

BISON LOW CARBON VENTURES STURGEON COUNTY COUNCIL PRESENTATION

OCTOBER 11, 2022



ABOUT BISON

- Alberta based private corp. established in 2020
- Development & operation of storage (sequestration) facilities in Western Canada
- Bison principals bring a collective 120+ years of technical experience across Canada, South America, North Africa, and the North Sea
- > 500 facilities, 1000 wells involving conventional & unconventional reservoirs, SAGD, sour gas, and acid gas injection schemes
- Successful track record in operation, growth and sale of 8 public oil and gas companies over last ~30 years

PROJECT PURPOSE

- Create Morinville storage 'Hub' - utilizing deep saline reservoir to facilitate permanent sequestration of CO₂
- Provide safe, reliable, cost effective storage on multi-client basis to existing and new AB industries
- Supports natural gas use within the accelerating energy transformation
- Leverage Alberta advantage in safe adoption of CCS: extensive subsurface well data, geologic and reservoir understanding, oilfield services & personnel, and a world leading regulator

CO₂ & CCS – What is it... and Why?

The process of injecting CO₂, captured from industrial sources, into deep subsurface rock formations for permanent storage

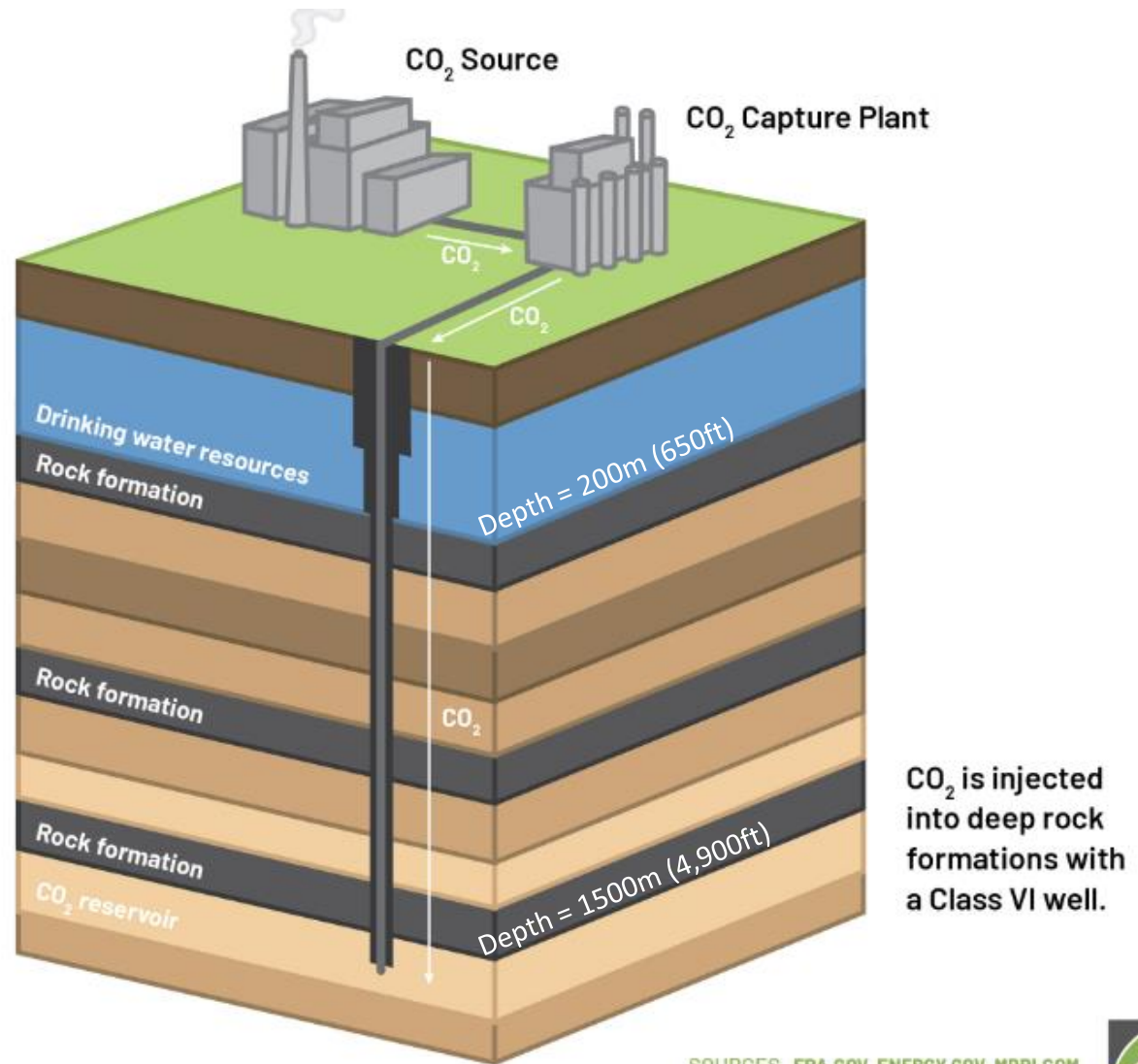
Preventing emission to atmosphere as captured CO₂ transported and stored 1.5km underground

A proven technology utilized for decades (in Canada)

CCS is critical to meeting Canada's long-term energy needs & mandated climate goals

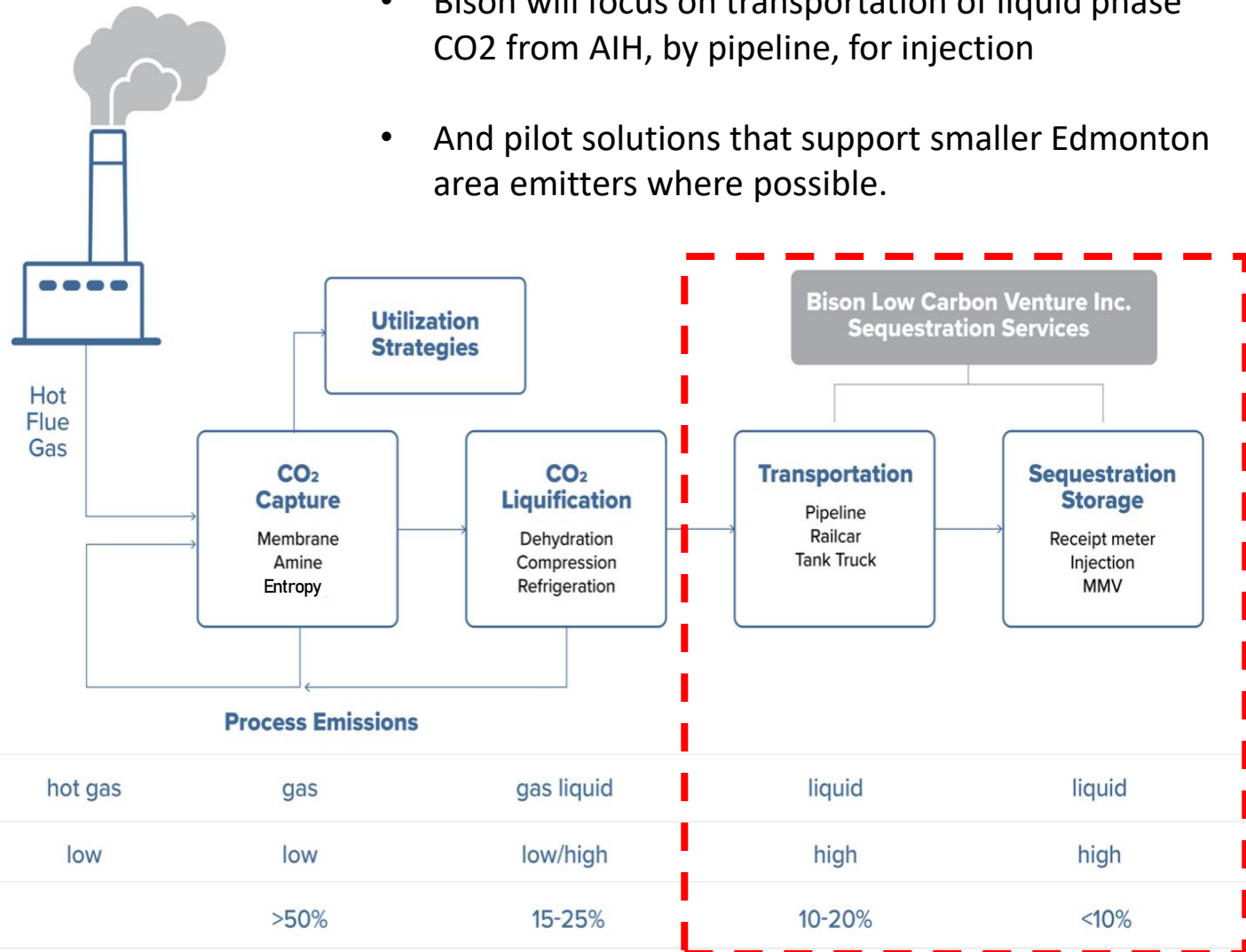
Leading edge technology diversifies Alberta's energy sector, reducing emissions in multiple industries (oil & gas, concrete, fertilizer, hydrogen)

Alberta's skilled workforce ideally suited to the challenge



CCS WORKFLOW – Bison Focus Areas

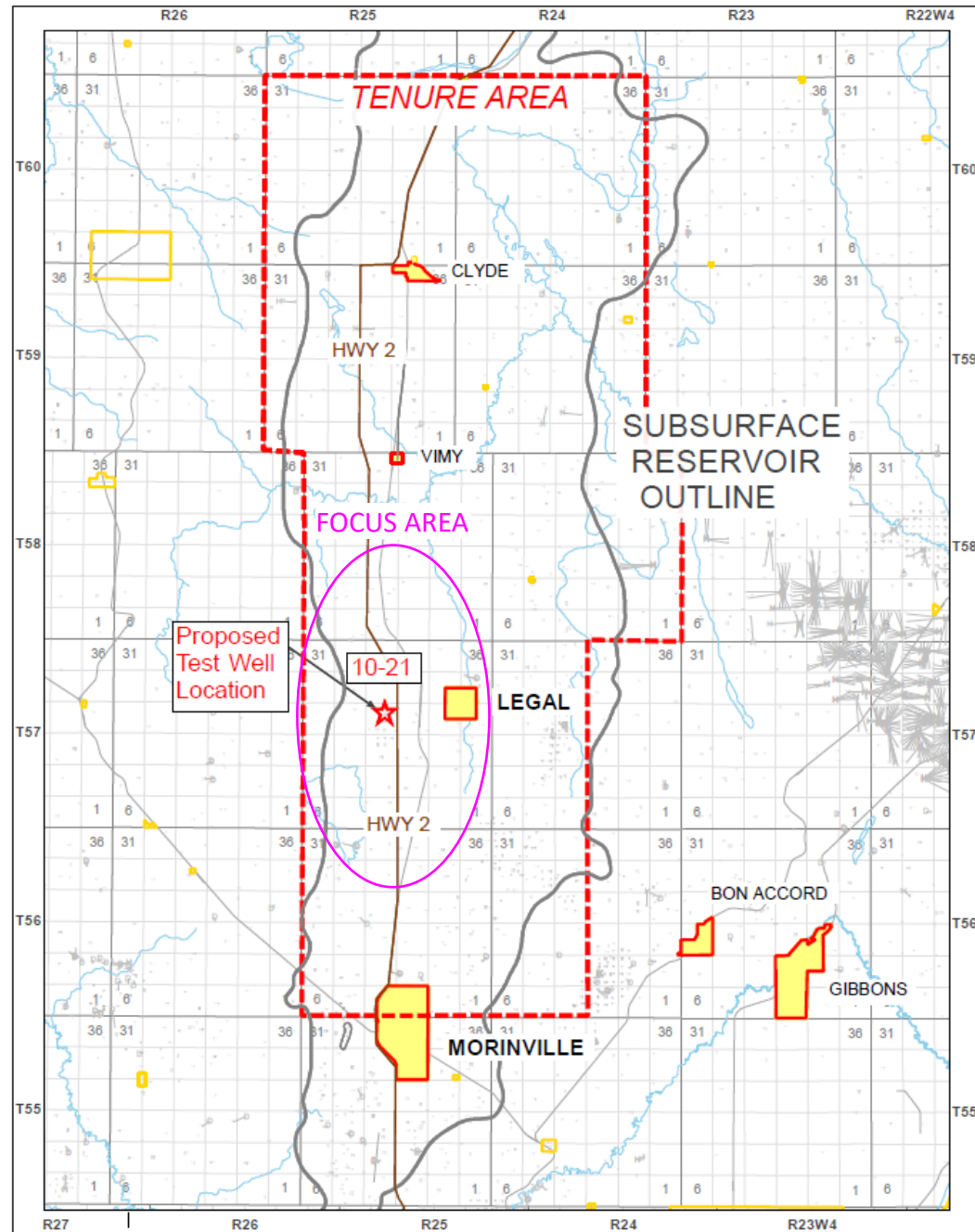
- Bison will focus on transportation of liquid phase CO₂ from AIH, by pipeline, for injection
- And pilot solutions that support smaller Edmonton area emitters where possible.



PROJECT STEPS / TIMELINE

- April 1, 2022 – Meadowbrook Storage Hub granted carbon storage tenure (1 of 6 in AB) by Alberta Energy
- Signed Evaluation Permit agreement (Sep 20, 2022)
- Drill 1 - 2 evaluation / injection well (12 months), & submit commercial application (by YE 2023)
- Upon approval, licensed to inject 3Mtpa for 25 years, beginning 12 months from Final Investment Decision
- Project designed to inject liquid CO₂ into giant, barren (no oil or gas), saline aquifer

LOCATION



BENEFITS

- Exceed Canada's emission targets while attracting investment and increasing our competitiveness (ESG)
- Promote economic diversification in Alberta and Sturgeon County (business development, employment, municipal tax revenue)
- Mitigate cost of increasing carbon tax (\$60/ton today to \$130/ton in 2030)
- Meaningful reduction in anthropogenic CO2 emissions

IMPACTS & MITIGATION

- Land use – small footprint - 3 wellsites (9 wells), tenure area currently supports similar facilities
- Plant site similar to sweet gas compressors, minimal noise, no flare or pits
- No freshwater use, no saltwater production
- Regulator applies stringent measurement, monitoring and verification (MMV) procedures
- Bison team with >40 yr track record without major incidents, accidents or sanctions



CCUS
The world needs it.
Alberta can lead it.

QUESTIONS?

APPENDIX

Carbon Capture, Utilization and Storage

Ensuring Public and Environmental Safety

What is Carbon Capture, Utilization and Storage (CCUS)?

Carbon Capture, Utilization and Storage (CCUS) is a technology that safely helps protect the environment by capturing carbon dioxide (CO₂) and storing it deep in the ground. This keeps it from getting into the air and contributing to climate change.

How does it work?

The technology captures CO₂ emissions that come from a plant or industrial site and stops them from being released into the atmosphere. The captured emissions are then transported and stored underground in deep geological formations. They are typically stored one kilometre or more below the surface. They can also be recycled and used in a variety of innovative ways.

Is this a proven technology?

Yes. Technologies for the capture, injection and permanent storage of CO₂ have existed for decades.

Carbon capture, utilization and storage is a proven technology that is operated in several jurisdictions in world, including Saskatchewan, the United States and Norway.

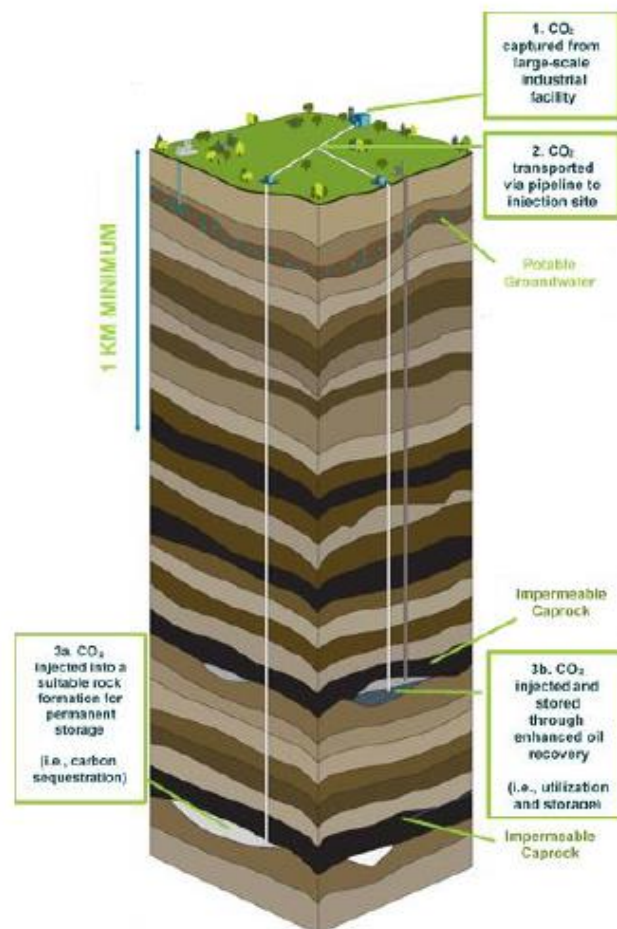
Why is CCUS important?

CCUS is critical to meeting Canada's long-term energy needs and climate goals. Alberta is among the global leaders in developing CCUS technology.

The International Energy Agency (IEA) and other sources say that, without substantial support to further develop and employ this technology, it will be difficult for Canada to meet its emission reduction targets.

By continuing to advance this technology, we will help Alberta diversify the energy sector and reduce emissions in many different industries, including concrete and fertilizer, and hydrogen development.

Alberta's skilled workforce and years of expertise in CCUS are critical to helping industries in Alberta - and across Canada - meet our country's emissions goals.



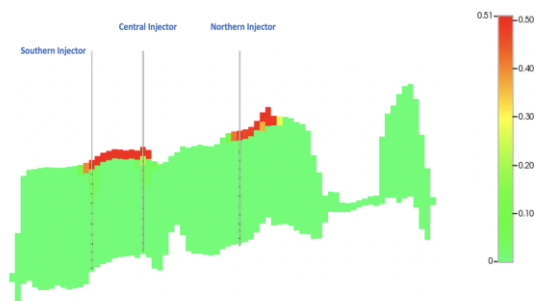
CO2 & CCS Fact Sheet:

- at ambient conditions CO2 is a colorless, odorless, naturally occurring non combustible gas.
- We absorb oxygen from the air we inhale, and we exhale CO2. Plants convert CO2 in the presence of light and water into sugar and O2 through photosynthesis
- The air we inhale is 400ppm CO2. We use CO2 in fire extinguishers, dry ice, carbonated beverages.
- CO2 is generated in the subsurface with the burial of Limestone, and is a naturally occurring 'impurity' (<1%-100%) that is recovered as an 'acid gas' stream at a natural gas processing facility.
- If injected into an oil reservoir, CO2 can improve oil recovery, referred to as EOR.
- CO2 is heavier than air and can accumulate in a depression upon release and could pose a danger of asphyxiation in a confined space, dependent on length of exposure and concentration. The system design ensures the volume release on a catastrophic failure is < dangerous levels. (segmentation, ESD's, dispersion modeling).
- Carbon Capture and Storage is an accepted proven mitigation strategy for reducing industrial CO2 emissions. (>20 projects globally, including 2 in Canada, multiples of that are planned).
- Alberta adopted a Hub strategy (small number of large multi client facilities) and announced first pore space tenure April 1, 2022.

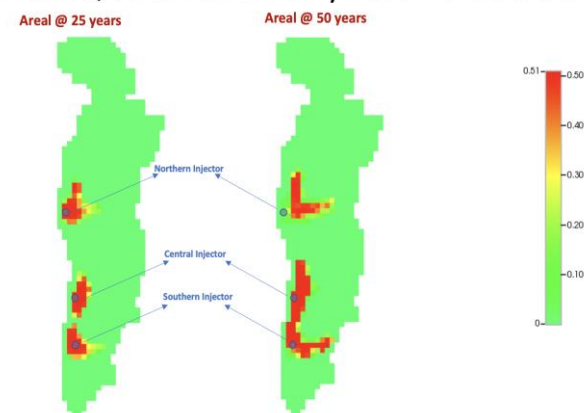
Measurement, Monitoring and Verification Program (MMV).

- Legislation requires CO₂ specific risk assessment and mitigation plan prior to activity commencing, reported annually and updated every two years.
- AER has extensive regulatory experience with the handling and injection of CO₂ >50 CCUS, EOR and AGI projects over 40 years.
- Containment (well integrity, regular testing, continuous monitoring, observation wells, interval logging)
- Induced seismicity (continuous monitoring)
- Permanence (dynamic monitoring, observation well data, seismic plume modeling)
- Legacy well risk
- Emissions monitoring (baseline and regular measurement of groundwater and air).

CO₂ Plume at the location of the three wells in year 50

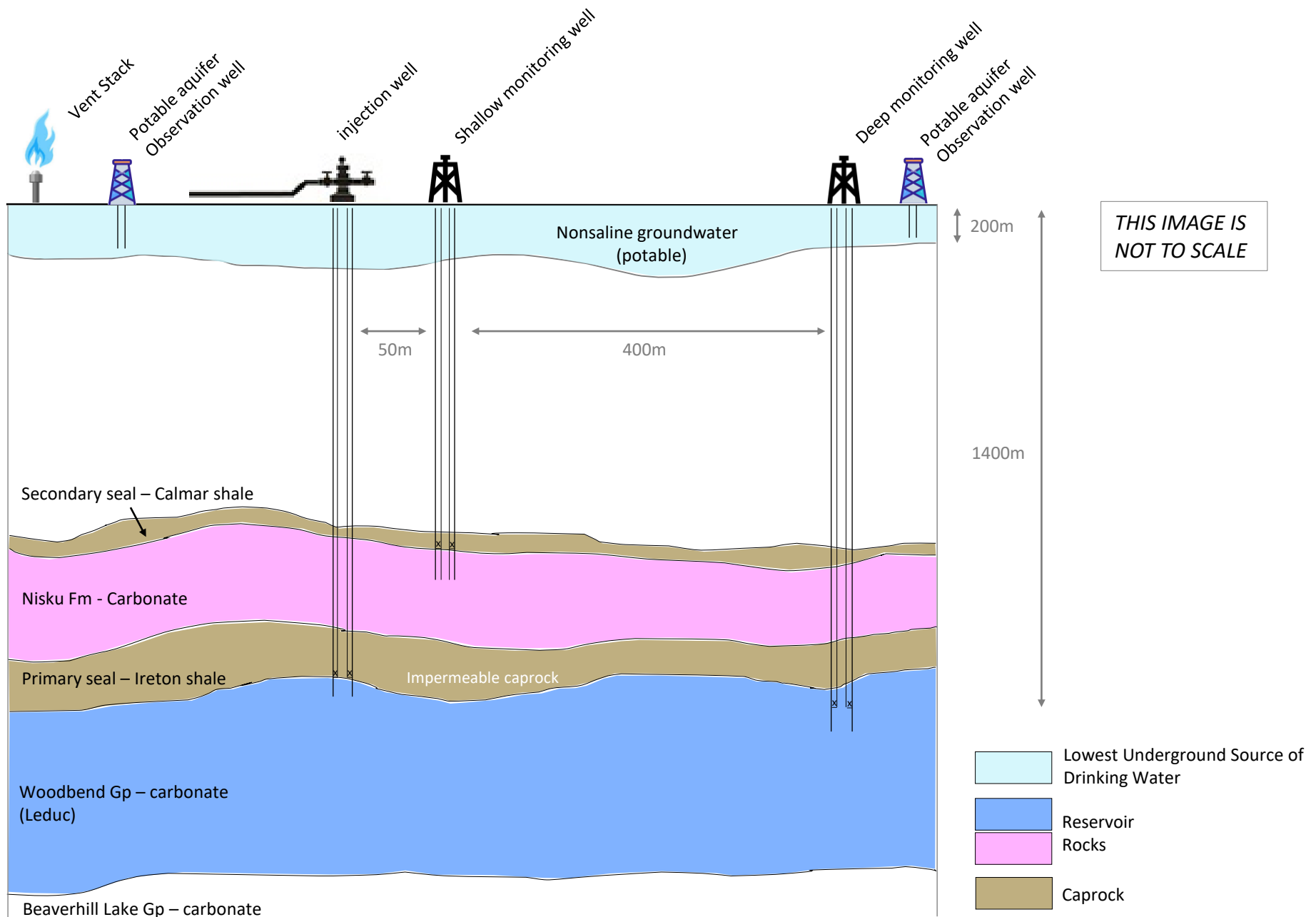


CO₂ Plume/saturation at years 25 and 50

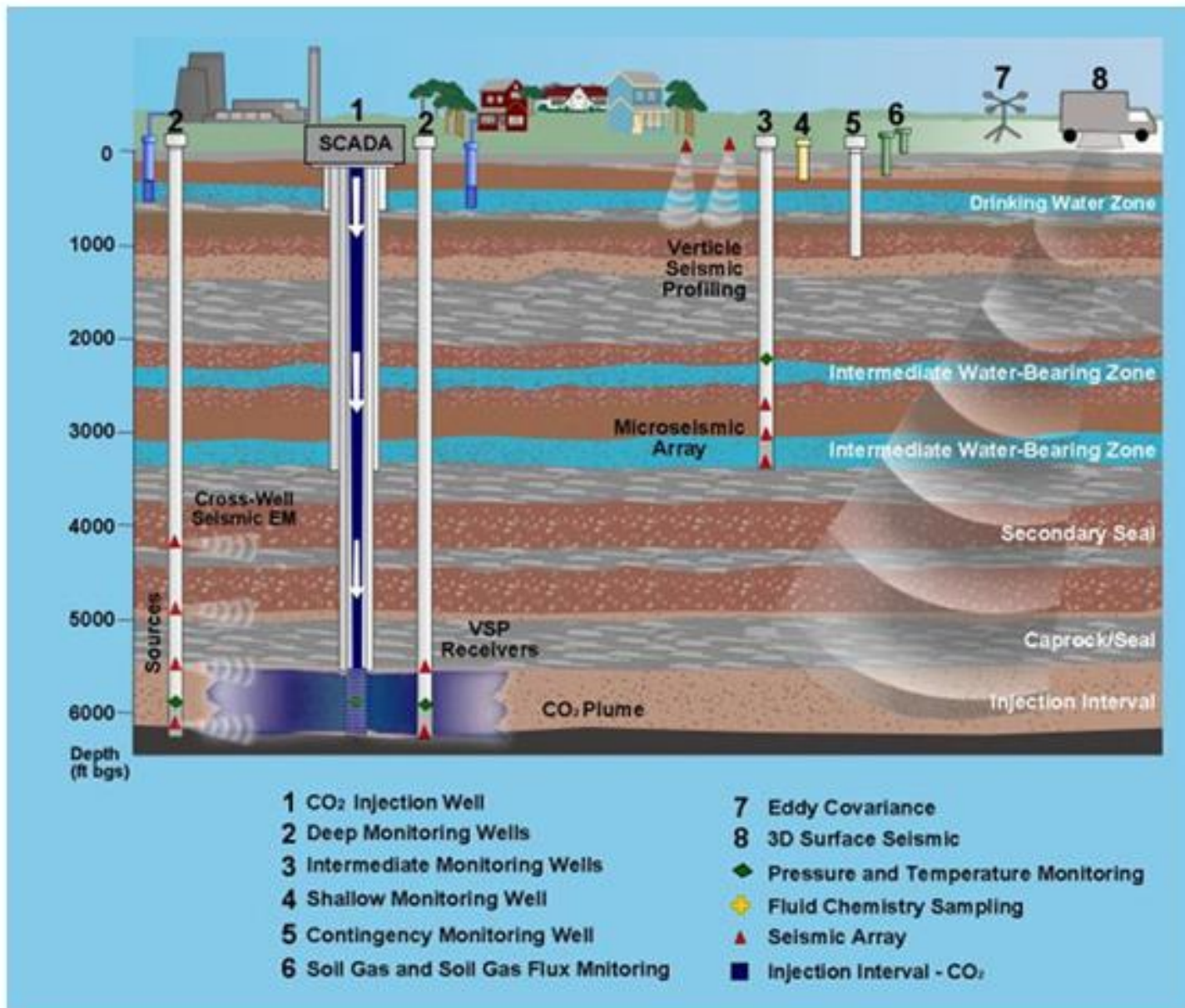


Expansions to CCUS will promote Diversification and extend the Alberta Advantage.

- Alberta industries paying TIER tax will have a competitive option, and advantage, in achieving planned and future emissions reductions. These will be increasingly important with the introduction of LCFS.
- Lower cost compliance options will support future emissions reductions and allow Alberta producers/manufacturers to reflect world class emissions performance.
- Alberta oilfield service and engineering companies have the experience and expertise in delivering this technology, and will increasingly have the opportunity for its delivery in Cleantech applications in other jurisdictions.
- Our sites will be innovation hubs where “greening” technologies will be piloted and commercially deployed. In Alberta’s drive to compete for innovator’s to locate and build their business, providing a “net zero” opportunity will be unique and valuable. We expect to host pilots for at least 3 new technologies and have discussions progressing for Hydrogen production from natural gas and industrial engine emission capture technologies, both of which will utilize our onsite sequestration.
- Our performance will be auditable for our clients use in emissions reduction targets, for investors or for other jurisdictions, thereby commoditizing CO₂ in a manner that will be revenue positive to the Alberta economy.



BISON PAD / WELLSITE LAYOUT



MMV PROCESS OVERVIEW