Data											
Conuma Coal - Willow Creek	63,724	553,005	1	3	0	0	0	0	0.00	0.00	0.00	0.00
Conuma Coal - Wolverine	No Data											
Copper Mountain Mining - Copper Mountain	96,708	782,393	1	5	0	2	23	119	47.57	30.42	0.00	0.51
Imperial Metals - Mount Polley	70,990	507,657	1	7	0	0	0	0	0.00	0.00	0.00	0.00
New Gold - New Afton	145,568	1,228,575	1	4	0	1	15	23	20.61	3.74	0.00	0.16
Newcrest Red Chris JV.	No Data											
Pretium Resources - Brucejack	225,697	1,751,311	1	5	1	5	65	361	57.60	41.23	0.89	0.57
Skeena Resources - Eskay Creek	60,600	150,371	1	1	0	0	0	0	0.00	0.00	0.00	0.00
Taseko - Gibraltar	129,183	1,032,001	1	11	0	3	36	264	55.73	51.16	0.00	0.58
Teck - Highland Valley Copper	274,774	2,040,337	1	6	1	11	124	1202	90.26	117.82	0.73	1.08
Teck Coal - Coal Mountain	9,127	65,350	0	0	0	1	0	1	0.00	3.06	0.00	3.06
Teck Coal - Elkview	229,314	1,872,551	1	6	0	8	59	649	51.46	69.32	0.00	0.85
Teck Coal - Fording	275,265	2,291,539	3	8	1	9	145	1,128.0	105.35	98.45	0.73	0.79
Teck Coal - Greenhills	208,574	1,435,064	1	8	0	5	32	145	30.68	20.21	0.00	0.70
Teck Coal - Line Creek	137,658	1,229,311	0	6	0	9	0	1281	0.00	208.41	0.00	1.46
Trafigura - Myra Falls Mine Ltd.	90,487	692,258	0	13	0	0	0	0	0.00	0.00	0.00	0.00
Total	2,189,325	16,801,058	14	88	4	57	503	4095	45.95	48.75	0.37	0.68

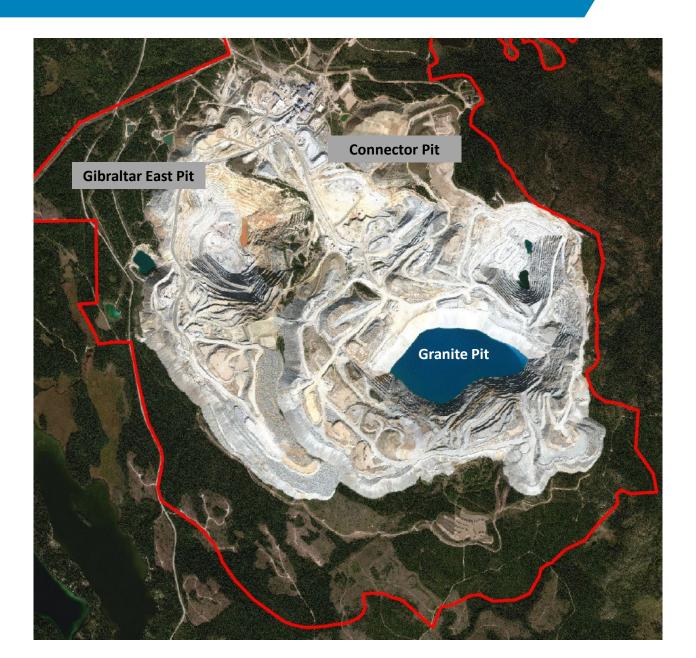






# **Gibraltar Mine – Current Mining Activity**

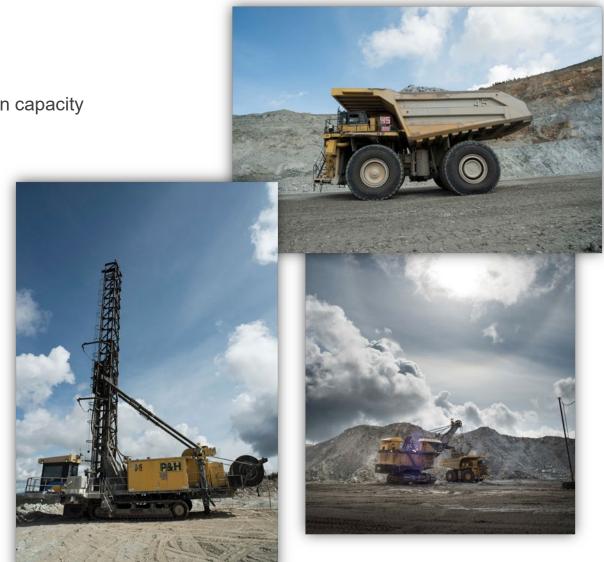






#### **Active Mine Fleet**

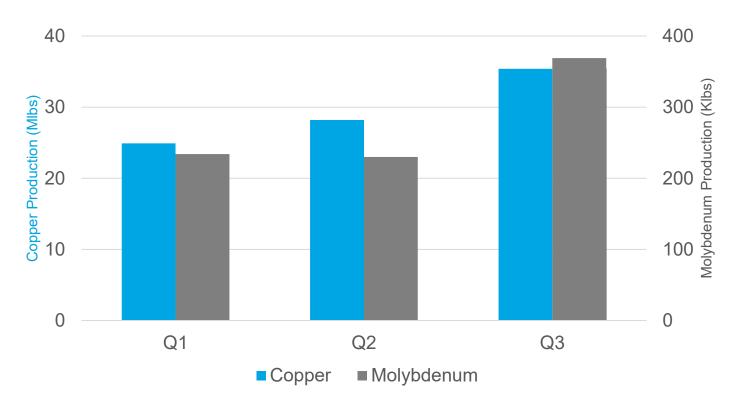
- Haul Trucks (24):
  - 24 x Komatsu 930E, 320 ton capacity
- > Shovels (4):
  - 2 x Bucyrus 495R
  - 1 x P&H4100
  - 1 x P&H2800
- Production Loaders (2):
  - 1 x WA1200
  - 1 x CAT 994K
- **Drills** (5):
  - 3 x P&H320
  - 2 x Bucyrus 49H
- Employees
  - Approximately 700 People





## **Third Quarter Production**

- Copper produced: 35 million pounds
- Molybdenum produced: 369 thousand pounds
- Increase quarter-over-quarter production a result of higher grades, improved recoveries and increased mill throughput.



## **Gibraltar Pit Dewatering**



### **Gibraltar East Pit Pumping**

- 44M m³ water pumped to Granite Pit
  - Equivalent to half of the volume of Williams Lake
- 550 feet of water elevation dropped
- > 50+ pump moves
- 28 months of operation

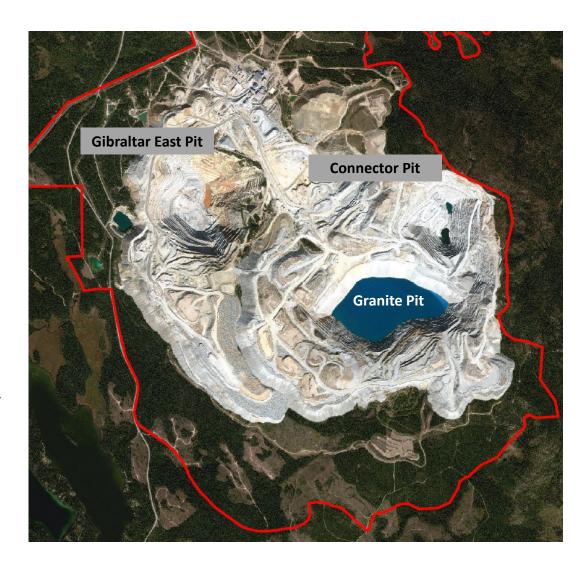




#### Gibraltar Mine - 2024



- Gibraltar Pit main ore feed through Q3 2024
- Transition to Connector Pit as main ore source Q4 2024
- > Crusher move occurs mid-2024
- Grades in 2024 expected to be similar to 2023
- Throughput in 2024 will be impacted by major component replacement in mill #2 in the first quarter and downtime for crusher move and mill #1 maintenance (~3 weeks) in second quarter
- Formal 2024 guidance will be provided later this year



## **Geology – Grade Control**



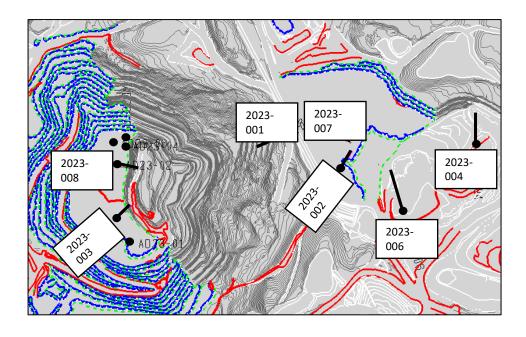
- Alternative blasthole sampling methods reviewed
  - Trench sampling program wrap up
    - 981 trench samples taken
  - Auger sampling program initiated in March
    - Auger sampling halted in June
- Blast movement studies initiated
  - Orica (OrePro 3D) blast movement prediction modelling
  - Hexagon (BMT) blast movement measurement





# **Infill and Connector Geometallurgical Modelling**

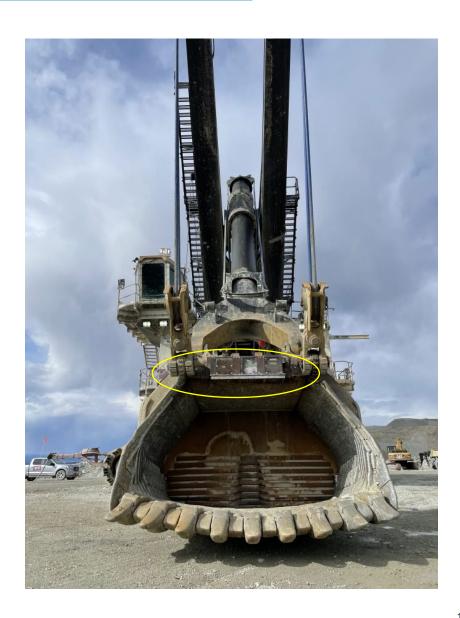
- Completed 9,475 total feet of infill diamond drilling
  - 2 Gibraltar holes, 9 Connector holes
  - Connector drilling focused on 2024 ore
- Completed 2,450 total feet of infill RC drilling
  - 3 Gibraltar holes, 2 Connector holes
- Connector Geometallurgical Program
  - Preliminary results show recoveries consistent with models
  - Ore hardness similar to GIB



## MineSense - ShovelSense



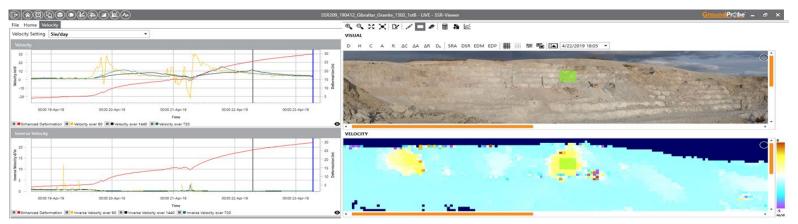
- S2 and S3 equipped with ShovelSense
- Used to help prioritize highest grade ore to be delivered to the Mill





#### **Geotechnical Tools**

Fround Probe Radar – scans the walls every 10 minutes, gives real time velocity and deformation



Robotic Total Station (RTS) – surveys prisms every 60 minutes, gives real time velocity and 3D movement



Alarms automatically emailed 24/7 – if radar or prisms trigger alarms, an email is immediately sent to Dispatch, Operations and Mine Engineering

# Advanced Analytics – "Recommender"



#### What is it?

- Automated software pipeline that ingests mine and plant data to model and optimize Copper recovery
- Two user interfaces:
  - Ore dashboard tool to provide real-time estimates of ore qualities to flotation operators
  - Recommender tool to provide setpoint suggestions to flotation operators to improve rougher flotation performance

#### Timeline

- 2021 Initial engagements with McKinsey on proof of concept and subsequent model refresh (using Gibraltar pit data)
- 2022 Full build phase (35 weeks, Mar to Nov)
- 2023 Tool operational

#### Successes

- Advanced analytics investigations of historical data has led to many changes in flotation operating practice:
  - Lower pH
  - Increased total reagent addition and changes to reagent mix
  - Adjustment to air and level profiles across the rougher bank
- Ore dashboard used daily in process meetings and by flotation operators
- Recommender usage has narrowed the band of variability between operators (minimizing "bad" shifts)

# **Water Management**



#### Reverse Osmosis Water Treatment Plant Permitting

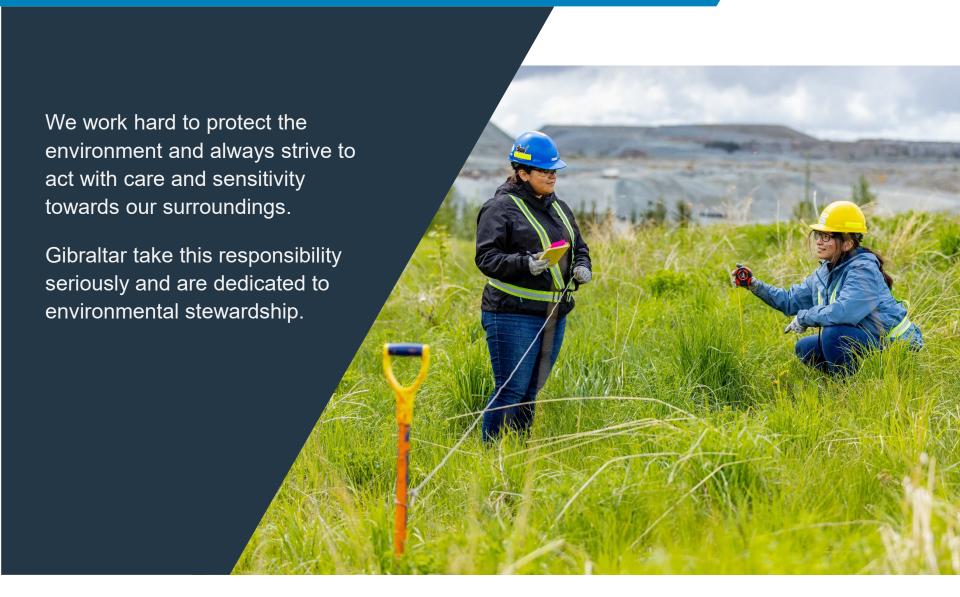
- Draft permits from EMLI and ENV received
- Comments provided back to EMLI and ENV on draft permit conditions
- Final permit expected in October

#### In-situ Water Treatment at the Tailings Storage Facility

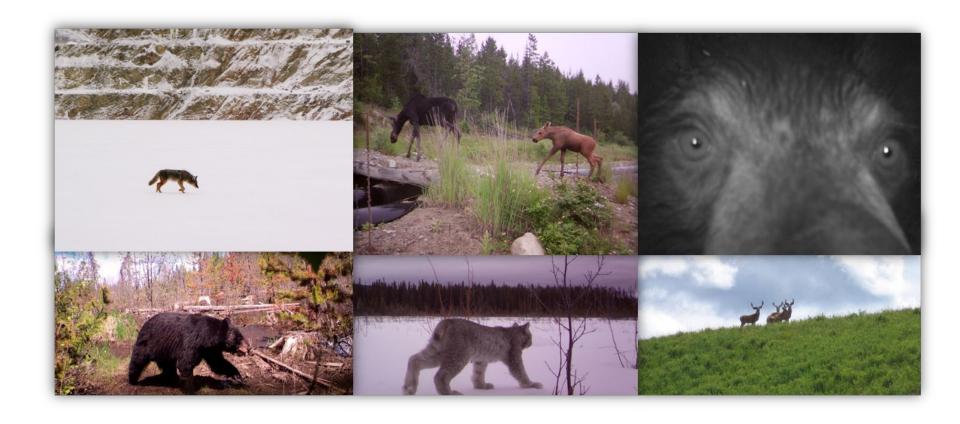
- Authorization received from ENV and EMLI in April
- Application of ethanol completed in Q2
- 50% reduction in nitrate+nitrite achieved by August
- Fraser River discharge initiated August 18

#### **Environment**









#### **Jake McDonald Mine Reclamation Award**





# **Community & Indigenous Relations**



Part of the Cariboo Community for more than 40 years

... and will continue to be for decades to come.













