TSX: MIN
OTCQB: EXMGF
Frankfurt: 3X3

Excelsior MINING CORP

The Pure Cu Company

We make Cu Green

February 2023

Disclaimers

Special Note Regarding Forward-Looking Information: This presentation contains "forward-looking information" concerning anticipated developments and events that may occur in the future. Forward looking information contained in this presentation includes, but is not limited to, statements with respect to: (i) the estimation of mineral resources and mineral reserves; (ii) the robust economics, potential returns associated with the Gunnison Project, (iii) the technical viability of the Gunnison Project; (iv) the market and future price of copper; (v) expected infrastructure requirements; (vi) the updated economics on the Gunnison Project, (vii) the results of the Strong & Harris PEA including statements about future production, future operating and capital costs, the projected IRR, NPV, payback period, construction timelines, permit timelines and production timelines for Strong and Harris; (viii) the potential production from the Johnson Camp mine; (ix) future exploration potential; (x) the permitting process and permitting risk; (xi) the benefits of well stimulation; and (xii) the ability to mine the Gunnison Project using in-situ recovery mining techniques.

In certain cases, forward-looking information can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" suggesting future outcomes, or other expectations, beliefs, plans, objectives, assumptions, intentions or statements about future events or performance. Forward-looking information contained in this presentation is based on certain factors and assumptions regarding, among other things, the estimation of mineral resources and mineral reserves, the realization of resource and reserve estimates, copper and other metal prices, the timing and amount of future exploration and development expenditures, the estimation of initial and sustaining capital requirements, the estimation of labour and operating costs, the availability of necessary financing and materials to continue to explore and develop the Gunnison Project in the short and long-term, the progress of exploration and development activities, the receipt of necessary regulatory approvals, the completion of the permitting process, the estimation of insurance coverage, and assumptions with respect to currency fluctuations, environmental risks, title disputes or claims, and other similar matters. While the Company considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect.

Forward looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include risks inherent in the exploration and development of mineral deposits, including risks relating to changes in project parameters as plans continue to be redefined including the possibility that mining operations may not commence at the Gunnison Project, risks relating to variations in mineral resources and reserves, grade or recovery rates resulting from current exploration and development activities, risks relating to the ability to access infrastructure, risks relating to changes in copper and other commodity prices and the worldwide demand for and supply of copper and related products, risks related to increased competition in the market for copper and related products and in the mining industry generally, risks related to current global financial conditions, uncertainties inherent in the estimation of mineral resources, access and supply risks, reliance on key personnel, operational risks inherent in the conduct of mining activities, including the risk of accidents, labour disputes, increases in capital and operating costs and the risk of delays or increased costs that might be encountered during the development process, regulatory risks, including risks relating to the acquisition of the necessary licenses and permits, financing, capitalization and liquidity risks, including the risk that the financing necessary to fund the exploration and development activities at the Gunnison Project may not be available on satisfactory terms, or at all, risks related to disputes concerning property titles and interest, environmental risks and the additional risks identified in the “Risk Factors” section of the Company’s reports and filings with applicable Canadian securities regulators.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking information. The forward-looking information is made as of the date of this presentation. Except as required by applicable securities laws, the Company does not undertake any obligation to publicly update or revise any forward-looking information.

Additional information about the Gunnison Copper Project can be found in the technical report filed on SEDAR at www.sedar.com entitled “Gunnison Copper Project Prefeasibility Study Update and JCM Heap Leach Preliminary Economic Assessment”, dated effective February 1, 2023. Additional information on Strong & Harris can be found in the technical report filed on SEDAR at www.sedar.com entitled “Estimated Minerals Resources and Preliminary Economic Analysis, Strong and Harris Copper-Silver-Zinc Project, Cochise County, Arizona”, dated effective September 9, 2021.

Qualified Person: Excelsior’s exploration work on the Gunnison Property and Johnson Camp properties is supervised by Stephen Twyerould, Fellow of AUSIMM, President and CEO of Excelsior and a Qualified Person as defined by National Instrument 43-101. Mr. Twyeroud has reviewed and approved the technical information contained in this presentation. The technical information contained in this presentation with respect to Strong & Harris has been reviewed and approved by the following Independent Qualified Persons from MDA, a division of RESPEC: Mr. Jeff Bickel, C.P.G., of MDA, Reno, Nevada (geology and mineral resource); Mr. Michael Gustin, PhD., P.Geo, of MDA, Reno, Nevada (geology and mineral resource); Eur. Geol. Robert Bowell, PhD, C.Chem, C.Geol, SRK Consulting (UK) Limited, Cardiff, Wales, UK (mineral processing and metallurgical testing, recovery methods) and Mr. Thomas L. Dyer, P.E., of MDA, Reno, Nevada (mining methods, capital and operating costs, and economic analysis).

Investment Strengths

- **Tier 1**
  - Jurisdiction, Infrastructure, Location
  - Permitting track record
- **Gunnison Project (~5 billion lb M&I)***
  - In-Situ Recovery (ISR) = Superior financial & ESG metrics
  - Other paths to value
  - Potential 55K - 75K Mt/yr Cu cathode
- **Johnson Camp Sulfides (a new era)**
  - Optionality, Stability, Upside

~$46 Million
Market Cap

Excelsior Market Cap
~0.04xNPV*

Goal

Junior Cu Producers
~0.5xNAV**
~10 x Excelsior

Dedicated to Success

* Based on February 2023 PFS After-tax US$1,167 million NPV & 37.5% IRR (LOM US$3.75/lb Cu price, 7.5% discount rate)
** RBC Capital Markets Comparable as of October 20, 2022: Average Junior Copper Producers ~0.5x P/NAV

Arizona: # 1 in US for Mineral Value in 2021*

Gunnison ISR Project

- 2.15 Billion Pounds of potential In-Situ Copper production*
- After-tax US$1.167 billion NPV & 37.5% IRR* (LOM US$3.75/lb Cu price, 7.5% discount rate)
- Well-Stimulation may quickly solve the CO_2 problem (in preference to flushing)

Johnson Camp Mine

- Near-term production potential

Strong & Harris

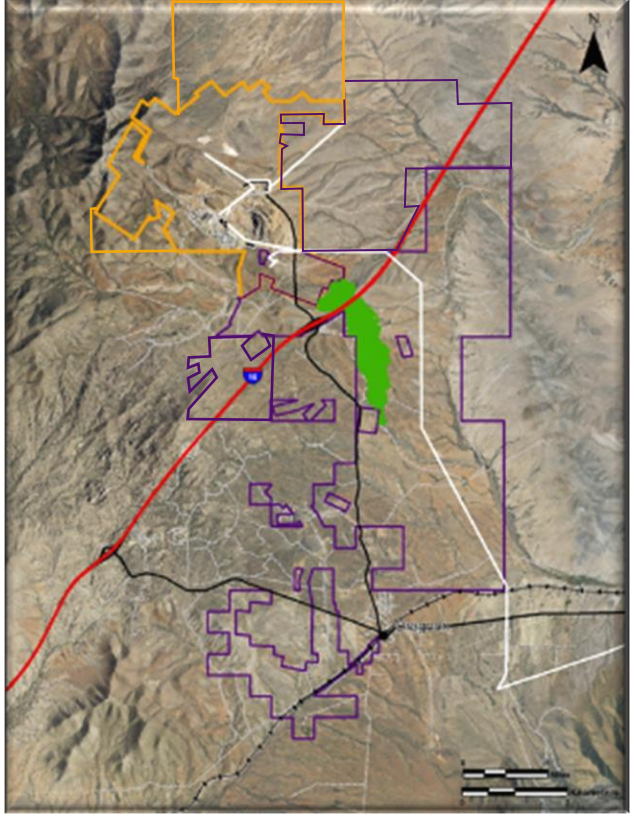
- Long-term production potential

Gunnison Copper Cathode

* USGS Mineral Commodities Summary 2022

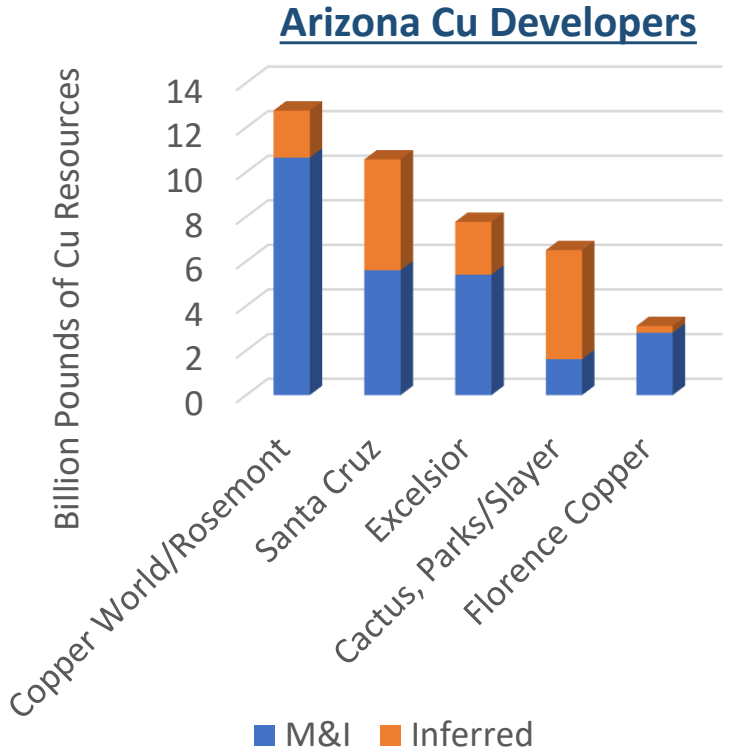
**Based on February 2023 PFS completed by M3 Engineering & Technology Corporation (“M3”) of Tucson, AZ

Johnson Camp & Gunnison Copper Project

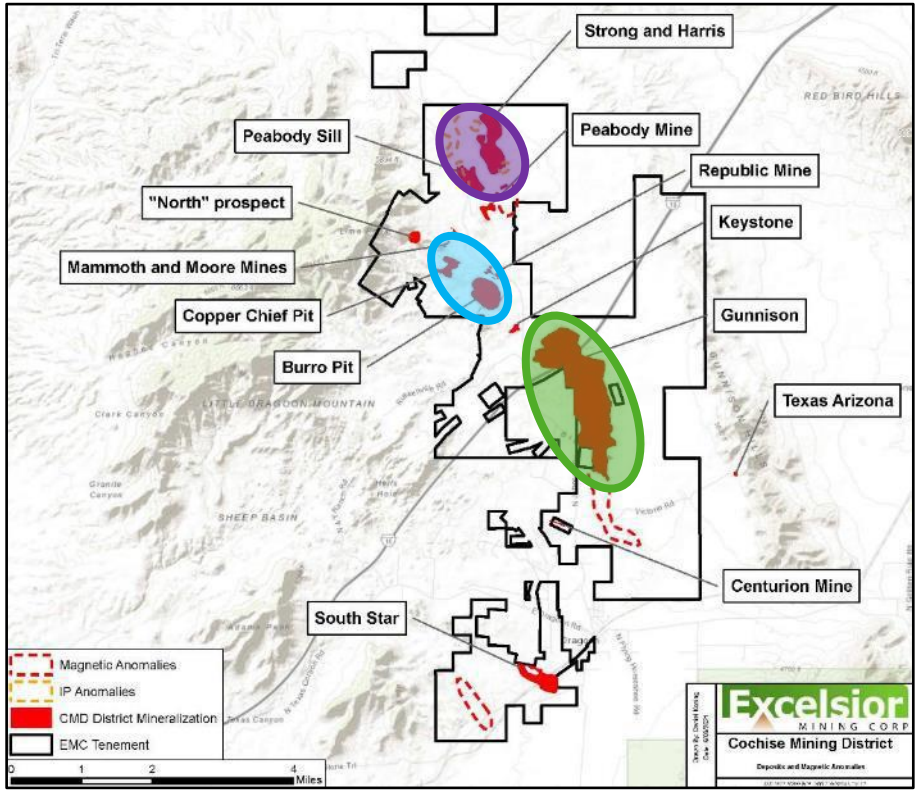


- 2.5-hour drive SE of Phoenix; 65 miles SE of Tucson
- Entire mining district with multiple deposits
- Excellent infrastructure: road, rail, power, natural gas and water
- Nearly 15,000 acres (6,070 ha)

Johnson Camp & Gunnison Copper Project



Multi-Asset Mining Camp



Gunnison - Flagship Asset

- **After-tax US$1,167 million NPV & 37.5% IRR***
  (LOM US$3.75/lb Cu price, 7.5% discount rate)
- **All-In Cost (capital & operating) $1.73/lb.**
- **24-year mine life, staged to 125M lbs. per year**
- **2.15 billion pounds of pure copper cathode**

JCM Open Pits

- **Working towards production**

Growth

- **Strong & Harris and other assets all within one mining camp**

Exploration

- **Deposit extensions and anomalies under cover (~ 15,000 acre)**

*Based on February 2023 PFS completed by M3 Engineering & Technology Corporation (“M3”) of Tucson, AZ

In-Situ Recovery (Gunnison Copper Project)

An incredibly strong ESG story

- ✓ Significantly reduced dust, air and sound pollution
- ✓ Significantly reduced water consumption
- ✓ Significantly reduced carbon footprint (no earth moving)
- ✓ Small surface footprint & usable after closure
- ✓ No potential for acid mine drainage, no tailings, dumps

Transparent & Engaging

- ✓ Regional & local employment and community support
- ✓ Site tours, open-houses, meet and greet

Great Supporters

Triple Flag Mining: US$75M
(Stream & Equity)

Greenstone Resources: US$60M
(Equity & Royalty)

Altius Minerals:US$9M
(Equity & Royalty)

Nebari Holdings:US$15M
(Debt)

TSX: **MIN** / OTCQB: **EXMGF** / FSE: **3XS**

Shares I/O	**277.2 M**
Fully Diluted	315.6 M
Recent Price	~US$0.16
Market Cap	**~US$46 M**
Warrants (exp 11/30/23)	3.5M @ C$.54
Convertible Debt	US$3.0 M @ $0.19

Top Holders

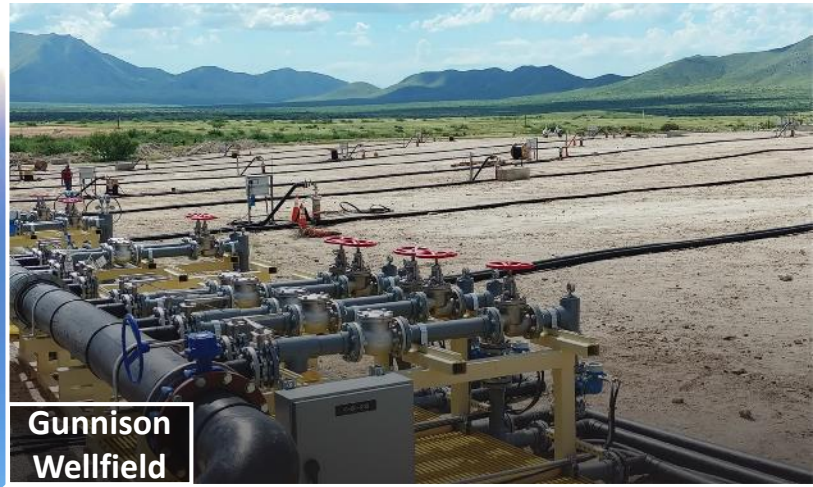
Greenstone	41.8%
Triple Flag	5.0%
Management	4.0%
	50.8%

US$8.4 million as of September 30th 2022

Excelsior's Flagship Assets

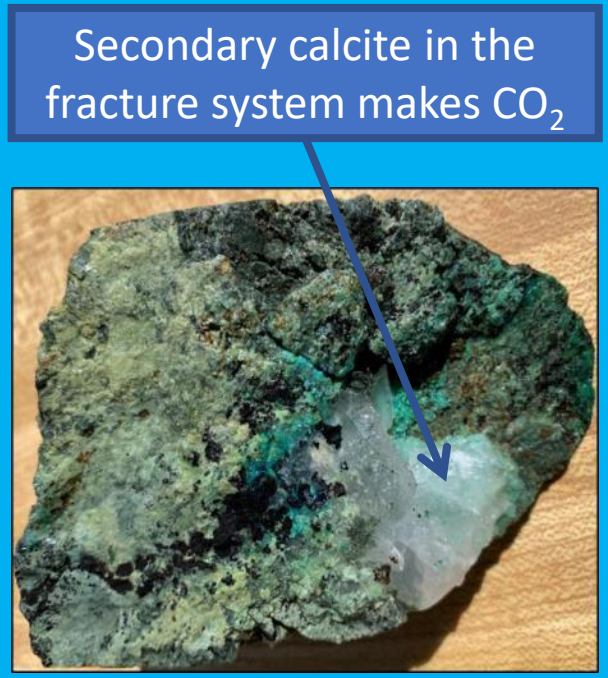
Gunnison Copper Project & Johnson Camp Mine ("JCM")

Initial production capacity of 25M pounds/year

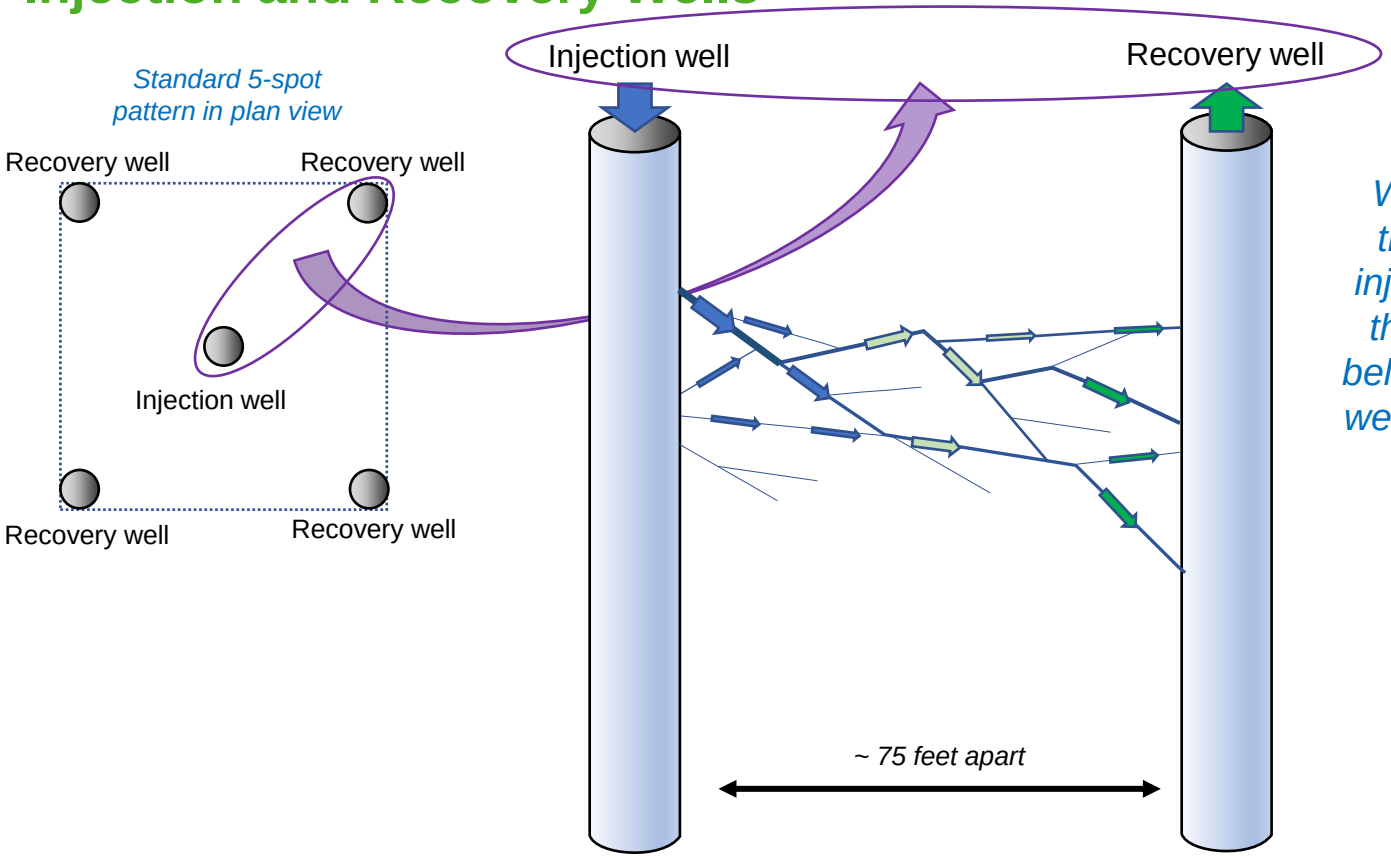


Gunnison Copper Project

- Ramp-up challenges:
  - Caused by acid reacting with calcite making CO_2 gas bubbles that block flow paths
- Need to “mine-out” the calcite to permanently remove gas bubble problem (acid consumption in the models)
- But this requires flows to be maintained to deliver the acid to remove the calcite (flushing is one solution)
- Well Stimulation has the potential to maintain flows and fundamentally change the performance of Excelsior’s in-situ wellfield.



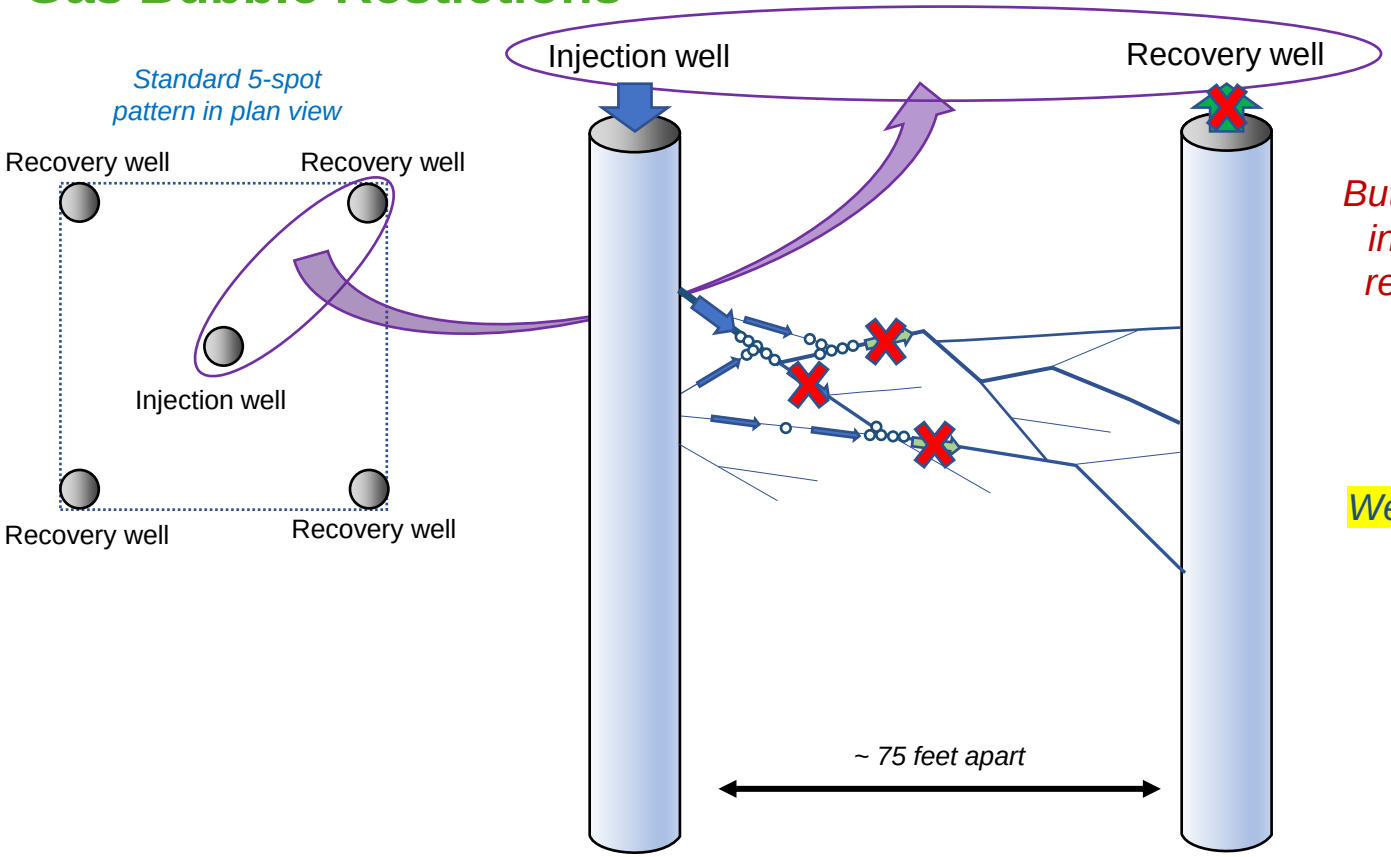
Injection and Recovery Wells



Weak acid is injected into the fractured rock via the injection well. It then moves through the fractured rock below ground to the recovery well where it is pumped back to surface, dissolving copper as it goes.

Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

Gas Bubble Restictions

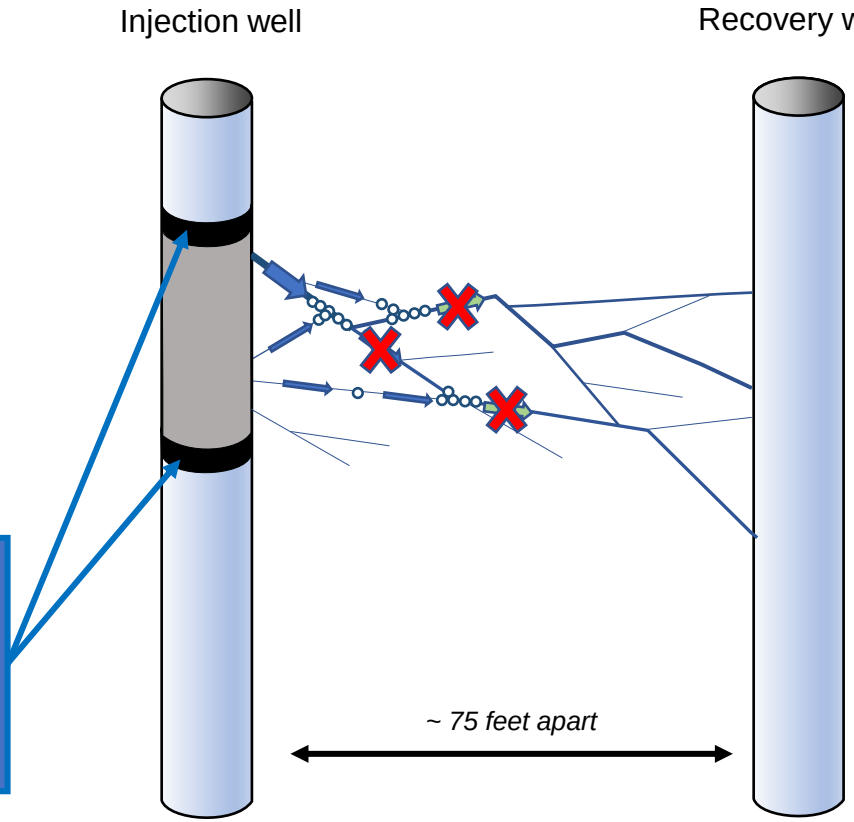


But gas bubbles form, collect in the fracture system and restrict flow. Flushing with water (or neutralized raffinate) removes the bubbles but is slow.

Well Stimulation should be a better alternative

Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

Well Stimulation: Step 1



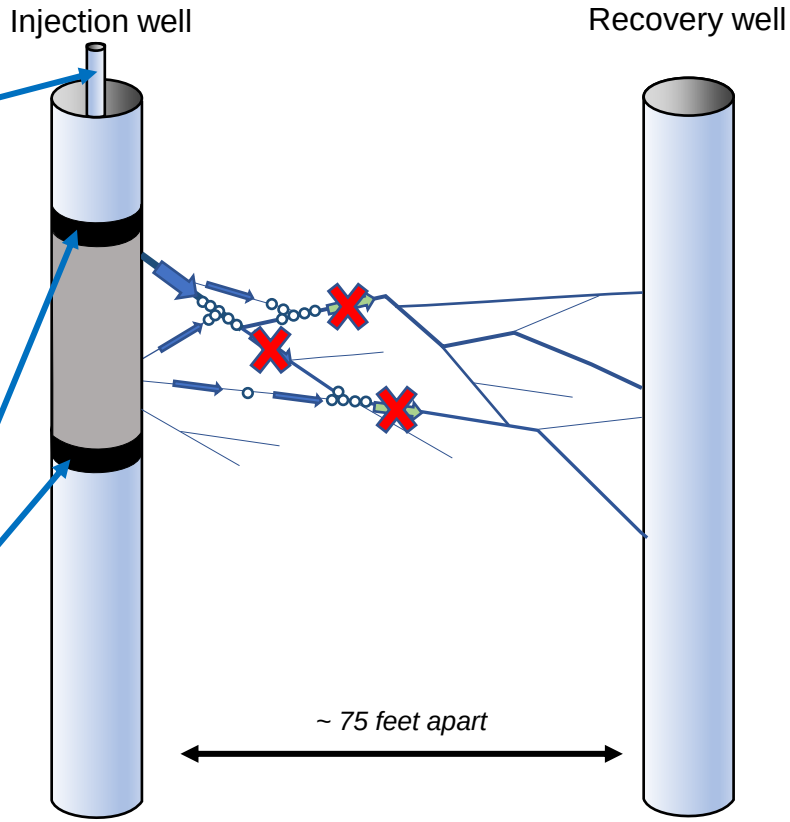
Straddle Packers are set inside the well to isolate the stimulation zone

Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

Well Stimulation: Step 2

A small injection tube goes inside the isolated zone

Straddle Packers are set inside the well to isolate the stimulation zone



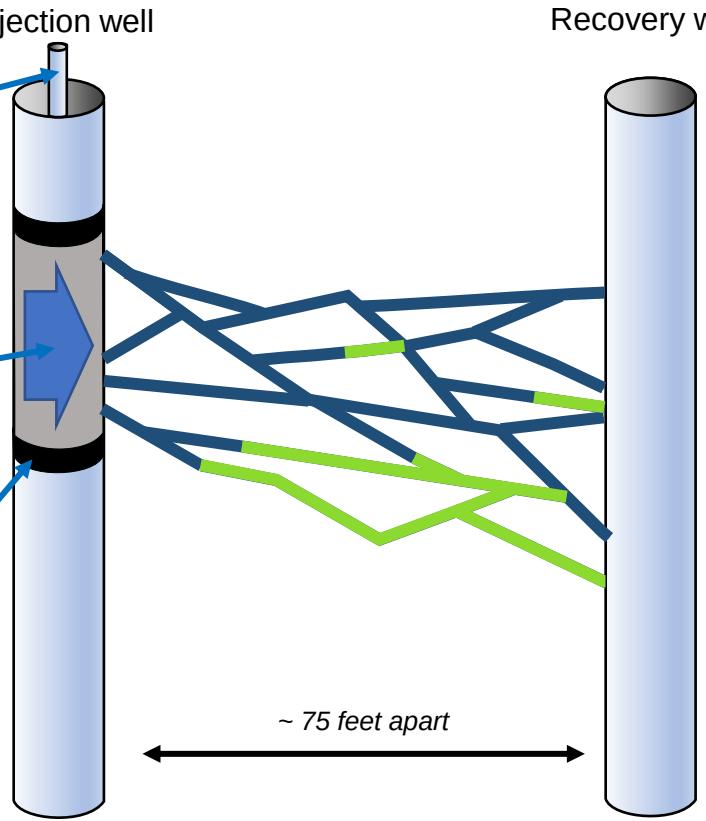
Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

Well Stimulation: Step 3

A small injection tube goes inside the isolated zone

High pressure fluid is injected to inflate (open-up) & connect fractures

Straddle Packers are set inside the well to isolate the stimulation zone



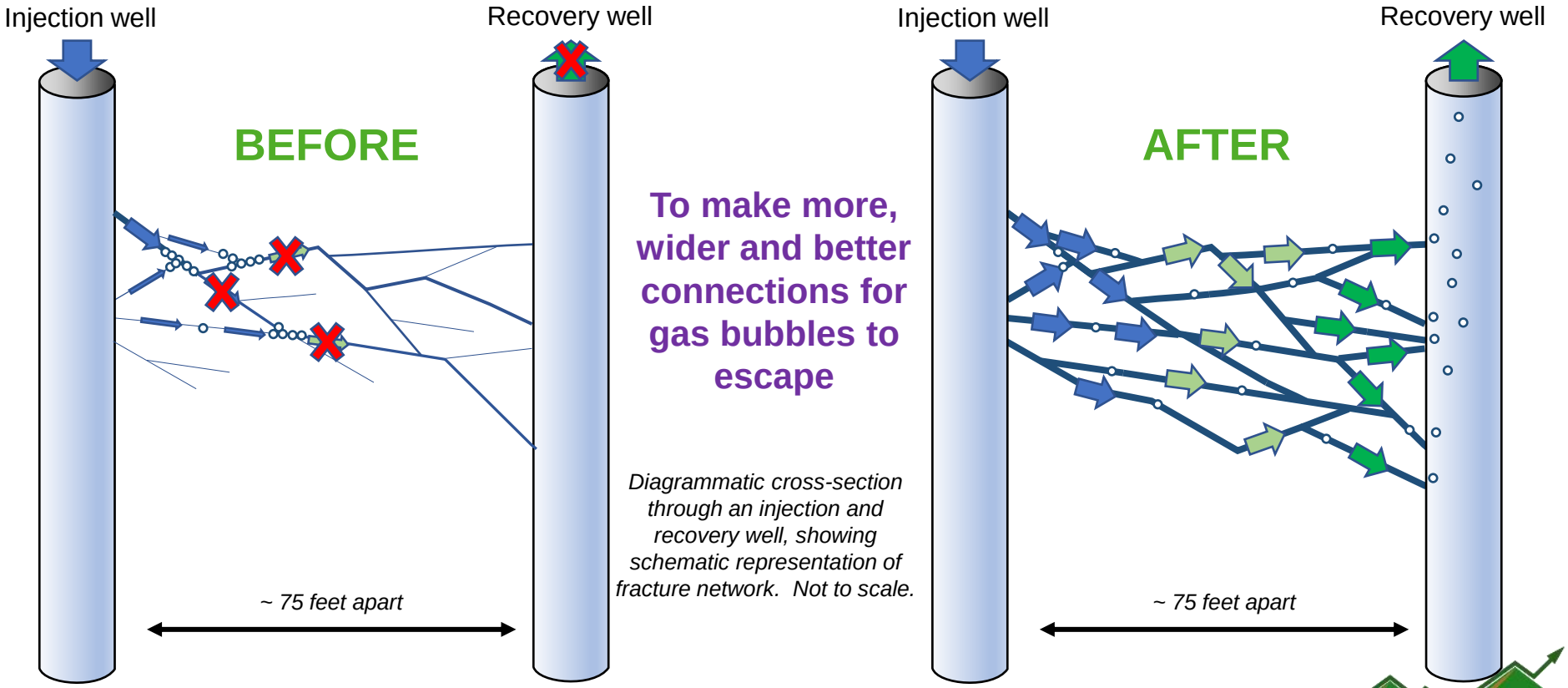
Existing fractures inflate (dilate or open-up) as the high-pressure fluid moves through them.

Some fractures also grow and extend making more and better connections (shown in green)

All to help bubbles escape

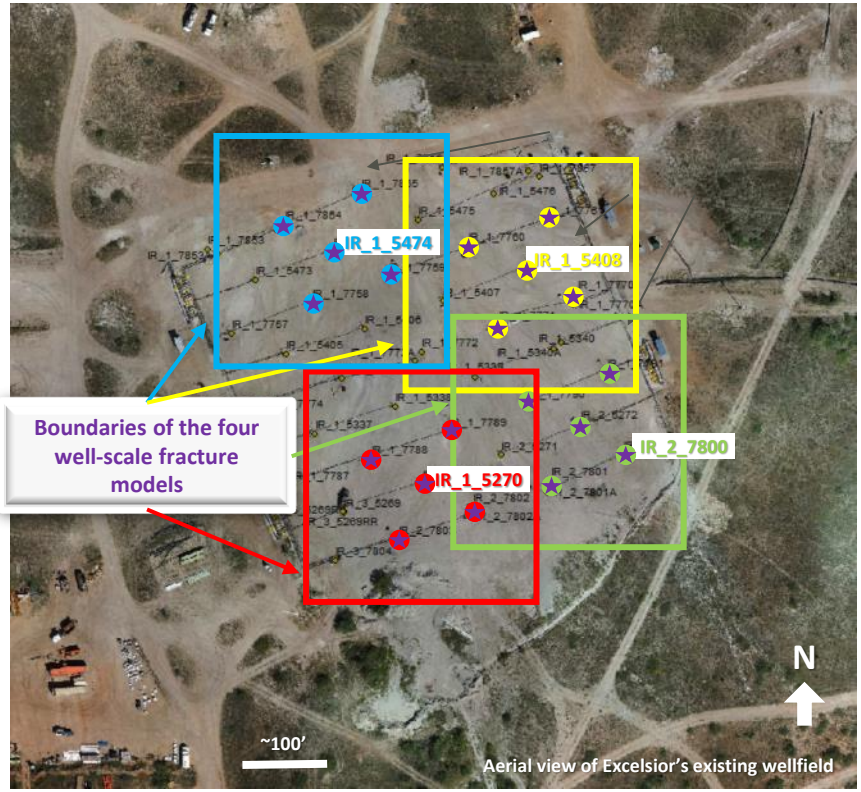
Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

The Intent of Well Stimulation



Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

Well Stimulation Modelling

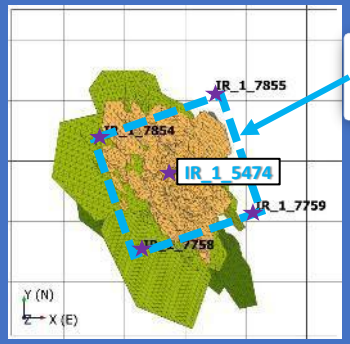


A leading engineering and environmental consulting firm, who are experts in hard-rock hydraulic fracture modelling, have been modelling well stimulation at the Gunnison Project.

The model uses rock strength data, fracture intensity data, down-hole geophysical logs and other datasets to produce a 3-dimensional representation of well stimulation.

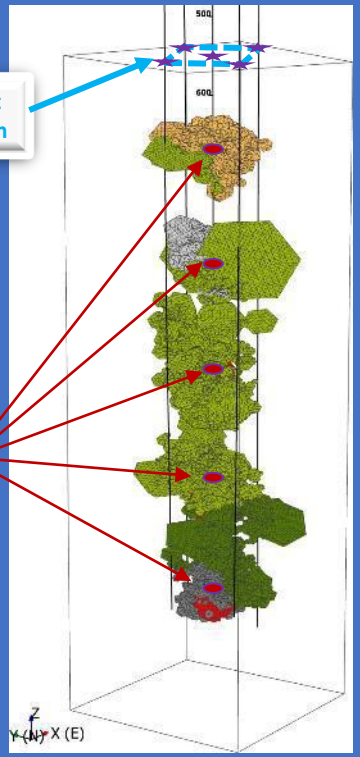
Well Stimulation Modelling

Plan View (50' grid)



5-spot pattern

3-D view centered on IR_1_5474



Legend

- Tqm Dilated
- Dm Dilated
- Cau Dilated
- Cam Dilated
- Cal Dilated
- New Induced
- Well location
- Stimulation Point

Five stimulation events were modeled at ~150' intervals down the central well.

- Modelling indicates pre-existing fractures are stimulated in preference to creating new fractures (see legend: stimulated fractures are colored by rock type)
- Just five stimulation events inflated (dilated) existing fractures over a large volume in the 5-spot pattern (3D diagram to the left)
- Additional locations down the central well, and in the surrounding wells, could also be stimulated to create a very large volume of inflated existing structures
- Stimulation fluids become part of the normal process stream thereby generating no waste products

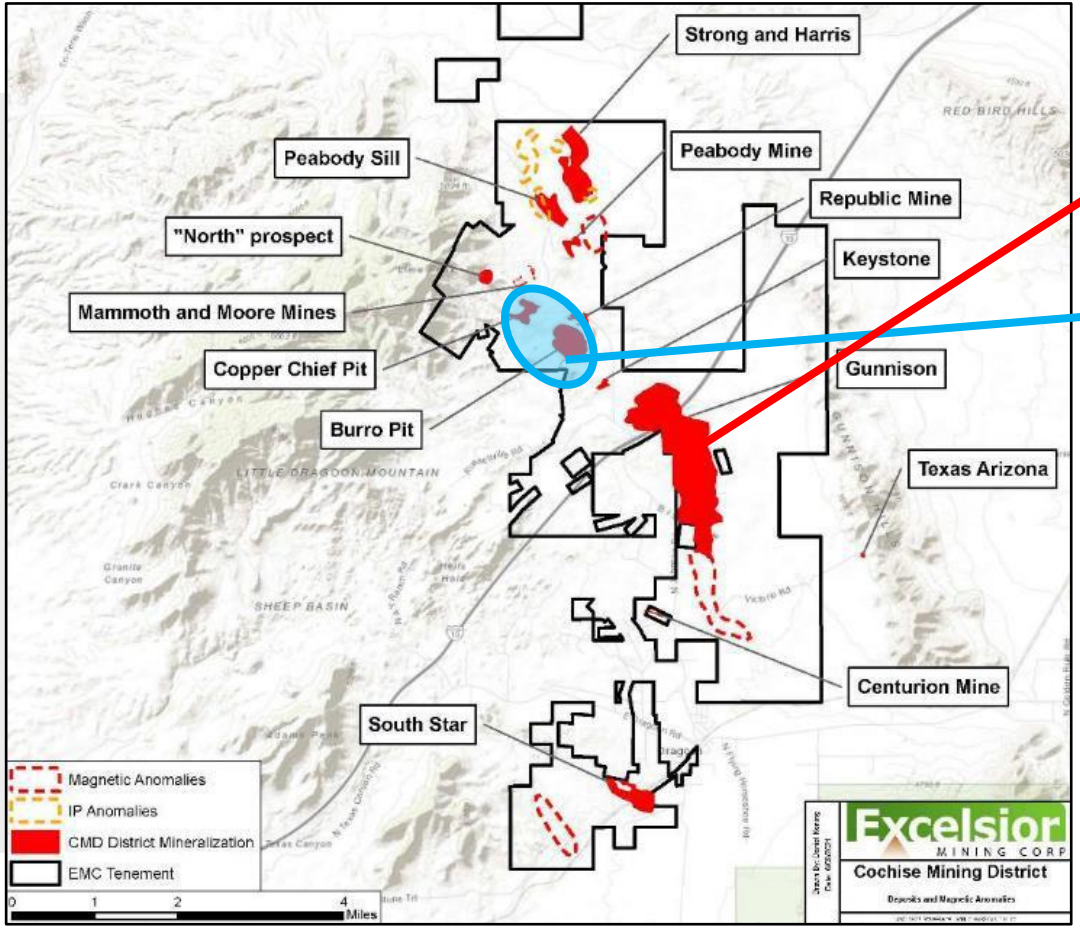
Well Stimulation

Commercial application

- Expected to be low capital & operating cost
- Can be undertaken by Excelsior's own employees
- Can be done as needed, where needed, as often as needed (e.g., monthly)
- Can be repeated in the same well at the same location(s), or adjacent wells

Next Steps

- Detailed planning of well stimulation trials
- Finalize EPA Permit amendment and approvals (expected Q1 2023)
- Complete well stimulation trials soon after approvals
- Evaluate, optimize, commercialize



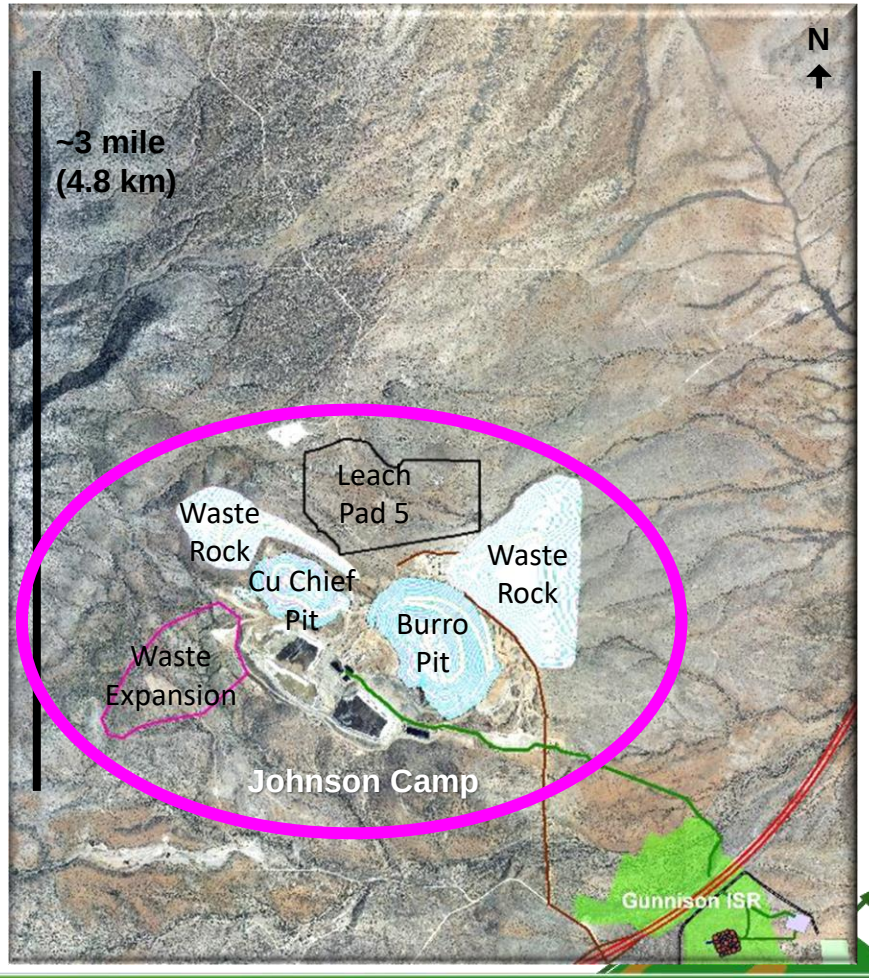
Gunnison: Exciting Path Forward

JCM pits: near-term production potential

Johnson Camp ("JCM")

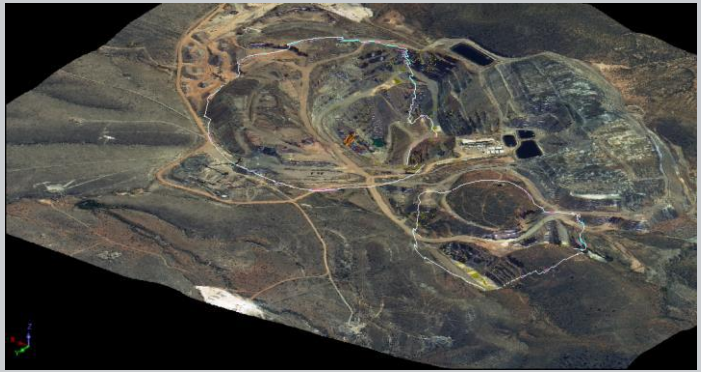
JCM Mineral Resources (07/13/22)	Short Tons (millions)	Total Copper %	Pounds of Cu (millions)
Measured	21	0.31	128
Indicated	87	0.32	550
Measured + Indicated	**108**	**0.32**	**678**
Inferred	51	0.32	323

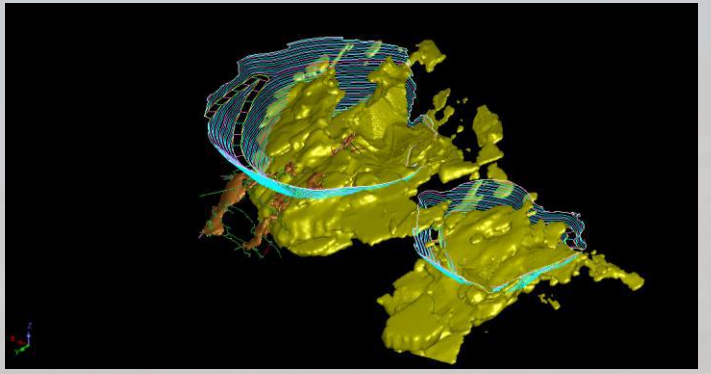
- 25+ million pound per year SXEW (~12kmt)
- Fully operational infrastructure/plant
- Experience operators, > 3,000 days LTI free



JCM Open Pits

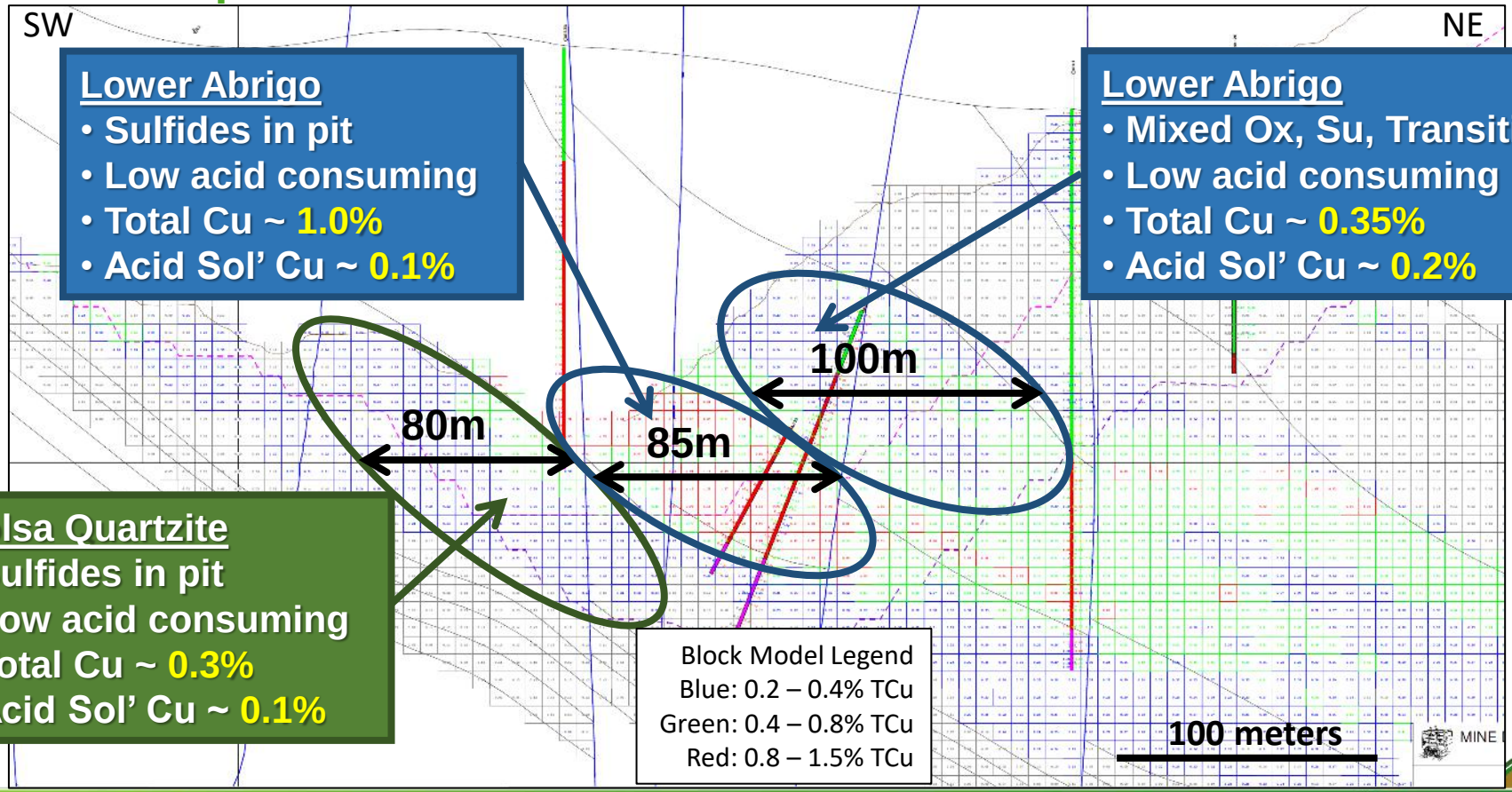
- **Nuton™ Collaboration Agreement (Rio Tinto sub')**
- High-grade sulfides in the bottom of the current pit
- Updated PEA incorporating sulfides ($3.75/lb Cu)
  - After-tax NPV $180M, IRR 30.4% (7.5% Discount rate)
  - Initial Capital $58.9M (25 Mlbpa)
  - 25 Mlbpa, 21 year mine life, strip ratio 1.3
  - 77% total Cu recovery
  - 85.2 Mton @ 0.37% Cu for 492 million pounds
  - Total operating cash cost $2.24/lb
- New leach pad permit **approved** in Q1 2023
- New Metallurgical test work Q1-Q3 2023
- Potential for consistent cash flow with low up-front capital

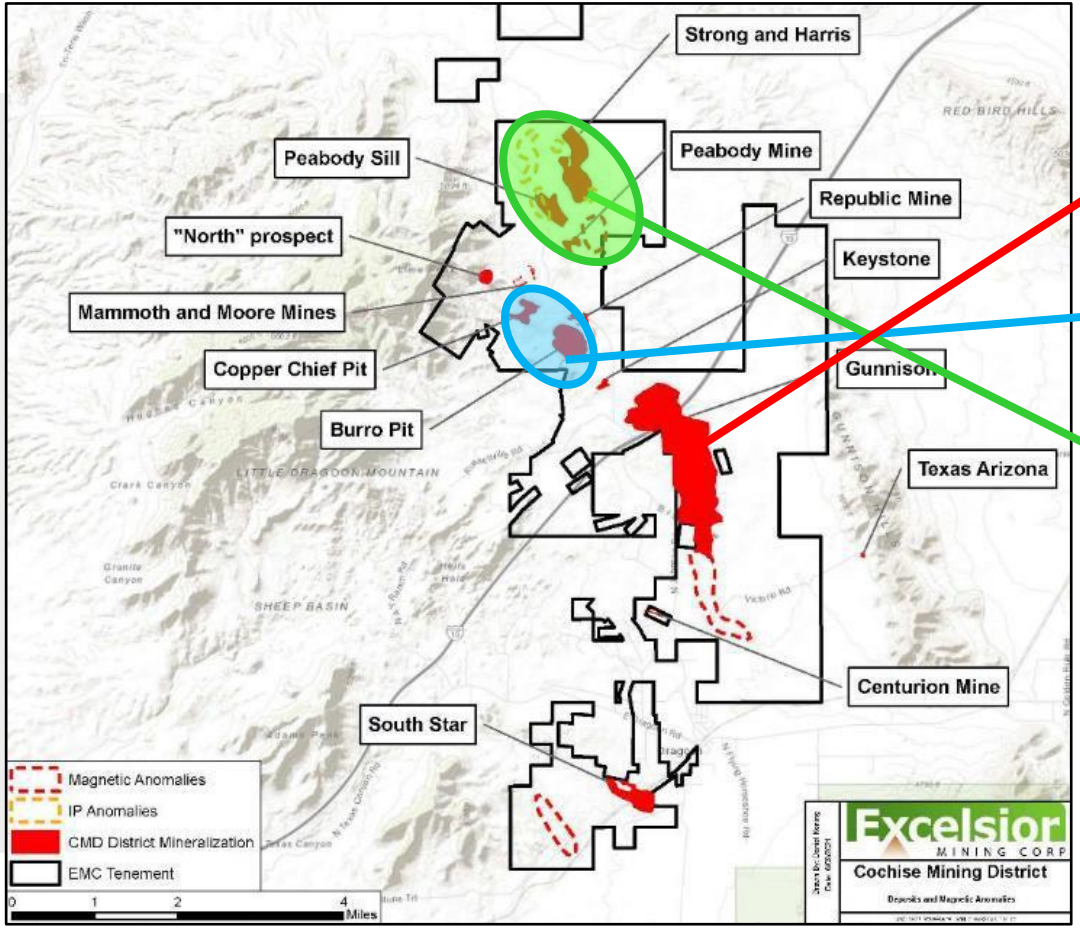




The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

JCM: Example Section 1900





Gunnison: Exciting Path Forward

JCM pits: near-term production potential

Strong & Harris: long-term potential

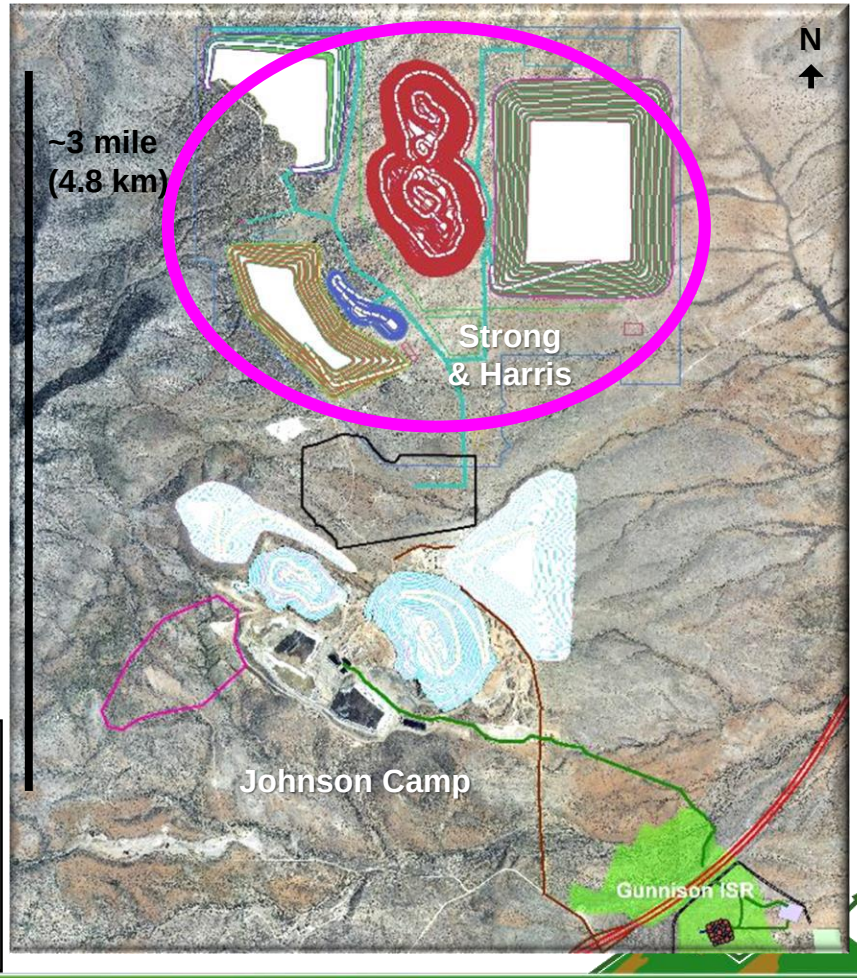
Strong and Harris

S & H Mineral Resources (09/09/21)	Tons	Grade	Metal (millions)
Inferred	76 million short tons	0.52 % Cu	794 lb (0.36 mt)
		0.56 % Zn	858 lb (0.39 mt)
		0.12 oz/t Ag	9.5 oz
Inferred: ~ 1 billion lb CuEq (0.48 million mt)			

PEA: After-tax NPV ~US$260 million
IRR 23%
(@8% with US$3.75/lb Cu price)

Low operating costs of ~$1.75/lb. CuEq
Average Cu/Zn Production 62/82 Mlbpa

The Mineral Resources (0.1% Cu cut-off) has the potential to be mined using open pit with oxide leaching and sulfide concentrating. The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the conclusions reached in the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.



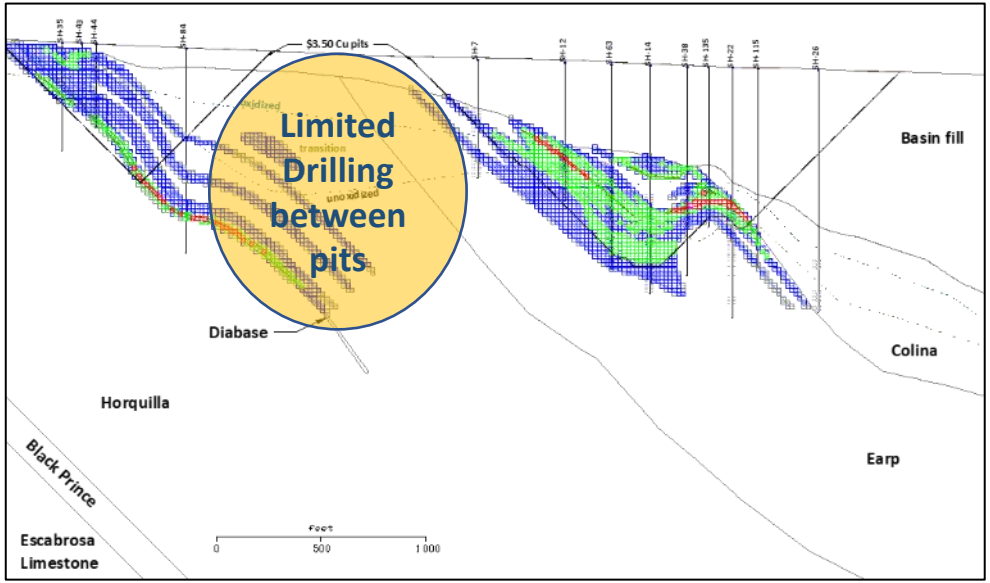
Strong and Harris Upside

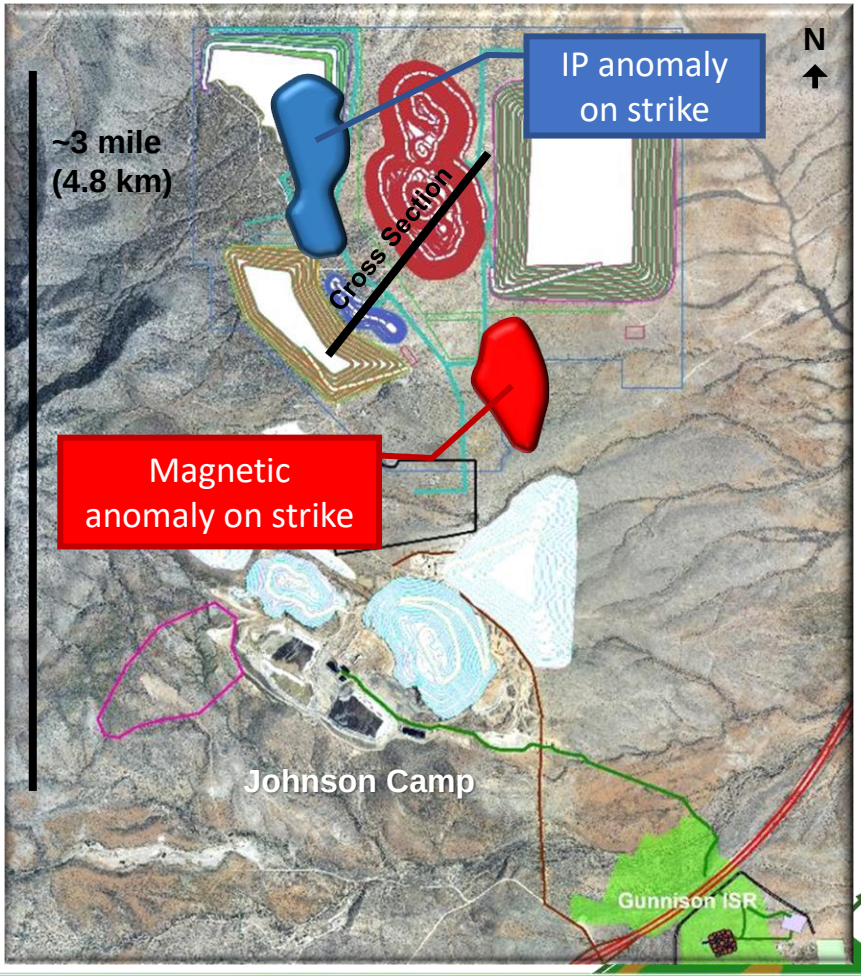
29 Cu Copper 63.546

30 Zn Zinc 65.38

47 Ag Silver 107.8682

Cross Section

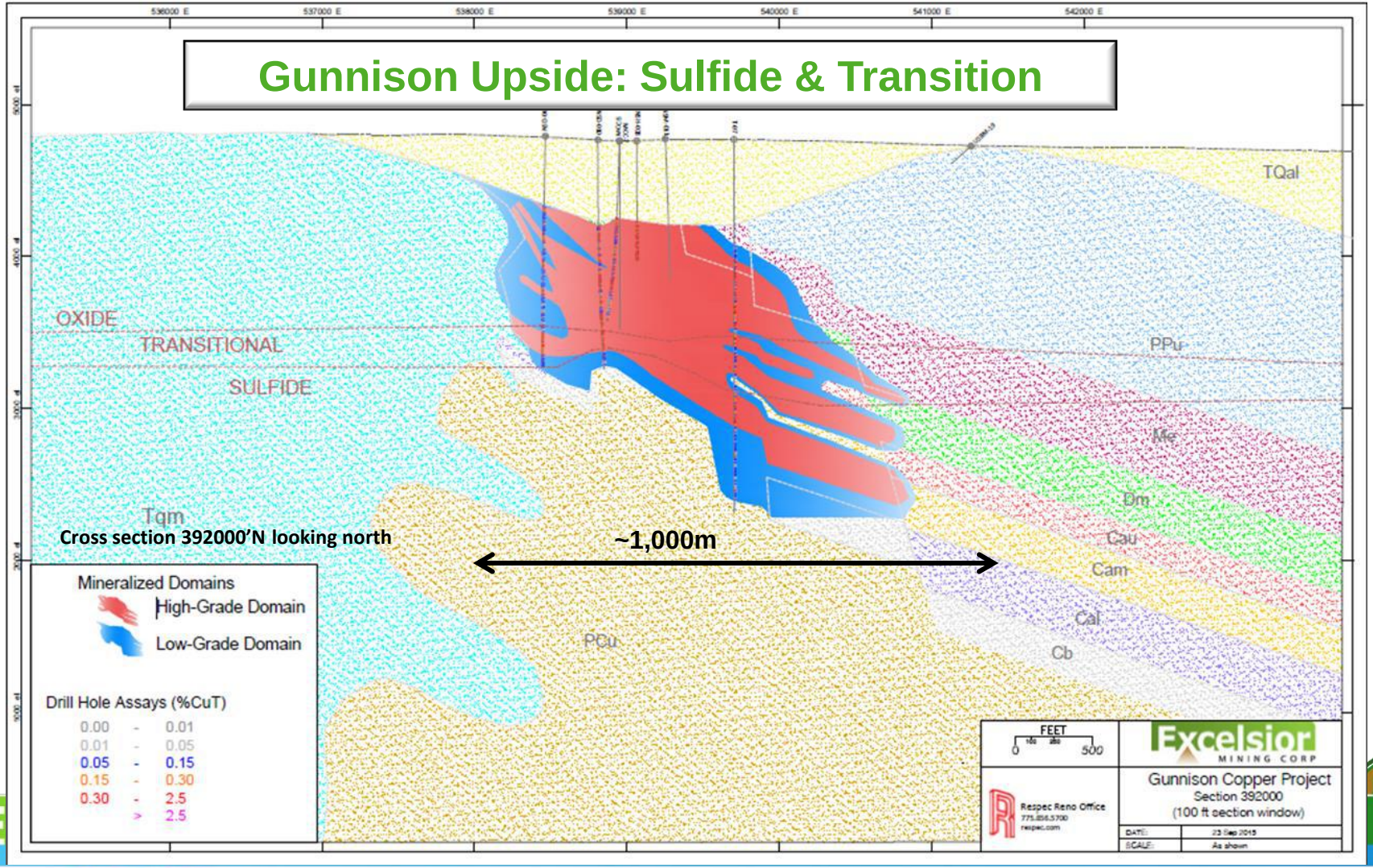




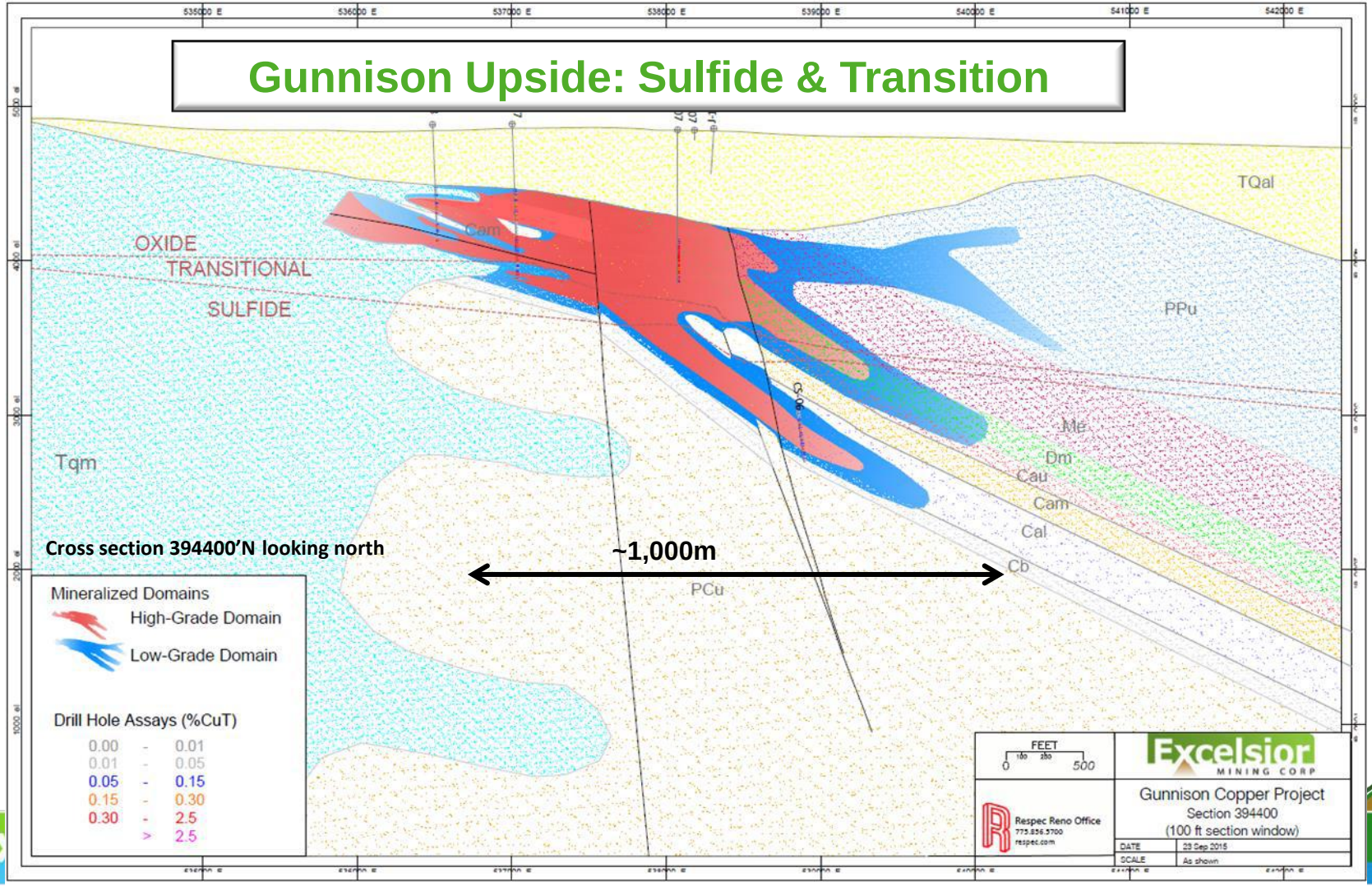
Goals and Objectives

- Well Stimulation
  - Permitting and Approvals ~Q1 2023
  - Trials to follow shortly thereafter
- Raffinate Neutralization – pending results of well stimulation trails
- JCM Open Pits – optimization, risk & cost reduction, permitting, final design
- JCM Sulfide Leaching
  - Exciting opportunity to access significantly higher grades
  - Evaluations underway and through Q3 2023

Gunnison Upside: Sulfide & Transition



Gunnison Upside: Sulfide & Transition



Investment Strengths

- Experienced team
- First class SXEW
- Operational base
- Gunnison ISR
  - Superior financial metrics
  - Superior ESG
  - Multiple paths to value
- Johnson Camp Sulfides (new era)
  - Potential for near term cash flow

Optionality & Value Creation

Dedicated to Success

* Based on February 2023 PFS After-tax US$1,167 million NPV & 37.5% IRR (LOM US$3.75/lb Cu price, 7.5% discount rate)
** RBC Capital Markets Comparable as of October 20, 2022: Average Junior Copper Producers ~0.5x P/NAV

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