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Excelsior MINING CORP

Well Stimulation

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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.

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. Twyerould has reviewed and approved the technical information contained in this presentation.

Excelsior's Flagship Assets

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

Initial production capacity of 25M pounds/year

In-Situ Recovery (Gunnison Copper Project)

An incredibly strong ESG story

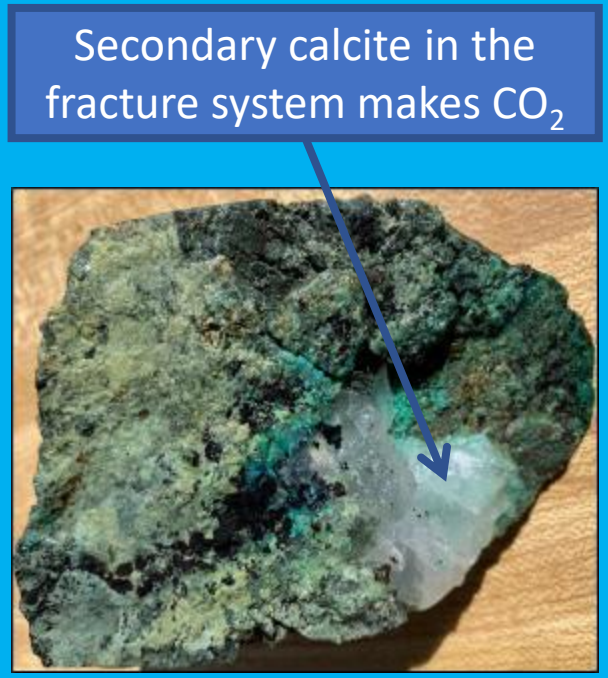
- ✓ Significantly reduced dust, air and sound pollution
- ✓ Significantly reduced water consumption
- ✓ Significantly reduced carbon footprint (no earth moving)
- ✓ Small surface footprint & usable after closure
- ✓ No potential for acid mine drainage, no tailings, dumps

Transparent & Engaging

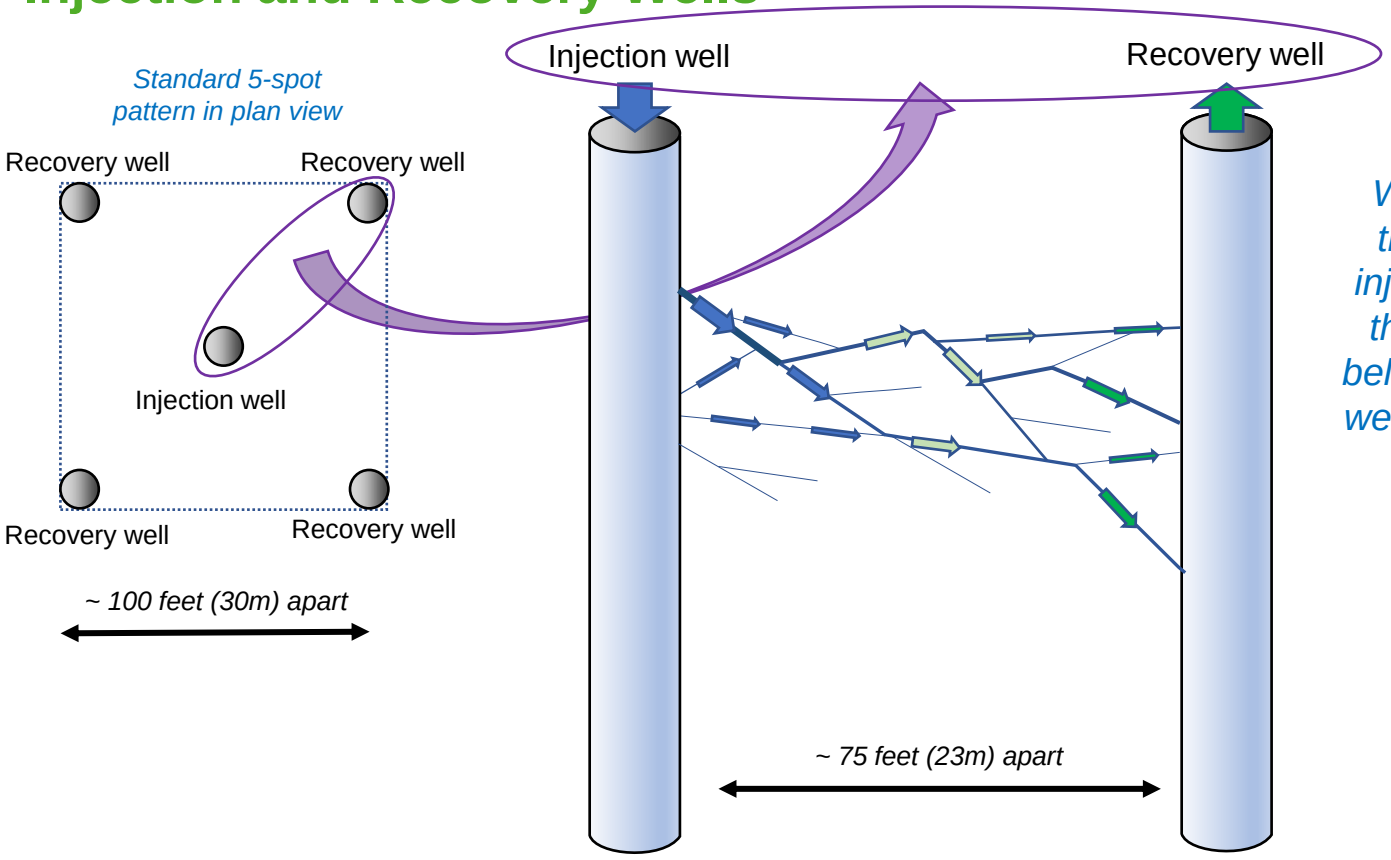
- ✓ Regional & local employment and community support
- ✓ Site tours, open-houses, meet and greet

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.



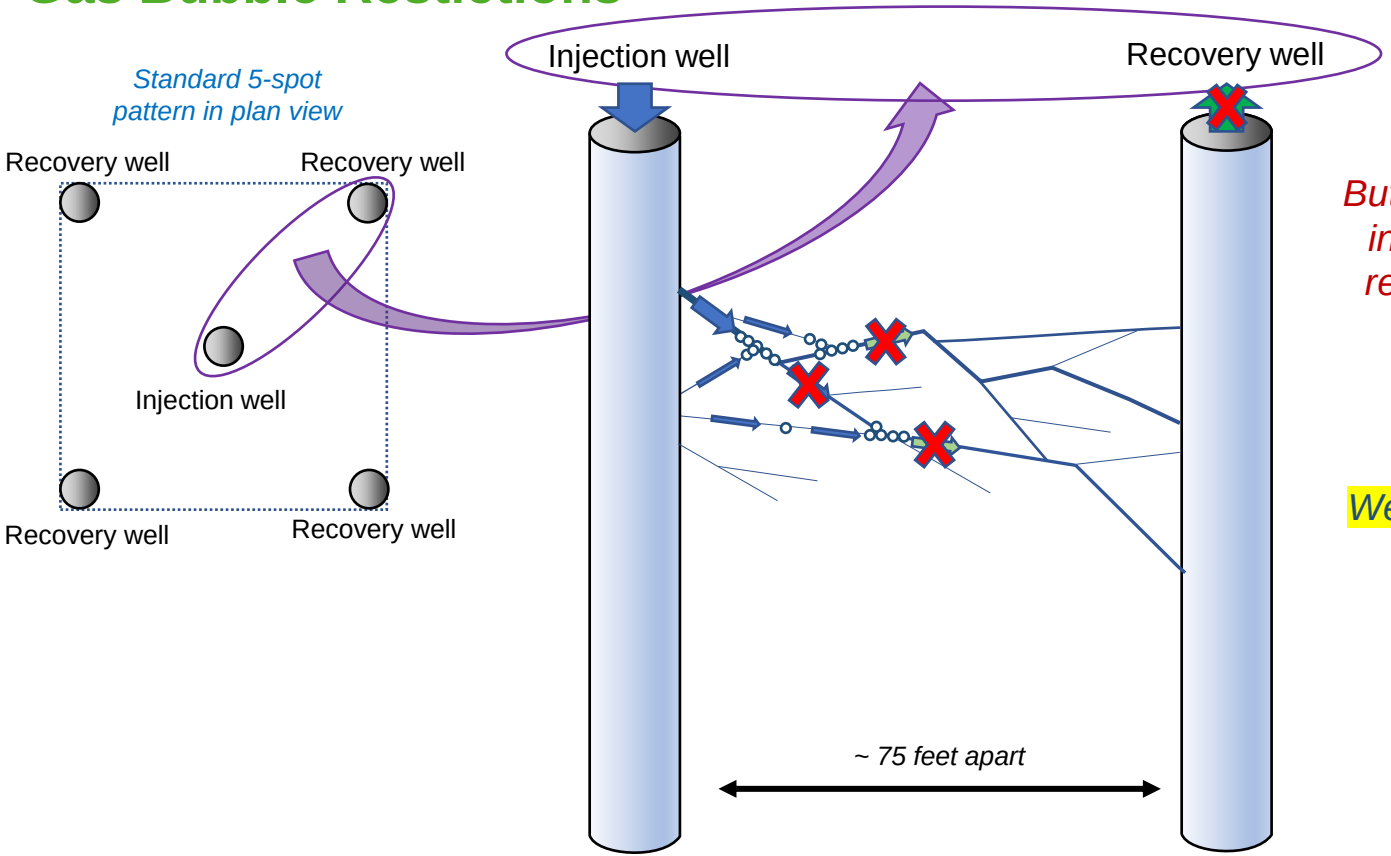
Injection and Recovery Wells



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

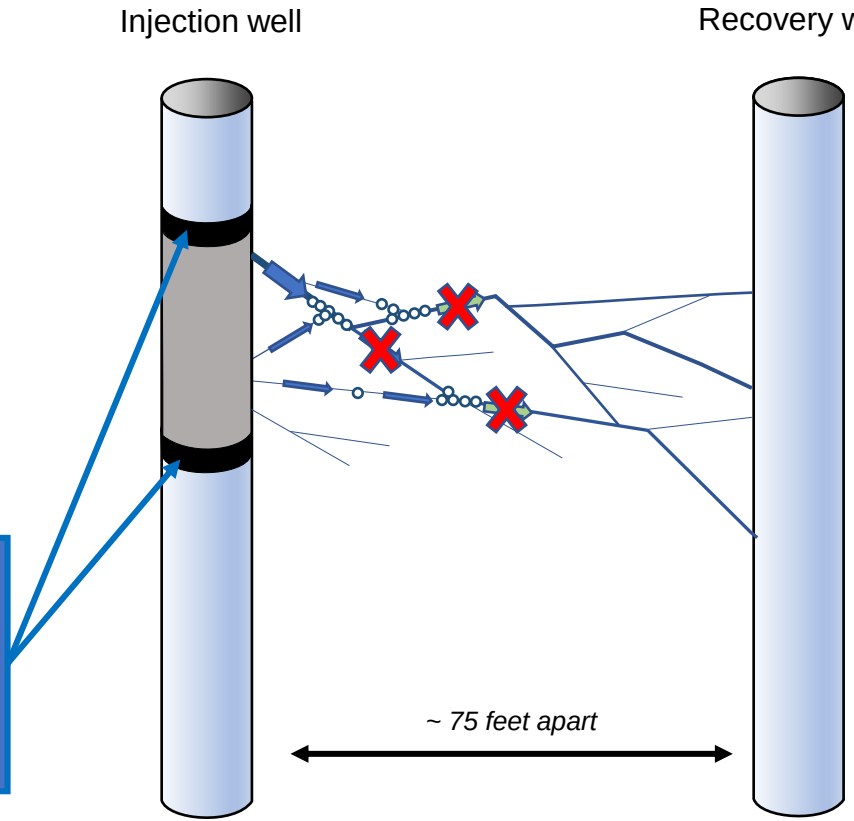


But gas bubbles form, collect in the fracture system and restrict flow. Flushing with water (or neutralized raffinate) removes the bubbles but is slow.

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



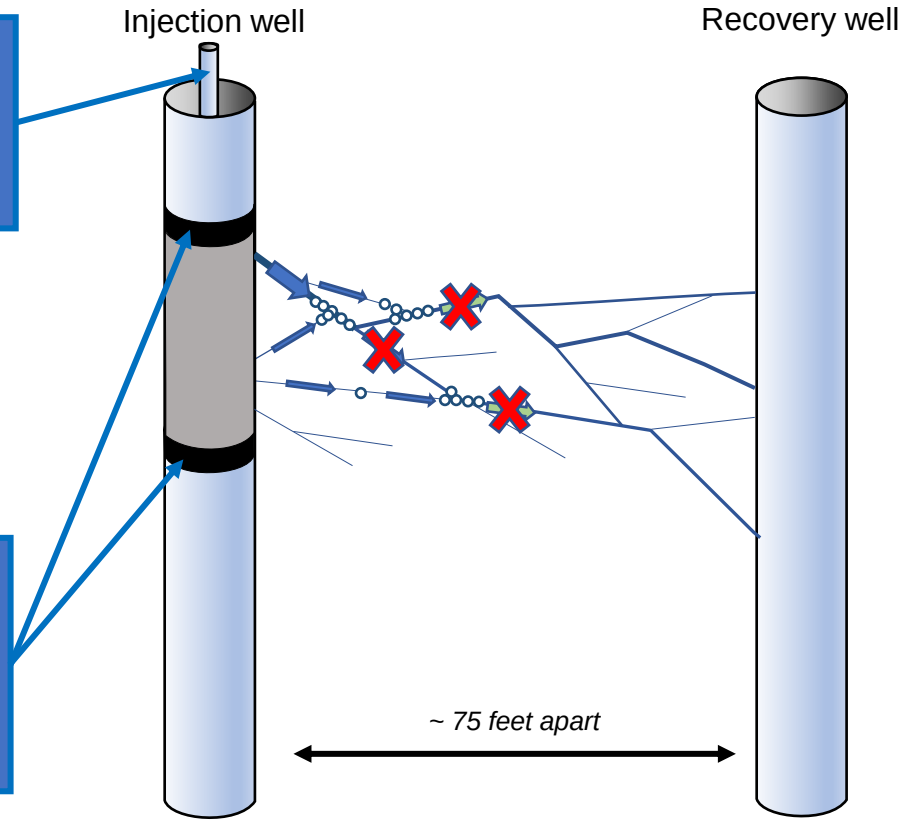
Straddle Packers are set inside the well to isolate the stimulation zone

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



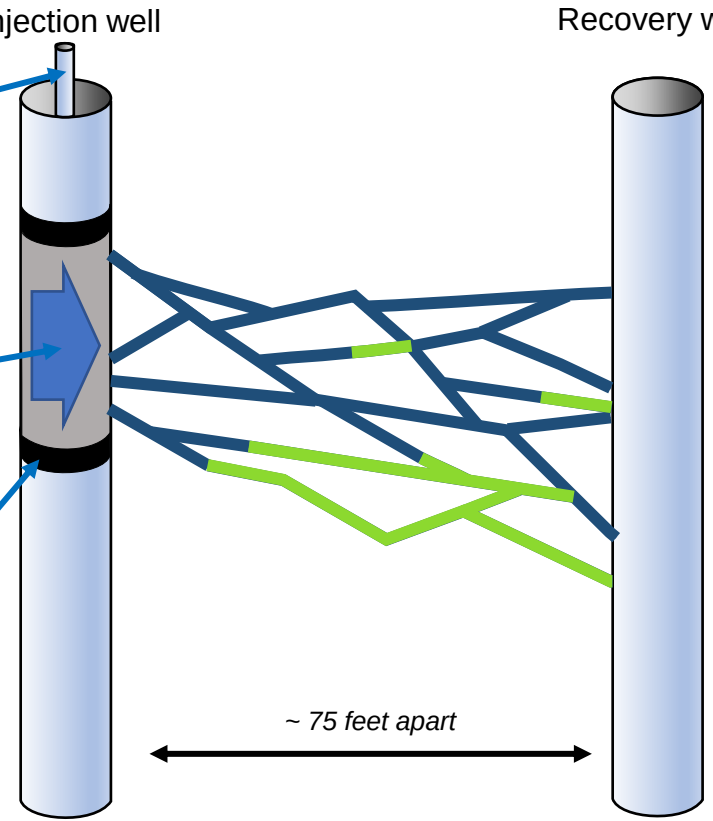
Diagrammatic cross-section through an injection and recovery well, showing schematic representation of fracture network. Not to scale.

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



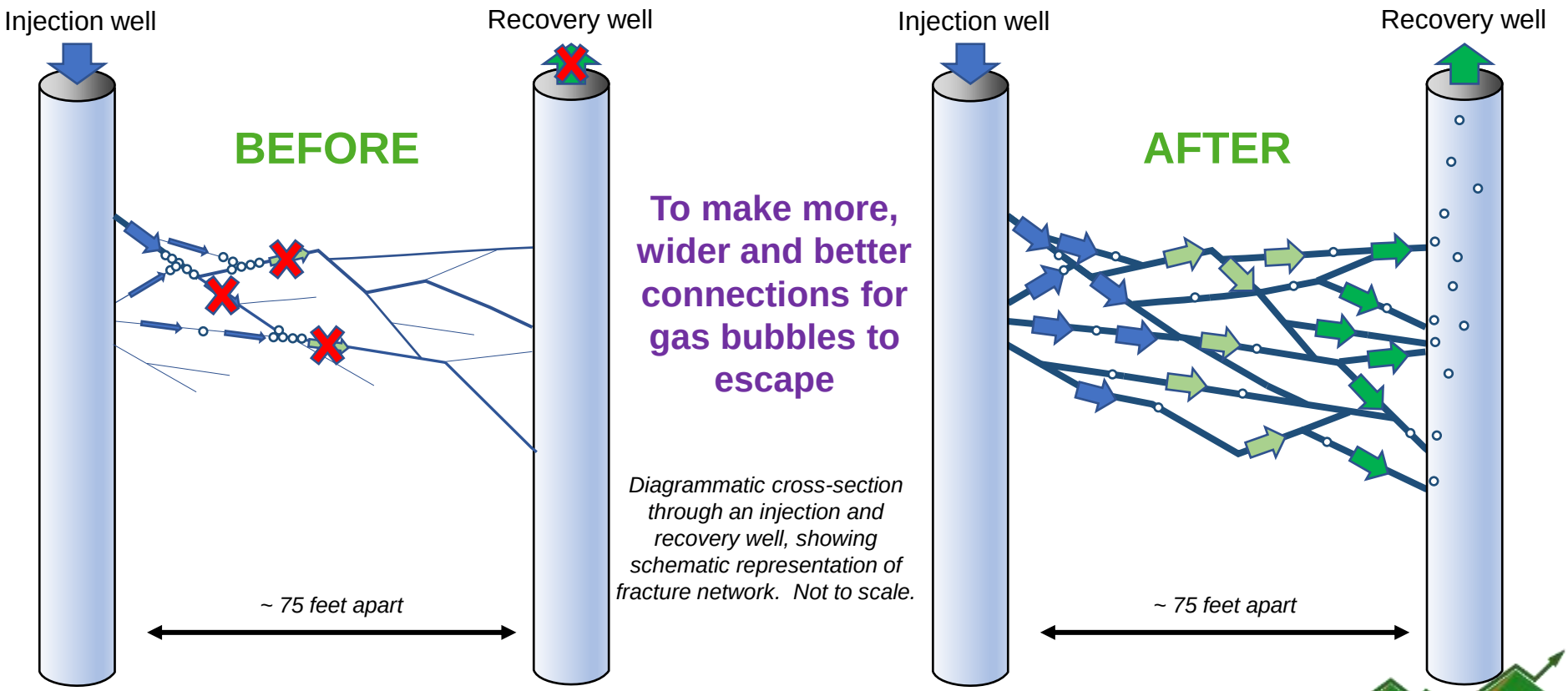
Existing fractures inflate (dilate or open-up) as the high-pressure fluid moves through them.

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.

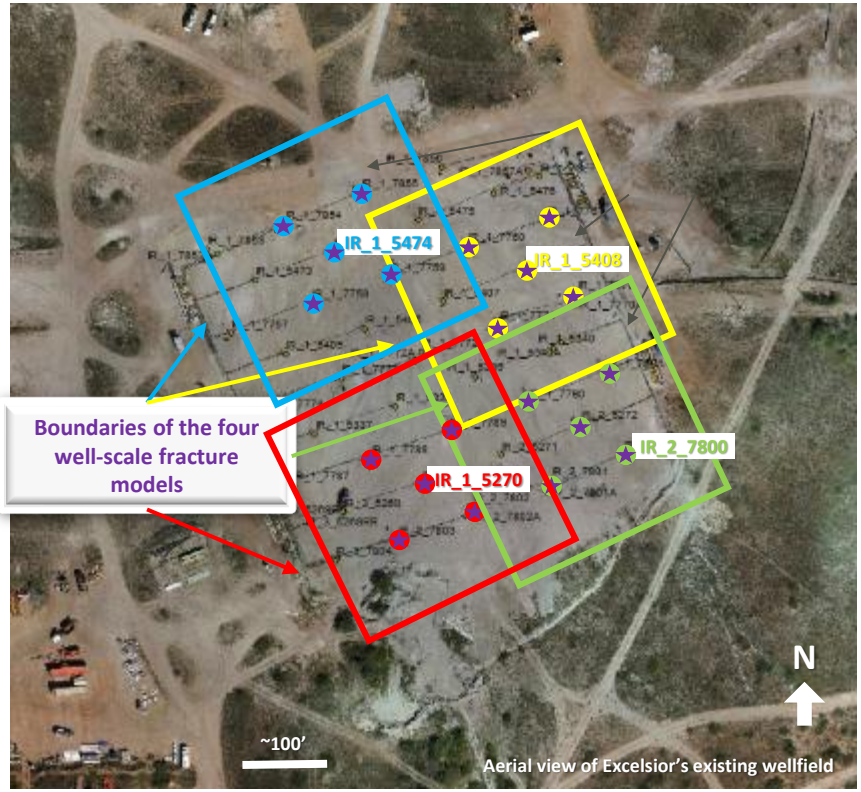
The Intent of Well Stimulation



To make more, wider and better connections for gas bubbles to escape

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

Well Stimulation Modelling

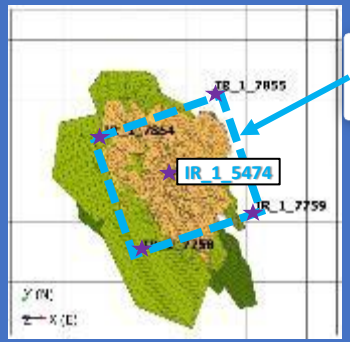


A leading engineering and environmental consulting firm, who are experts in hard-rock hydraulic fracture modelling, have been modelling well stimulation at the Gunnison Project.

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.

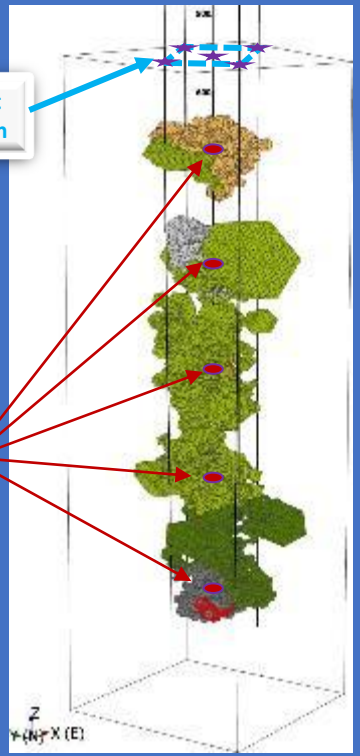
Well Stimulation Modelling

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' (50m) 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 (~Q2 2023)
- Complete well stimulation trials soon after approvals
- Evaluate, optimize, commercialize

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