## St Louis County Board Workshop



Michael Sturdy January 2025

# Legal

Disclaimer

The information contained herein has been prepared to assist interested parties in making their own evaluation of Pulsar Helium Inc. ("Pulsar" or the "Company") and does not purport to contain all of the information that a prospective investor or partner may desire. In all cases, interested parties should conduct their own investigation and analysis of Pulsar. Neither the Company nor any of its affiliates make any representation or warranty, express or implied, as to the accuracy or completeness of the information presented and persons acting on such information do so at their own risk. This includes, without limitation, any estimates or projections, and neither the Company nor its affiliates shall have any liability for any statements (expressed or implied) contained in, or for any omissions from, this presentation or any other written or oral communications transmitted to the recipient hereof in the course of its evaluation of the Company, nor should anything contained herein be relied upon as a promise, representation or warranty regarding future events or performance of the Company. Moreover, the information contained herein speaks as of the date hereof; the Company undertakes no obligation to update any such information. The only statements that will have any legal effect will be those specifically contained or referred to, and then only to the extent provided, in definitive legal documentation.

## Forward-looking statements and cautionary notes

This presentation contains forward-looking statements and forward-looking information within the meaning of applicable securities laws (collectively, "forward-looking statements") that relate to the Company's current expectations and views of future events. Any statements that express, or involve discussions as to, expectations, beliefs, plans, objectives, assumptions or future events or performance (often, but not always, through the use of words or phrases such as "will likely result", "are expected to", "expects", "will continue", "is anticipated", "anticipates", "believes", "estimated", "intends", "plans", "forecast", "projection", "strategy", "objective" and "outlook") are not historical facts and may be forward-looking statements and may involve estimates, assumptions and uncertainties which could cause actual results or outcomes to differ materially from those expressed in such forward-looking statements. In particular, and without limitation, this news release contains forward-looking statements pertaining to the Company's business objectives going forward, statements relating to the deepening of Jetstream #1 to assess the full height of the reservoir and the anticipated timing of helium and CO2 resource updates and a development report including a NPV and IRR analysis. Forward-looking statements are based on a number of assumptions made by management of the Company, including, but not limited to, the Company's capital cost estimates, management's expectations regarding the availability of capital to fund the Company's future capital and operating requirements and the ability to obtain all requisite requiatory approvals. No assurance can be given that these expectations will prove to be correct and such forward-looking statements included in this news release should not be unduly relied upon. These statements speak only as of the date of this presentation. Forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond the Company's control, which could cause actual results and events to differ materially from those that are disclosed in or implied by such forward-looking statements. Such risks and uncertainties include, but are not limited to: Pulsar may be unsuccessful in drilling commercially productive wells; the helium gas concentrations are not necessarily indicative of long-term performance, nor long-term results; drill costs may be higher than estimates, and other factors set forth under "Cautionary Note Regarding Forward Looking Statements and Market and Industry Data" and "Risk Factors" in the Final Prospectus dated July 31, 2023. The Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law. New factors emerge from time to time, and it is not possible for the Company to predict all of them, or assess the impact of each such factor or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. Any forward-looking statements contained in this presentation are expressly gualified in their entirety by this cautionary statement.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy securities.



# OVERVIEW

A multi-project helium development company focussed on Minnesota

- What has Pulsar accomplished to date?
- + What are the 2025 activities for Pulsar Helium?
- Transition from an Exploration/Appraisal project to a gas producer.
- What does an operating project look like?
- Refined products





# Milestones through 2024

## Pulsar Helium has been materially active in Minnesota since 2021 dba Keewaydin Resources Inc.





# Minnesota Partners

Locally based organizations and contractors are preferred

- + Short Elliot Hendrickson (SEH) Duluth and Range based staff
- Radotich Enterprises Chisholm
- + Northeast Technical Service (NTS) Virginia
- + Lifecycle Geo Duluth
- Traut Drilling St Joseph
- + City of Babbitt
- + Blomberg Oil Babbitt
- + Fena Advertising Hibbing
- Local Media Northern News Now, Mesabi Tribune, Ely Echo, Timberjay, New Babbitt Weekly, and others
- Duluth Chamber of Commerce
- + Mining Minnesota
- + APEX
- + IRRRB
- + Cooperative Light & Power (CL&P); Minnesota Power







# Working with local partners - NTS

## Passive Seismic node field deployment by Northeast Technical Service.



## First 'boots on the ground' data acquisition in Minnesota for Pulsar Helium

## Young technology

Ambient noise tomography (ANT) is low-cost alternative to traditional seismic survey techniques Utilizes existing ambient waves, rail, vehicle, blasting, lightning etc Measures and maps the velocity of shear waves

## No footprint

Each unit is the size of a coffee cup

No tree / line clearing

No chemicals / acids / radioactivity / blasting

"The deployment of the passive seismic geophysical nodes was the first step in Pulsar's comprehensive work program leading up to the drilling of the Jetstream #1 appraisal exploratory borehole. Results from the ANT survey are anticipated to improve Pulsar's understanding of the extent of the resource." - Michael Sturdy, General Manager Operations



No induction in the ground, completely passive (akin to a seismometer)

# Working with local partners

## Processed and interpreted data acquired by Northeast Technical Service.





 Jetstream #1 tagged the top of the seismic anomaly Fractured basement play, the fractures contain the gas

 Passive seismic data suggests that the helium-rich, gas charged fracture sets correlate with a velocity decrease (displayed in green)

 Recent drilling further supports the interpretation the low-velocity interval corresponds to a gas-charge zone.

# Working with local partners - NTS

Passive seismic environmental risks.

## Weather





## Wildlife



# Activities for 2025 – Focus on project appraisal

## Drilling

## Jetstream #1

- Deepen from 2,200' to 5,100'
- January 2025 COMPLETED
- Promising indicators of additional helium occurrence.
- More data to be acquired over coming months

## Jetstream #2

- Drill step-out appraisal well to 5,100'
- January 2025 currently at 1,500'
- Permitting risk of 2025 acquisition

## Further Appraisal Drilling

- Geophysical data will inform future drilling locations
- Increase acreage position with State of Minnesota minerals and additional privately held minerals
- Anticipate 2-3 wells for Winter 2025/2026 pending results of current projects

# Jetstream #2 drill site January 19<sup>th</sup>, 2024.



## **Geophysical Data**

## Ambient Noise Tomography (ANT)

- 200 node passive seismic survey
- February/March 2025
- Local partner: NTS

## 2D Active Seismic

- Planning underway
- Local planning partner: SEH
- Requires specialty skills and equipment based outside of Minnesota

## **3D** Active Seismic

• Planning underway with SEH

## **Other Activities**

## Land acquisition

- Surface ownership
- Additional mineral leases

## State Gas Legislation

• Promote legislative process in 2025

## Well testing

 Conduct well testing operations for further resource upgrade from 3<sup>rd</sup> party verifier

# TOPA7 – Three+ Year Outlook

## Measured approach from resource appraisal through to permitting and production commencement.



Disclaimer: The forward-looking activities shown here are based on the company's current expectations and views on future events relating to but not limited to permitting, regulatory, and infrastructure readiness.





## PRODUCTION OPERATIONS & GROWTH

- 102027 Drill and test 2-3 additional wells
- 1Q2027 2D/3D seismic acquisition +
- 2Q2027 Commission gas processing facility
- 202027 Complete three phase power transmission line to gas processing facility
- Continue exploring and appraising helium resources in northern Minnesota

# Gas processing facility

## What does a helium processing facility look like?



Ladder Creek Helium Plant, CO Liquefaction Facility (Liquid Helium) 40 million standard cubic feet per day



North American Helium Facility, SK Separation Facility (Crude Helium) 20 million standard cubic feet per day

## Speculative conceptual operation in northern Minnesota





- One of the production wells would be selected for colocation of a gas processing separation facility.
- Well pad would be enlarged to accommodate separation facility. (from ~1 up to ~4-5 acres).
- Gathering lines run to central separation facility
  from satellite well locations.
- Power distribution route likely from Northshore Mine in Babbitt, MN
- Road improvements eastward towards Lake County Highway 2 for shorter access to all season roads
- Estimate between 4-10 trucks per week carrying crude helium or beverage grade CO2 in isotube cylinders.
- + Daily visits by well/plant operators in light vehicles.
- Too early to speculate on production levels and project valuation.

# What do we do with all of this helium?

Helium is critical to the technology of today, and the future





# TOPAZ - THE CO<sub>2</sub> OPPORTUNITY

The USA has been experiencing a  $CO_2$  shortage and Minnesota is an importer

CO<sub>2</sub> content at Jetstream #1 is up to 71.3% and has the potential to be a significant value add for Pulsar as well as supply the local Minnesota market and reduce  $CO_2$  imports from other states.

## Uses

Beverages: to carbonate drinks.



Medical: during surgeries such as endoscopy, laparoscopy and arthroscopy. Also mixed with other gases for breathing.

Potable water treatment: used to reduce the pH level, forming carbonic acid  $(H_2CO_3)$  when dissolved in water.







Food preservation: controlled atmosphere for storage and transportation, and to extend shelf life.



## Discussion

Follow up questions?

